



# Responsibility Without Authority as Evident in Gendered Labour and Food Provisioning in Urban Agriculture in Freetown, Sierra Leone

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## Abstract

Urban agriculture plays a critical role in food provisioning and everyday survival in rapidly urbanising cities of sub-Saharan Africa. Yet the social and ethical conditions under which this food is produced remain insufficiently examined. This study investigates how gendered labour relations, decision-making, and access to resources shape urban vegetable production in post-conflict Freetown, Sierra Leone. Drawing on household surveys and semi-structured interviews with urban farming households, the study examines who performs agricultural labour, who exercises authority over production and income, and how responsibilities and benefits are distributed within households. The findings show that women contribute the majority of labour and time to vegetable production and bear primary responsibility for food preparation and household nutrition. However, this responsibility is not matched by secure access to land, credit, or institutional support. Instead, women’s labour sustains household food security under highly informal and precarious conditions, often involving children’s participation and heightened vulnerability. We argue that urban vegetable farming constitutes a paradoxical site of both survival and inequality. While it provides essential food and income, it simultaneously reproduces a persistent “responsibility–authority gap” in which women shoulder the moral and material burden of food provisioning without commensurate control or recognition. By foregrounding gendered power relations and care labour within urban food systems, this study contributes to debates on food justice, ethics, and the human values embedded in everyday agricultural practices in African cities.

**Keywords** Gender relations · Urban agriculture · Food security · Informal livelihoods · Care labour · Food justice · Sub-Saharan Africa

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## Introduction

Urban agriculture has become a critical component of food systems in many cities across sub-Saharan Africa, particularly where rapid urbanisation intersects with poverty, food insecurity, and limited formal employment opportunities (FAO, 2008; Crush et al., 2011; Warren et al., 2015). Urban agriculture contributes not only to income generation but also to household nutrition. This is particularly so where women play a central role in food provisioning and dietary decision-making, a pattern widely observed in low-income food systems (Neumann et al., 2002; Zezza & Tasciotti, 2010). Despite its growing importance, urban agriculture remains marginal within policy frameworks and development planning. Its social organisation, especially along gender lines, also has received insufficient critical attention (Martin, 2019).

Gender is a central axis through which agricultural labour, access to resources, and decision-making power are structured. A substantial body of research demonstrates that women play a dominant role in food production and preparation across rural and urban contexts, yet their contributions are frequently undervalued, underpaid, or rendered invisible (Quisumbing et al., 2014; Doss et al., 2018). In urban agriculture, these dynamics are often intensified by informality, insecure land tenure, and the absence of institutional support. This produces conditions in which women's labour not only underpins household food security, but also simultaneously exposes them to heightened vulnerability (Tacoli, 2019).

In post-conflict cities such as Freetown, Sierra Leone, these dynamics are particularly pronounced. As the capital of Sierra Leone, Freetown faces a daunting challenge as it emerges from a devastating civil war (1991–2002) that displaced a third of the population and left much of the country infrastructure in ruins. The end of the war triggered massive rural-to-urban migration as citizens returned from refugee camps and sought safety and opportunity in the city, leading to rapid and often unplanned urban expansion. This period has been characterized by the growth of sprawling informal settlements, persistent challenges in providing reliable water and sanitation, and an urgent need for sustainable urban planning to support a population overwhelmingly concentrated in the capital. Consequently, the post-conflict era has seen a heightened focus on urban agriculture as a vital strategy for household food security and a focus on rebuilding a more resilient and inclusive urban governance framework (Richards et al., 2005; Maconachie & Hilson, 2011). Vegetable production within the city provides an accessible livelihood strategy for households facing limited employment options, high food prices, and fragile social safety nets. However, the benefits and burdens of this activity are unevenly distributed within households, often along gendered lines.

While existing studies on urban agriculture document its contribution to food availability and income, many treat gender primarily as a descriptive variable (Halliday et al., 2024). It implies that gender (be it within race, ethnicity, class, ability, etc.) is largely the differences between men and women, with no interrogations of the power relations that produce these differences (Slater, 2001; Hovorka, 2006). Such approach risks obscuring how responsibility, control, and benefits are negotiated

within households, and how women's labour sustains urban food systems without corresponding recognition or protection. Moreover, children's involvement in urban farming, frequently framed as household support, raises ethical concerns related to labour, education, and intergenerational inequality (Punch, 2007; FAO, 2011).

This paper responds to these gaps by examining gendered labour relations, decision-making, and resource access in urban vegetable farming in Freetown, Sierra Leone. Rather than asking only who participates, we ask who bears responsibility, who exercises control, and who benefits from urban agricultural production. By situating empirical findings within broader debates on gender, livelihoods, and food justice, we aim to move beyond descriptive accounts toward a more critical understanding of urban agriculture as a socially embedded practice.

Beyond questions of productivity and participation, urban agriculture raises fundamental ethical questions about responsibility, care, and justice within food systems. Who is expected to ensure everyday food security, under what conditions, and with what recognition or authority? Addressing these questions requires moving beyond gender as a descriptive category to examine the moral and social relations through which food is produced and sustained.

Specifically, this study addresses the following questions: (i) How are labour and time allocated between men, women, and children in urban vegetable production? (ii) How are decisions regarding production, consumption, and incomes distributed within households? (iii) What are the implications of these gendered dynamics for food security, equity, and wellbeing in urban food systems?

By focusing on everyday practices and household relations, this study aims to highlight the ethical and social dimensions of food production. This is done in the context of urban precarity and challenging gender-neutral representations of urban agriculture, underscoring the need for more socially attuned food policies.

## Conceptual Framework

This study is informed by a livelihoods-based perspective that foregrounds gender as a relational and structural dimension of agricultural practice rather than a fixed attribute of individuals. The Sustainable Livelihoods Framework provides a useful foundation for understanding how households combine assets, strategies, and activities to secure wellbeing (Scoones, 1998; DFID, 1999). However, feminist critiques highlight that livelihood approaches often insufficiently address power relations and gendered inequalities (Kabeer, 1994; Cornwall, 2003). We therefore extend this framework by explicitly incorporating gendered power relations and care labour.

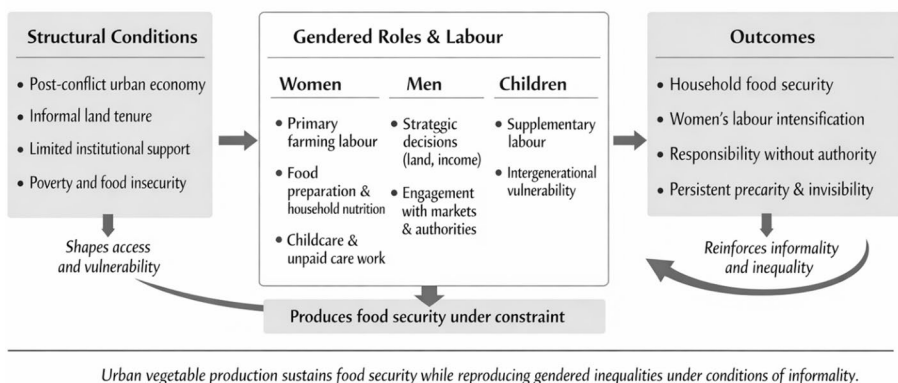
Gender shapes access to livelihood assets (land, labour, capital, social networks) and exposure to risk and responsibility. In urban agriculture, women often possess fewer formal assets and weaker tenure security, yet shoulder primary responsibility for food provisioning and household nutrition (Hovorka et al., 2009; Tacoli et al., 2015). This produces a "responsibility–authority gap", whereby women manage everyday survival without corresponding control over strategic resources or institutional support (Doss et al., 2018).

Urban food systems further intensify these dynamics through informality. Unlike rural agriculture, urban vegetable production typically occurs on marginal or contested lands, lacks regulatory recognition, and operates outside formal extension or credit systems (FAO, 2008; Crush et al., 2011). These conditions increase reliance on unpaid family labour, including that of women and children, while limiting opportunities for collective organisation or policy engagement.

Drawing on feminist political economy, we also emphasise the invisibility of reproductive and care labour within dominant economic narratives (Elson, 1998). Unlike mainstream political economy, which focuses on class, markets, and institutions, feminist political economy places gendered power relations at the center of the analysis of economic structures and political systems (Halliday et al., 2020; Muchhala, 2024). Women's work in urban agriculture frequently spans productive and reproductive spheres (growing food, preparing meals, caring for children), yet remains undervalued in development discourse. Recognising these intersections is essential for understanding how urban agriculture sustains both households and cities while reproducing social inequalities.

Finally, the framework situates urban vegetable farming within broader ethical debates on food justice. Questions of who produces food, under what conditions, and at what cost are central to evaluating the sustainability of urban food systems (Alkon & Agyeman, 2011). By examining gendered labour and decision-making in agriculture in the city of Freetown (the capital of Sierra Leone), the study highlights how food security gains may coexist with inequitable social arrangements. This challenges celebratory narratives of urban farming and calls for more just and inclusive food policies. The above narrative is summarised in a conceptual framework, embedding gendered labour and decision-making in urban vegetable production within broader structural conditions and uneven social and ethical outcomes (Fig. 1).

### Gendered labour, responsibility, and power in urban vegetable production



**Fig. 1** Conceptual framework showing how gendered labour and decision-making in urban vegetable production are shaped by informality and structural vulnerability, resulting in unequal responsibility, limited authority, and persistent precarity despite contributions to household food security

## Materials and Methods

### Study Context and Site Selection

The study was conducted in Freetown, Sierra Leone, a rapidly urbanising, post-conflict city where informal livelihood strategies play a central role in household survival. Urban vegetable production is widespread across the city. This is particularly done in low-lying and marginal areas, as access to land is insecure and agricultural activities operate largely outside formal regulatory frameworks. Such conditions are characteristic of many African cities and make Freetown an appropriate context for examining gendered labour relations within informal urban food systems (Crush et al., 2011; Tacoli et al., 2013; Tacoli et al., 2015).

The study sites were selected to capture the variations in urban vegetable farming practices across different neighbourhoods while maintaining representativeness of the broader urban agriculture landscape. Following established approaches for research in informal urban settings (Hovorka et al., 2009), the site selection was informed by prior scoping visits and consultation with local stakeholders, including farmers and community leaders. The selected sites included both relatively established production areas and more precarious cultivation spaces, reflecting the diversity of conditions under which urban agriculture is practised in the city.

### Study Design and Participants

A mixed-methods, cross-sectional research design used a combination of household surveys and semi-structured interviews. This approach was chosen to capture both quantifiable patterns of labour allocation and decision-making, and the lived experiences and meanings that shape gendered agricultural practices (Creswell & Plano Clark, 2011).

Participants were adult members of households engaged in urban vegetable production. Households were selected using purposive and convenience sampling strategies commonly seen in informal urban environments, where comprehensive sampling frames are not entirely suitable (Bernard, 2017). Within each household, respondents were selected based on their involvement in farming activities and their knowledge of household labour organisation, production decisions, and food use.

Given the focus on gender dynamics, both women and men were included as respondents wherever possible. Particular care was taken to ensure that women's perspectives were captured directly rather than inferred through male household members, addressing a well-documented limitation in agricultural research and development studies (Doss, 2015; Quisumbing et al., 2014).

### Data Collection

#### Household Survey

Structured household questionnaires were administered to collect data on demographic characteristics, participation in urban vegetable farming, labour allocation,

decision-making roles, and the use of produce for household consumption and sale. The survey included gender-disaggregated questions on time use, task allocation, and responsibility for food preparation and household nutrition, consistent with best practice in gender-sensitive agricultural research (FAO, 2011).

Rather than aiming for exhaustive quantification of production outputs, the survey prioritised variables relevant to understanding “who performs agricultural labour, who makes decisions, and who benefits from urban vegetable production”. Questions relating to children’s participation in farming activities were included to capture intergenerational labour dynamics and associated ethical considerations, which are often overlooked in studies of urban livelihoods (Punch, 2007).

### Semi-Structured Interviews

Semi-structured interviews were conducted with a sub-sample of survey participants to explore gendered experiences of urban agriculture in greater depth. The sub-sample consisted of every fifth respondent covered in the study. The interviews focused on perceptions of labour burden, access to land and inputs, control over income and produce, and challenges associated with farming in an urban environment. This qualitative approach allowed participants to articulate meanings, constraints, and aspirations that could not be fully captured through structured survey instruments (Kvale & Brinkmann, 2009).

Interviews were conducted in locally appropriate languages with the support of trained research assistants where necessary and were recorded and transcribed with participants’ consent. Interview guides remained flexible to allow participants to introduce issues they considered most relevant, reflecting an interpretive and participant-centred research orientation (Bryman, 2016).

### Data Analysis

Quantitative survey data were analysed using descriptive statistics to summarise patterns of labour allocation, decision-making responsibility, and access to resources by gender. Gender-disaggregated comparisons were used to identify systematic differences in participation, time use, and control over production outcomes, in line with analytical approaches used in gender and agriculture research (Doss et al., 2018).

Qualitative interview data were analysed thematically using an inductive coding approach. Transcripts were read iteratively to identify recurring themes related to gender, power, responsibility, and vulnerability, following established principles of thematic analysis (Braun & Clarke, 2006). Coding and interpretation focused on how participants narrated their roles within household and farming systems, and how these narratives reflected broader structural constraints.

Integration of quantitative and qualitative findings occurred at the interpretive stage, allowing survey patterns to be contextualised through participants’ accounts. This form of methodological triangulation strengthened the analysis by linking observable patterns with lived experience, rather than treating numerical differences as self-explanatory (Maxwell, 2012).

## Ethical Considerations and Reflexivity

Ethical approval for the study was obtained in accordance with institutional guidelines. All participants provided informed consent before participation, and anonymity was ensured through the use of pseudonyms and the removal of identifying information.

Given the sensitivity of issues related to gender roles, labour burden, and children's involvement in farming, interviews were conducted with care to minimise discomfort or risk to participants. The research team remained attentive to power asymmetries between researchers and participants, particularly in a post-conflict context where trust and vulnerability are significant concerns (Mosse, 2013).

Reflexivity was an integral component of the research process. The researchers' positionality, as external academics working in collaboration with local partners, was acknowledged. Efforts were made to interpret findings in dialogue with local knowledge and perspectives rather than imposing external normative assumptions (England, 1994).

## Findings

### Gendered Labour Division

Table 1 summarises the demographic and livelihood characteristics of households in urban vegetable production in Freetown, the capital of Sierra Leone. The demographic and socio-economic profile of the surveyed urban vegetable producers establishes a foundational context of informality, resource constraint, and gendered engagement. The predominance of female respondents (66%) against the backdrop of 70% male-headed households constitutes a significant pattern of women still acting as primary operational respondents and labourers within a domain where formal household authority lies with men. This suggests that urban vegetable farming is a sphere of substantial female activity, even within male-headed household structures, aligning with broader African agrarian trends where women are de facto farm managers while men control higher-order decisions and assets (Doss, 2014).

The educational profile of respondents underscores a condition of systemic marginalisation, with 60% having no formal education and only 7% attaining a tertiary level. This educational gap, widely documented as a critical barrier to accessing agricultural extension services, formal credit, and technical innovation, confines producers to traditional knowledge systems and limits their capacity to negotiate within formal markets or advocate for their rights within urban planning frameworks (Ragasa et al., 2013). The concentration of producers (87%) on micro-plots of between 0.25 and 1 acre vividly illustrates the severe land constraints inherent in urban agriculture. These "spaces of survival" are typically fragmented, often located on marginal lands such as floodplains, roadside verges, or temporary vacant lots, which render production inherently vulnerable to eviction and environmental shocks (Lynch et al., 2013). The complete absence of plots larger than 2.5 acres confirms that this activity is not a

**Table 1** Household and respondent characteristics of vegetable producers in urban Freetown, Sierra Leone ( $n=70$ )

Characteristics	Category	Fraction (%)
Gender of respondent	Female	66
	Male	34
Household headship	Female-headed	30
	Male-headed	70
Primary household livelihood	Vegetable farming	63
	Other activities	37
Marital status	Single	11
	Married	70
	Widowed	19
Vegetable land area (acres)	0.25–1.00	87
	1.50–2.00	13
	$\geq 2.50$	0
Household size (persons)	1–5	29
	6–10	19
	11–15	20
	16–20	3
Education level	No formal education	60
	Primary education	19
	Secondary education	14
	Tertiary education	7
Age group (years)	16–24	1
	25–34	20
	35–44	30
	45–54	29
	55–64	14
	$\geq 65$	6

Note: Values are based on respondent household survey data and percentages rounded up to the nearest whole number

commercial enterprise in the conventional sense but a highly intensive subsistence-oriented livelihood strategy.

Household structure and livelihood dependence further illuminate the precariousness of this system. With 63% of the households relying primarily on vegetable farming for livelihood, the activity is a central, not supplementary, pillar of household reproduction. This deep dependence on a single, insecure livelihood source increases vulnerability to shocks. The distribution of household size reveals significant dependencies, with 52% of the households having 6–20 persons. Such large household sizes, common in post-conflict Sierra Leone, where extended kin networks are crucial for social security, place immense pressure on food provisioning, a responsibility that falls disproportionately on women, as indicated by their high participation rates (Zack-Williams, 2012). The marital status data, showing 70% married and 19% widowed, contextualises the female respondents in a domain where many are likely managing farms within complex household hierarchies. As widows, the women navigate particular tenure insecurities and labour shortages associated with female-headed households (30% of the sample), often facing heightened economic and social vulnerability (FAO, 2011).

The age distribution, with the largest cohorts of 35–44 (30%) and 45–54 (29%), indicates a mature workforce, potentially reflecting the physical demands of farm-

ing or a lack of alternative opportunities for this age group in the urban informal economy. The minimal participation of youth (1% aged 16–24) may suggest a generational perception of urban farming as arduous, low-status work, pointing to potential sustainability challenges in the sector (Obuobi et al., 2022). Collectively, these characteristics (female-dominated labour, low education, micro-landholding, high dependency ratio, and primary livelihood dependence) frame urban vegetable production in Freetown not as a robust entrepreneurial sector, but as a critical coping and survival strategy. It is embedded within intersecting structures of urban poverty, gendered social roles, and informal land access, which precondition the pronounced disparity between the high labour contribution of women and their constrained control over the resources and benefits derived from that labour.

Table 2 summarises the gendered allocation of labour and decision-making responsibilities across surveyed households, illustrating a clear divergence between labour contribution and control over resources. Women perform the majority of routine and daily farming tasks, with 86% of the households reporting women as primarily responsible for food preparation and cooking, 73% trading, and 70% post-harvest/food-related tasks. This aligns with the established concept of the gendered “double burden”, where women’s productive agricultural labour is layered onto pre-existing reproductive and care responsibilities, such as food preparation (86% female-primary) and childcare during farming (68% female-primary), leading to intensified workdays without commensurate relief or support (Quisumbing et al., 2014; Doss et

**Table 2** Gendered division of labour and decision-making in vegetable production in households in urban Freetown, Sierra Leone

Activity / Decision Domain	Women (%)	Men (%)	Shared (%)
Routine farming labour	46	23	31
Land preparation (daily tasks)	42	35	23
Planting and transplanting	50	21	29
Watering and weeding	53	27	20
Harvesting	67	17	17
Post-harvest and food-related tasks	70	20	10
Food preparation and cooking	86	10	5
Allocation of produce for household consumption	32	61	7
Storage and preservation	60	10	30
Market and income-related decisions	58	17	25
Sale of vegetables	70	13	17
Control over cash income	39	26	34
Purchase of farm inputs	20	60	20
Access and authority	18	34	49
Control over land access/plot allocation	14	57	29
Engagement with traders or authorities	73	9	18
Household and care responsibilities	69	8	23
Childcare during farming activities	68	18	14
Decision-making over children’s involvement in farming	54	23	23
Average	52	26	22

Note: Household survey data on vegetable producers in urban Freetown, Sierra Leone. Percentages are the relative proportions of households reporting primary responsibility held by women, men, or shared

al., 2018). The frequent involvement of children, while framed as familial help, raises concerns about the substitution of schooling and the intergenerational transmission of vulnerability within informal economies (Punch, 2007; FAO, 2011).

Despite this centrality in labour provision, the decision-making authority and control over key productive assets remain circumscribed for women. A “responsibility–authority gap” is evident in that while men dominate decisions on allocating produce for household consumption (61% vs. 32% for women) and food-related tasks, women predominantly control critical market and resource decisions (Doss et al., 2018). This includes the sale of vegetables (70% female-primary labour but male-dominated control in decisions), purchase of farm inputs (60% male-primary), and, most significantly, the control over land access and plot allocation (57% male-primary plus 29% shared) — Table 2. This disparity echoes broader evidence that the agricultural responsibilities of women frequently outpace their formal control over productive assets, limiting their bargaining power and long-term planning capacity (Doss, 2015). Land access is largely informal and insecure for all, but women face greater vulnerability as access is often mediated through male relatives or temporary agreements, reinforcing dependency.

Furthermore, women encounter systemic barriers to resources beyond the household. This includes limited access to credit (18%), agricultural inputs (20%), and institutional support; as extension services and development initiatives often implicitly cater for male farmers thereby reinforcing gender-neutral policies that produce de facto gendered exclusion (Cornwall, 2003; Tacoli et al., 2015). While urban vegetable farming provides crucial livelihood support by buffering households against food insecurity and price fluctuations, it operates within the context of precarity. Factors such as exposure to environmental hazards, lack of water access, and absence of formal recognition position it less as a pathway to empowerment and more as a coping strategy that transfers structural risks from the state and market onto households, and disproportionately onto women within the households (Scoones, 1998; Tacoli, 2019).

The critical cross-cutting theme is the invisibility and informality of the work of women. Participants describe farming as an extension of domestic duty rather than a recognised economic activity, which contributes to its exclusion from policy, planning, and support systems. This reflects feminist critiques of informal economies, where women’s labour is essential yet systematically devalued and obscured (Elson, 1998; Hovorka et al., 2009). Consequently, the benefits of the lower routine involvement of men are often retained through greater control of income and external engagement, while women absorb the costs of production and social reproduction.

These findings illustrate that gendered dynamics in vegetable production in urban Freetown are defined not merely by participation but by deep-seated asymmetry. The extensive labour of women underpins household food security and subsistence within a precarious urban environment. Furthermore, this occurs within entrenched structures that limit the control of women over resources, economic benefits, and long-term security, thereby reinforcing broader patterns of marginalisation in the post-conflict urban food systems.

## Discussion

### Responsibility and Control

The empirical findings starkly illustrate the gendered paradox of high labour responsibility coupled with low strategic control, a dynamic extensively theorised in feminist political economy as the “feminisation of responsibility without authority” (Chant, 2008). While women constituted the overwhelming majority of the daily agricultural workforce, performing 52% of tasks from planting to post-harvest processing, their command over the productive assets that allow them to direct this labour was systematically circumscribed. Critical decisions involving capital and exchange remained masculinised domains. This particularly holds for allocation of produce (61% male-dominated), purchase of farm inputs (60% male), and fundamental control over land access (57% male). This bifurcation mirrors the Agarwal (1994) analysis of the gendered “bargaining” within households, where women’s leverage is undermined by their lack of fallback positions derived from independent asset ownership. The informality of land tenure, often mediated through male kin or precarious informal agreements, exacerbated this disempowerment, making the usufruct rights of women contingent and revocable (Doss, 2015). This reality is compounded by gendered barriers to formal credit and agricultural extension services, which are frequently designed around a perceived male “head of household”, thereby reinforcing the institutional exclusion of women despite their *de facto* role as farm managers (Quisumbing et al., 2014; Cornwall, 2003). Consequently, the work of women in agriculture exists in a state of perpetual dependency, where their labour enhances household resilience but does not translate into autonomous economic power or security.

### Livelihood Support and Site of Precarity

Urban vegetable farming functions as a critical, yet profoundly precarious, livelihood node within the broader survival strategy. For 63% of the households, it was the primary livelihood, directly supplying food and, through sale, a fragile income stream that buffered against market volatilities. However, this support was rendered unstable by its operational conditions: very small plot sizes (87% on 0.25–1.00 acres), tenure insecurity, and lack of basic infrastructure. This precarity is not an accidental feature but a constitutive element of informal urban food systems, which occupy the interstitial spaces of the city, always vulnerable to displacement by formal development (Mougeot, 2005). The gendered dimension of this precarity is acute. Women’s labour (constituting 67% of harvesting and 70% of post-harvest work) becomes the shock absorber for systemic instability. Their work compensates for the absence of social safety nets and formal employment, effectively embodying what Scoones (1998) terms as “coping” rather than “accumulative” strategy. This complicates the narratives that celebrate urban agriculture as an unambiguously empowering or sustainable solution. The data reveal a stark asymmetry in benefit capture: while men more frequently controlled the cash income from sales (as indicated by their dominance in related decision-making), women shouldered the physical and opportunity costs of production. This reinforces the concept of “responsibility–authority gap”, where

urban agriculture, rather than being a pathway out of poverty, becomes a mechanism that reproduces gendered inequality by extracting women's labour without granting commensurate control over the proceeds (Doss et al., 2018).

### **Gender, Informality, and Invisibility**

The systemic invisibility of the contributions of women is a direct product of the intersection between patriarchal norms and economic informality. The roles of women in “food preparation and cooking” (86%) and “household and care responsibilities” (69%) were narratively framed as domestic duties, obscuring their economic value within both household and local food economies. This discursive devaluation, as argued by Elson (1998), is a primary mechanism through which women's work is exploited. The informality of the sector compounds this invisibility, placing it outside official statistics, labour protections, and policy gaze (Hovorka et al., 2009). Even in domains where women were the primary actors, such as the “sale of vegetables” (70%) and “engagement with traders” (73%), the associated domain of “access and authority” was recorded as male-dominated (34% male plus 49% shared). This suggests that while women perform the visible market interface, the formal recognition, contractual power, and institutional linkages may still be mediated through or attributed to men. This dual obscurity (social and statistical) creates a policy blind spot. Gender-neutral approaches to urban agriculture, by failing to recognise this embedded inequality, become gender-blind in practice, perpetuating the very exclusion they aim to overcome (Cornwall, 2003). The result is a cycle where essential labour of women sustains the urban food system but remains unrecognised and unsupported, locked in the shadow economy of survival.

### **Gendered Labour, Care, and Ethics**

The integration of intense agricultural labour with reproductive care work creates a gendered double burden of profound magnitude. The near-total responsibility of women for childcare during farming activities (68%) and household chores (69%) means their productive work is fragmented and physically demanding, performed under the constant pressure of simultaneous care duties. This synthesis points to an embodied ethics of social reproduction, where the body and time of women become the infrastructure for both biological and economic reproduction (Katz, 2001). From an ethical standpoint, this arrangement moralises women's care, framing it as a natural duty rather than socially necessary labour that sustains the entire community (Tronto, 2020). The urban food system thus externalises its costs onto women, relying on their unpaid and underpaid labour to provide affordable food while offering little in return by way of security, service, or leisure. This exploitative dynamic challenges simplistic empowerment narratives. While farming provides a source of identity and contribution, it does so within a patriarchal bargain that extracts maximum labour for minimum autonomy. The ethics of care, in this context, is co-opted into an ethics of exploitation, where the commitment of women to feeding their families is leveraged to sustain a precarious and unjust food system.

## **Responsibility and Authority**

The “responsibility–authority gap” is the central organising principle of this informal agricultural system. The high participation rates of women in execution (labour) are decoupled from authority in conception and control (decision-making). This gap is evident across the data: women plant and harvest but do not primarily control the land; sell produce but do not primarily control the income; manage the involvement of children in farming, but within broader household economies; and may not dictate. The low incidence of genuinely “shared” decision-making, with notable exceptions like “control over cash income” (34% shared), indicates a managerial model based on segregated domains rather than collaboration. This creates the condition of “disempowered agency”, where women are active and indispensable yet structurally prevented from becoming architects of their own or household economic futures (Kabeer, 1999). In the informal context, where rights are customary and negotiable rather than legally codified, this authority gap is especially damaging. The bargaining position of women is weak as their access to resources is often mediated through male relatives, leaving them vulnerable to loss through eviction, marital breakdown, or familial dispute.

## **Children, Labour and Vulnerability**

The involvement of children, managed predominantly by women, is a critical indicator of systemic precarity and intergenerational risk. In large households (52% with 6+ members) facing livelihood constraints, children’s labour becomes a necessary input for survival. While often framed within households as training or family help, from a child rights perspective, it represents a potential compromise of educational attainment and long-term capability development (Punch, 2007). The fact that women make most decisions about children’s involvement (68%) places them in an ethically fraught position, forced to navigate immediate household food needs against future prospects of children. This dynamic illustrates how poverty and informal livelihood strategies can perpetuate cycles of vulnerability, transferring risk from the state and market to the household, and within the household, often onto the most dependent members. It challenges any romanticised view of urban farming as a purely positive familial activity, revealing it instead as a site where social reproduction under duress can compromise intergenerational social mobility.

## **Informality and Food Justice**

The food justice lens (Alkon & Agyeman, 2011) demands examination of who bears the burdens and who reaps the benefits of a food system. This study reveals a deeply unjust distribution: the burdens of production (arduous labour, health risks, time poverty, and tenure insecurity) fall disproportionately on women. Then the benefits of control (over land, capital, and strategic decisions) are accrued disproportionately by men. Informality is the terrain upon which this injustice is enacted, as the lack of legal recognition denies women producers rights, voice, and recourse. Their ambiva-

lence (pride in contribution mixed with frustration at insecurity) captures the core tension of informal food work: it is simultaneously a space of agency and survival, and a space of subjugation and exploitation (Tacoli, 2019). Therefore, advancing food justice in urban contexts requires moving beyond technical questions of production and access to confront the political questions of power, recognition, and rights. It necessitates transforming the social relations of production, ensuring that those who feed the city have secure rights to the resources of the city and a dignified place within its economy.

### Implications for Policy and Research

For effective gender policies, they should explicitly confront the gendered power dynamics and informality that structure urban agriculture. Interventions should prioritize: (i) Securing gendered land tenure through tools like group certificates or usufruct titles that recognize use rights of women; (ii) Designing gender-responsive financial and extension services that directly target and are accessible to women farmers; (iii) Integrating social protection, such as affordable childcare, to reduce the double burden of women; and (iv) Formally recognizing urban agriculture in land-use planning to reduce tenure precarity for all, while applying gender lens to all programs (Tacoli et al., 2015). There is a need for research that deepens engagement with intersectionality, exploring how age, marital status, and headship (30% female-headed) interact with gender. Longitudinal studies are needed to trace the long-term impacts of children's involvement and women's asset-building pathways. Critically, participatory and feminist methodologies should be central, ensuring that women farmers themselves define research priorities and solutions, moving from being subjects of study to architects of knowledge about their own lives and livelihoods (Cornwall & Jewkes, 1995). Only through such integrated and politically engaged approaches can urban agriculture be supported in ways that promote genuine equity, resilience, and justice.

### Conclusion

This study offers a critical examination of the gendered social architecture underpinning urban vegetable production in post-conflict Sierra Leone, moving beyond technocratic assessments of yields and participation rates to interrogate how labour, authority, and vulnerability are distributed within the informal food system. By centring on the lived realities of who labours, who decides, and who bears the risks of social reproduction, it reveals the often-invisible relations that shape urban agriculture as more than a livelihood category. The findings demonstrate that women's labour forms the foundational pillar of urban food provisioning, encompassing the majority of routine and reproductive tasks necessary for cultivation and household nutrition. Yet this indispensable role is embedded within systems of informality and precarity that disconnect responsibility from control, effectively trapping women's productivity within cycles of disempowerment. The persistent "responsibility–authority gap"—where women dominate execution while men retain disproportionate control

over land, capital, and high-value markets—confirms that urban agriculture is not merely reflective of structural gender inequality but actively reproduces it (Doss, 2015; Agarwal, 1994).

These dynamics raise fundamental ethical concerns about the moral foundations of food systems. The study challenges instrumentalist approaches that celebrate output metrics—such as yields or income—without accounting for the social costs of production. The system observed relies on the normalisation of women’s unpaid and undervalued care labour, the exploitation of insecure tenure arrangements that shift displacement risks onto the most vulnerable, and the intergenerational transmission of vulnerability through children’s labour (Elson, 1998; Punch, 2007). This reflects what Tronto (2020) identifies as a systemic failure of the ethic of care, wherein responsibility for meeting communal food needs is privatised and feminised without corresponding social or political support. Evaluating such systems, therefore, requires a justice-oriented framework that prioritises dignity, autonomy, and the equitable distribution of burdens and benefits over narrow efficiency metrics (Alkon & Agyeman, 2011).

In this way, the study contributes a grounded, place-based critique to global debates on urban food security and resilience, which often overlook the gendered political economy of informal production. In post-conflict urban contexts like Freetown—where institutions remain fragile and poverty widespread—informal food systems function as essential safety nets, yet their internal power relations risk deepening existing inequalities. Enhancing urban food security is thus inseparable from addressing these structural disparities; increasing production alone is insufficient if the conditions of production perpetuate exploitation and insecurity. Future research should adopt more intersectional, longitudinal, and comparative approaches to track how gendered vulnerabilities evolve in relation to urban policy, land markets, and climate pressures, while prioritising participatory action methodologies that position women farmers as co-investigators and centre their knowledge and priorities (Cornwall & Jewkes, 1995).

Building on these insights, practical recommendations must target the structural roots of gendered precarity rather than its symptoms, while remaining feasible within existing political and institutional constraints. Rather than introducing complex formal land reforms, interventions should work through existing informal tenure systems: local ward committees and customary leaders can establish socially recognised occupancy agreements for women, providing low-cost, locally legitimate protections that can later evolve into formal rights. Agricultural support should likewise prioritise incremental, trust-based mechanisms. Village savings and loan associations (VSLAs) can be adapted to support women urban farmers and linked to input cooperatives, while existing female community health or nutrition volunteers can serve as peer extension agents, leveraging established social networks rather than overhauling formal extension systems.

Urban planning interventions can be embedded within ongoing informal settlement upgrading initiatives, such as Freetown’s “Transform Freetown” programme, by incorporating participatory mapping exercises with women farmers to designate “no-eviction food production zones” on underutilised land, supported by time-bound use permits. Similarly, care infrastructure investments can be integrated into exist-

ing social protection programmes, for example, by allocating funds for community-based childcare cooperatives linked to women's farming groups and repairing water points in adjacent settlements. Monitoring and evaluation should remain practical and grounded, focusing on two measurable indicators: the share of produce value retained by women and women's reported decision-making power within farming groups, supported by participatory benefit-sharing audits conducted by district agricultural officers.

In the shorter term (12–24 months), targeted interventions could include: (i) legal aid and mediation hubs in markets to help women defend land-use rights, (ii) mobile credit guarantee pools administered by local councils, (iii) public procurement quotas linking women's cooperatives to school feeding programmes, and (iv) day-labour exchange systems that enable shared childcare responsibilities among women farmers. However, without a clear political economy pathway—one that identifies stakeholders, anticipates resistance, and sequences reforms to build incremental gains—such recommendations risk remaining technically sound but socially ineffective. A viable strategy must begin by formalising and strengthening existing informal practices, gradually expanding state recognition and resource allocation as women's collective bargaining power increases.

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**Data Availability** The data underpinning this study were generated by the authors through original fieldwork conducted in Freetown, Sierra Leone. The research involved structured household surveys and semi-structured interviews with urban vegetable producers. Data collection was carried out directly by the research team as part of an independent academic research project. All participants provided informed consent prior to participation. Ethical approval for the study was obtained from the relevant institutional review body at the authors' affiliated institution. Data were collected, stored, and analysed in accordance with institutional ethical guidelines and applicable data protection regulations. Due to the sensitive nature of the research context and the potential identifiability of participants within informal urban agricultural settings, the underlying qualitative data are not publicly available. Anonymised data may be made available from the corresponding author upon reasonable request, subject to ethical and confidentiality considerations.

## Declarations

**Competing interests** The authors declare no competing interests.

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