

Urban Agriculture as a Survival Strategy: Food Security, Inequality, and Community Development in Enugu State, Nigeria

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Abstract. Researchers identify urban agriculture (UA) as an important informal coping strategy in post-industrial cities of the Global South. However, scholars continue to debate the socio-economic complexities of UA. This research undertook a critical analysis of the dualistic nature of UA in Enugu State, Nigeria, with particular emphasis on its role as a survival strategy for women and the contradictory effects of UA on achieving food security, addressing inequality, and fostering community development. A case study methodology was used to collect data through a household survey of 222 households and interviews conducted in two neighbourhoods with contrasting socio-economic characteristics.

Results show that UA is a critical coping strategy that improves household food availability despite insecure land tenure and economic conditions. However, it also perpetuates gendered inequalities as a "patriarchal bargain" where women's expanded reproductive labour does not necessarily lead to improved economic empowerment. Although UA strongly promotes bonding social capital, it does not foster bridging social capital with formal institutions, thereby undermining its transformative potential.

This study asserts that unless gender-transformative policies are put in place to address land rights, labour equity, and institutional connectivity, UA could perpetuate the same inequalities that it helps households survive. It also suggests the need to think in terms of frameworks that can transform UA from a coping strategy into an instrument of equitable urban resilience.

Keywords: Urban Agriculture; Food Security; Gender Inequality; Social Capital; Post-Industrial City; Nigeria; Survival Strategies; Resilience.

INTRODUCTION

Background and Context: The Post-Industrial "Coal City". Enugu State, historically known as the "Coal City" of Nigeria, is an intriguing narrative of a post-industrial urban centre in Sub-Saharan Africa that continues to unfold. The city was established and flourished in the early 20th century due to its mining industry, which determined its economic structure, social configuration, and even its very identity, according to authors [1] in 2025. However, the retreating fortunes of this industry have now triggered a long-drawn socio-economic transformation characterised by un-

employment and infrastructural decay, with no formal economic anchors as legacies. This local decline reflects a national backdrop that is itself unflatteringly described through systemic challenges. Nigeria's acute and chronic food insecurity, fueled by climate variability, economic instability, and conflict, has positioned it at the centre of regional food security crises [2, 3]. Moreover, this situation is not merely about rural production; rather, it constitutes an exacerbating urban crisis concerning access to food and its affordability [4].

Things get even more complicated with the ongoing rural-urban migration. As agricultural liveli-

hoods become less viable due to factors like insecurity, tragically illustrated by events such as the Nimbo massacre in Enugu State, as documented by authors [5] in 2024, and people search for opportunities, cities like Enugu absorb new populations, putting more pressure on housing, services, and the urban food system [6, 7]. This influx contributes to the expansion of informal settlements and strains the urban economy's capacity to provide decent work, deepening urban poverty and precarity. So, Enugu's landscape is now a juxtaposition of its colonial and industrial-era planning in areas like the Government Reserved Area (GRA) and the rapid, often unplanned, growth of peri-urban and informal districts. It's within this fissure, between a receding industrial past and a pressured, uncertain urban present, that everyday survival strategies have proliferated.

Residents aren't just passive victims of economic downturns; they're actively finding ways to make ends meet, often through a variety of informal economic pursuits. And one of the most striking examples of this is the way people are cultivating food right in the city's midst, a practice known as UA. It's not just Enugu that's seeing this trend; globally, UA is becoming a key part of the push for more sustainable and resilient cities, offering potential solutions to issues like food insecurity, urban ecosystem management, and community building [8, 9]. In many African cities, UA functions as a critical coping mechanism and a form of livelihood diversification for people living in urban poverty, as seen in Port Harcourt and Benin City [10, 11].

Research in Enugu suggests that UA is crucial for improving household food access and reducing poverty [12]. But the city's distinct post-industrial character, its own inequality patterns, and the fact that agricultural labour is often gendered, mean we need to look beyond just numbers - we need to understand UA as a socio-political practice that's deeply tied to the struggle for urban life.

Problem Statement. The major thrust of this study attempts to analyse the dualistic nature of UA in Enugu State. Researchers have established that urban agriculture (UA) increases household-level food accessibility and serves as a major coping strategy during times of economic distress; however, scholars still poorly understand its social, economic, and environmental dimensions, as well as its long-term impacts on development.

There is a strong possibility that, without adequate pro-poor policies and interventions, such informal coping mechanisms will perpetuate rather than alleviate existing social inequalities. Women end up doing most of the work, but men aren't pulling their weight when it comes to sharing the benefits [13]. UA could be a great way to strengthen community bonds. Still, it's unclear if it'll actually help marginalised groups connect with more influential people or organisations outside their immediate circle that could give them access to more resources and power [14].

It is not the practice of UA per se that is in question, but rather an inadequate understanding of UA as a subsystem, its class effects, and its potential to foster transformative community development beyond mere survival in a post-colonial city like Enugu.

Research Aim. To critically analyse the role of UA as a gendered survival strategy in Enugu State, investigating the relationship between household participation and its contradictory outcomes for food security, intra-household inequality, and community social capital.

Specific Objectives:

- 1) To determine how land tenure status (secure vs insecure) and neighbourhood socio-economic context differentially shape the primary motivation (subsistence vs supplemental) and perceived necessity of UA as a survival strategy.
- 2) To examine the relationship between a household's level of UA dependency and the gendered intensity of labour burden, specifically testing whether higher dependency correlates with a greater increase in women's unpaid work hours without a commensurate increase in their control over produce or income.
- 3) To assess whether the social capital generated through UA practice is primarily bonding (within the practitioner group) or bridging (linking to external institutions), and to identify the key barriers inhibiting the formation of bridging capital.
- 4) To propose a framework for gender-transformative UA policy in Enugu State that addresses the identified inequalities in labour and benefit-sharing while leveraging UA's potential for community resilience.

Central Research Questions

- 1) How do the interacting constraints of land tenure insecurity and economic precarity in Enugu's post-industrial neighbourhoods determine

whether UA functions as a bare subsistence tactic or a viable pathway to enhanced household resilience?

2) To what extent does UA, as practised in Enugu, represent a "patriarchal bargain," where women's increased labour burden for household food security is traded for social esteem but not for greater economic autonomy or decision-making power within the household?

3) What are the mechanisms through which UA cultivates bonding social capital, and why does this solidarity rarely translate into bridging capital that could access formal resources, market linkages, or political leverage for practitioners?

Literature Review and Conceptual Framework

UA in the Global South: From Survival to Development. Recent literature has redefined UA in the Global South, not as something marginal or retro but rather as a key element of urban resilience and sustainability discourse. It was an informal survival strategy for people experiencing poverty in cities that evolved into a clear understanding of its multifunctional and systemic role.

As the authors [8] state, UA is an indispensable pathway toward urban resilience and global sustainability through ecosystem services, social cohesion, and circular economies; hence, it should be considered integral urban infrastructure rather than a mere temporary solution. Authors [9] support this perspective, who described UA as a "keystone contribution" toward achieving sustainable and healthy cities in the future. The survival function of UA is very much alive, particularly in acute crises. The COVID-19 pandemic demonstrated how fragile centralised food systems are and how quickly communities can revive local food production; researchers [15] showed that UA served as a buffer by enhancing resilience among farmers facing supply chain disruptions in Japan. Studies on pandemic responses also show that UA plays a stabilising role during systemic shocks by managing food insecurity at the community level [16, 17]. In Africa, this survivalist aspect usually comes out more clearly; in Nigeria, research from Benin City has shown that sudden job losses were mitigated by prior involvement in peri-urban agriculture, demonstrating its role as a critical risk-management strategy [11].

Beyond crisis response, UA is analysed for its developmental potential. The concept of "multi-functionality" is key, as it captures how UA simultaneously addresses food production, environmental management, social inclusion, and economic development [18, 19].

The 2023 paper by author [20] situates UA as an articulated approach in the same tradition, seeking to integrate urban food systems with other urban systems such as water management, where UA is articulated as one pathway towards water-resilient cities through practices such as rainwater harvesting and wastewater reuse [21]. This narrative, however, demands interrogation. A considerable amount of literature has established that UA does not necessarily lead to more equitable development. Food insecurity is a product of manifest social inequities and structural injustices [22, 23].

A UA initiative may increase overall food supply without addressing, or even worsening, inequities in access, labour burdens, and benefit sharing. Furthermore, the findings of authors [13] establish a direct effect of household welfare and income inequality on food security; interventions that do not incorporate the distributional justice dimension are unlikely to achieve their sustainable development objectives.

The labour of UA is profoundly gendered, typically falling on women as an extension of unpaid care work, often without granting commensurate control over outputs or income. This dynamic can reinforce patriarchal household structures even as it puts food on the table.

This review presents an important duality: UA in the Global South is at once a survival strategy for vulnerable populations and a possible catalyst for sustainable urban development. The main academic and practical challenge is how to enable the transformation from one to the other.

Such transformation does not happen automatically; it requires deliberate design and policy support that transcends viewing UA solely as a land-use or food-production activity, recognising instead that UA operates as a socio-ecological system in which power, access, and equity considerations are critically important. The literature delineates the global context and identifies key points of contention but does not provide a detailed, context-specific analysis of how these dynamics unfold in secondary African cities with their unique historical legacies, such as Enugu,

Nigeria. This paper attempts to address that gap by applying this critical dual-lens framework to the case study of post-industrial Enugu.

Gender, Unpaid Care Work, and the Feminisation of Survival Strategies. Researchers must analyse UA through a gender lens, revealing it not as a neutral developmental activity but as a deeply embedded component of the gendered political economy of survival. The practice closely aligns with unpaid care work, the domestic and reproductive labour predominantly performed by women that sustains households, yet remains excluded from formal economic valuation. In economically precarious contexts, this care work expands to include survivalist activities like subsistence farming, a phenomenon scholars call the feminisation of survival strategies.

This issue extends beyond demographics: structural adjustment processes position women's labour as a buffer against systemic shocks, a dynamic that becomes especially visible in food systems during periods of crisis [17, 24]. The underlying issue here is the deeply ingrained connection between gender inequality and food insecurity. Authors [23] argue that structural inequities, including sexism and racism, are at the root of food insecurity, creating systems that rely on the undervalued labour of marginalised groups.

This triggers a vicious cycle in which inequality fuels food insecurity, and coping strategies such as UA often reinforce existing gender-based labour divisions, as research has shown. A study by authors [13] in 2021 found a direct correlation among household welfare, income inequality, and food security, indicating that interventions that don't address the intra-household distribution of resources and labour are unlikely to succeed in the long run. The authors' [25] study shows how poverty and income inequality directly worsen food insecurity, burdens that women disproportionately bear through increased informal work, which they often take on to make ends meet.

This is evident in Enugu, Nigeria, where authors [26] highlight the importance of women in sustainable agriculture for feeding both rural and urban communities. However, women's participation in sustainable agriculture imposes high social, economic, and physical costs. The literature on food security data for Enugu State, Nigeria, indicates that household-headed women remain most exposed and resort to "prudent strategies involving considerable human labour ef-

forts, reflecting the difficulty they experience in accessing resources, particularly land and finance" [27]. This situation articulates well within the African region, where it is these very women, known for being the prime producers, who have consistently not been provided any land, credit, or extension services but instead remain denied these resources, including land, credit, and extension, whose acquisition is still difficult for them. The situation is no different in Port Harcourt, Nigeria, where authors [10] indicate that the pattern for agriculture, in this case within urban communities, is "women's communal labour groups, offering each other vital complementary support, solidifying further the prime role of women as the 'main labour force for subsistence agriculture in these communities.'" Consequently, the issue of UA does not appear as an empowering livelihood strategy but rather as a gendered necessity, where the unpaid labour of women is an essential but often unseen subsidy for struggling food systems in urban areas [28, 29].

Social Capital Theory: Bonding, Bridging, and Linking in Community Contexts. Social capital provides an appropriate framework for assessing the community-level impacts of UA by moving beyond its material outcomes to reveal the complex relational networks that it helps forge or disrupt. Social capital is defined as the value created by social networks, norms of reciprocity, and trust that facilitate cooperative action within and between groups. Researchers draw a crucial distinction between bonding, bridging, and linking social capital. Researchers draw a crucial distinction between bonding, bridging, and linking social capital. Bonding capital refers to strong connections within homogeneous groups—such as families and tight-knit communities—where people share close bonds that provide emotional support, practical assistance, and a sense of belonging. Bridging capital refers instead to weaker ties between diverse but socially similar groups (for example, different community gardening associations) that enable information exchange and widen one's social horizons. Finally, linking capital—the most formal dimension—consists of vertical ties between communities and institutions/figures of power (for example, local government agencies or financial institutions) which give access to resources and political leverage [14].

In relation to UA, this framework reveals its twofold potential for community development. UA is a powerful creator of bonding social capital, as

shared labour and knowledge exchange in the collective management of garden spaces create dense networks of reciprocity and trust among practitioners. Cooperative work groups form seed-sharing networks that protect communal plots, strengthen community solidarity, and provide an important social safety net. Many studies on community development initiatives indicate that such bonding capital is basic for collective action resilience among marginalised groups [14, 30]. The collaborative management of food insecurity through community-based models during the COVID-19 pandemic further underscores UA's role in strengthening these inward-focused support systems [16].

But development literature issues a clear warning: an over-reliance on bonding capital can lead to social isolation and exclusion of outsiders, potentially entrenching existing inequalities. The critical leap for transformative development lies in cultivating bridging and, especially, linking capital. Bridging capital allows UA groups to learn from other communities, access new markets, and advocate collectively. More critically, linking capital is the mechanism through which informal survival strategies like UA can gain formal recognition, secure land tenure, access agricultural extension services, and influence policy - factors essential for transitioning from precarious coping to sustainable livelihoods. Research in Ghana shows that while community development initiatives build cohesion, access to community markets and formal institutions most significantly improves household food security and nutrition, pointing directly to the necessity of linking capital [14].

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This gap is most pronounced in Enugu and in other Nigerian cities. Most UA operations exist in a state of policy vacuum or threat of eviction and lack the institutional linkages that can give them security and scale. Community-driven development studies in Nigeria support this approach as an alternative to addressing food insecurity, but they also note challenges in establishing functional links between communities and state actors.

The Inequality Paradox: Can Informal Strategies Reinforce Divides? Analysis of existing work finds a paradox at the heart of these informal survival methods, such as UA: They represent absolutely crucial survival techniques for living within a system with high levels of inequality, yet they inherently possess a dynamic that can perpetuate these same levels of inequality. The inequality paradox may indicate that survival tools created by a lack of support within a system can become part of that system itself, rather than a means of escape. In a basic sense, it relates to the clear connections between a system of inequality and a system of food insecurity, where inequalities in income, power, and access intersect with nutritional deprivation [13, 25]. Author [22], for example, asserts that food insecurity serves as a clear product or representation of a system marked by inequality and is unsustainable. UA represents this contradiction in multiple ways.

First, it can reinforce gendered inequalities. As we've seen, UA is a feminised survival strategy, integrating unpaid care work with food production; this burdens women with increased labour without guaranteeing them control over resulting benefits, effectively exploiting their labour to subsidise household and community food security while leaving patriarchal structures intact. It's a dynamic that transforms a potential tool for empowerment into a mechanism that naturalises and extends gendered exploitation [23].

Second, UA can worsen spatial and class-based exclusion. The availability of basic resources to UA, especially safe, fertile, and uncontaminated land, is also considered inequitable. In Enugu, for example, many urban poor engage in farming on less fertile, possibly dangerous, or disputed land. In contrast, others, meaning those better off, may farm in safer backyard spaces, reflecting an underlying premise of injustice along these lines, one where pollution and land tenure are handled by those less able [31]. And it can create new social cleavages between those with and without

safe land access, and between those for whom it's a choice and those for whom it's a dire necessity.

Third, the social capital generated through UA, while valuable, often remains exclusionary bonding capital. The tight-knit networks within a gardening cooperative may offer mutual aid, yet sometimes solidify in-group/out-group boundaries that exclude the poorest of the poor because they lack the social connections, time, or the minimal resources required to join. As authors [14] detail, community initiatives need to engender bridging and linking capital if they are to be truly transformative; without this, bonded groups risk being no more than isolated pockets of resilience in a sea of enduring inequality, which cannot mobilise collective power toward systemic change. There is, finally, a political-economy dimension to the paradox. Celebrating UA as a grassroots, self-help solution can inadvertently legitimise state withdrawal. When it is perceived that the communities are coping, it takes the pressure off the government and the international community insofar as they are concerned with the structural failures, such as the absence of social protection, equal land rights, and jobs, which made it necessary for the communities to cope in the first instance [24]. This is the case in Nigerian cities, which always feature the informal sector, such as UA, in their formal policies and safety nets, thereby placing the sector in a state of permanent precariousness [28, 29]. Thus, UA can easily become a safety net with a ceiling, thereby constituting an informal, permanent subsystem for poverty management without an exit strategy. The challenge, then, is not to idealise UA as an independent solution but to critically examine how its praxis converges with or diverges from the particular matrices of gender, class, and space within Enugu to discern the specific policies needed to unlock the transformative power of the UA to resolve the paradox of its own making.

Synthesising the Framework: An Integrated Lens for Enugu. The preceding review establishes three core theoretical pillars for analysing UA: its dual identity as a survival and development strategy, its foundation in gendered unpaid labour, and its generation of differentiated social capital that can either mitigate or reinforce the inequality paradox. To analyse Enugu's specific case, we need to weave these strands into a cohesive lens. This synthesis suggests that UA in Enugu's post-industrial context is best understood as a gendered socio-ecological prac-

tice where access to resources, divisions of labour, and community dynamics are intertwined and fundamentally shaped by underlying inequality structures. And it's here that we see the complex interplay among these factors. The proposed conceptual framework, illustrated in Figure 1, doesn't start with UA Practice as a given; instead, it's the central process mediated by three key contextual filters derived from Enugu's reality:

a) Structural Conditions (which include post-industrial economic decline, land tenure insecurity, and policy voids, as outlined by authors [5, 29],

b) Gendered Household Economics (governing the distribution of unpaid care work and decision-making power, following authors [13, 27], and

c) Community Socio-Spatial Context (which differentiates between neighbourhoods like New Haven and Emene, presenting varying degrees of asset poverty and social cohesion). So, UA practice is filtered through these conditions, producing a set of Contradictory Outcomes along three dimensions central to this study: Food Security (ranging from improved dietary diversity to persistent sovereignty deficits), Social Inequality (manifest as reinforced gendered labour burdens or exclusionary access), and Community Development (generating bonding capital, but lacking bridging and linking capital to institutions, as per [14].

Importantly, it suggests a feedback loop, in which these outcomes not only culminate in results but also recursively feed back into and impact the original structural and household conditions, potentially engraining the very problems that led to the survival strategy in the first instance. And it's here, importantly, that it's clear outcomes are not simply endpoints but instead reflect a larger process in which they can, conversely, validate or mitigate problems sought to be addressed by UA. This more holistic perspective of UA impact represents an exciting means of assessing, instead, how, within Enugu, this process of growing one's own food within the city is reflective of and influenced by the precarious nature of life within the urban environment. Still, its ultimate developmental contribution depends on breaking the cycle that traps UA as a feminised coping mechanism rather than a lever for equitable resilience.

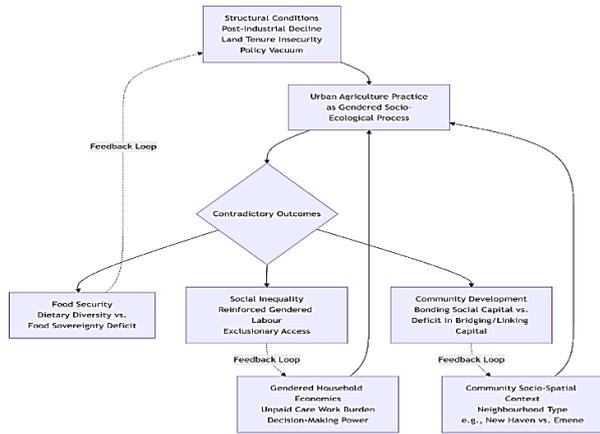


Figure 1 – Conceptual Framework for Analysing UA in Enugu State

Three interlinked contextual filters shape the practice of urban agriculture (UA), producing contradictory outcomes that, in turn, reinforce the initial conditions and create a potential cycle of entrenchment.

METHODS

This study is grounded in a pragmatic, critical realist philosophy, recognising that urban poverty has an objective reality, but focusing on the subjective experiences that shape the social reality of UA. The researchers adopted a comparative, mixed-methods case study design in Enugu State, Nigeria, to investigate UA as a gender-influenced survival strategy in a region that exemplifies the urban food security challenges faced by many post-industrial cities in Sub-Saharan Africa.

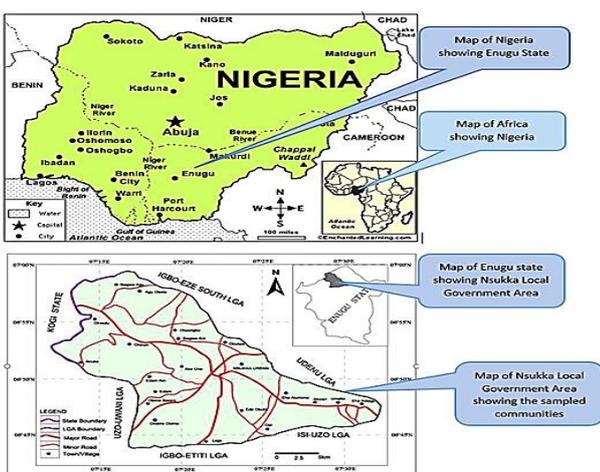


Figure 2 – Location Map of the Study Sites within Enugu Metropolis, Nigeria

Enugu Metropolis was chosen as the target location, with two socio-economic sites for data collection identified on a map (Figure 2): a. New Ha-

ven, a planned middle-class suburb with UA as a supplementary livelihood, and b. Emene/Abakpa Nike, a peri-urban suburb with mixed economic conditions, where UA can, at times, represent an important livelihood for more marginal land. Data for this research will be collected over a period of two months, June-August 2024, through a structured household survey with a sampling frame of 220 participants (55 per site) and a stratified random sampling approach. These results will then complement additional data abstracted from a further 45 in-depth interviews with purposively selected male and female UA participants, targeted key informants, and male and female agriculture focal points. These results will further triangulate data from two Gender Segregated Focus Group Discussions per site, for a total of 10, permitting a free-flowing discussion amongst participants regarding perceptions of community challenges and the benefits derived from UA. Integration happened at the interpretation stage, where we used qualitative narratives to elucidate statistical patterns, and contextualised qualitative findings with quantitative distributions, all to ensure a comprehensive understanding of UA's complex role in Enugu.

RESULTS AND DISCUSSION

The sourced research data from questionnaires were analysed, presented, and interpreted in this section. The researchers used frequency counts and percentage summaries to analyse the respondents' social demographic characteristics. The raised research questions were tested using frequency counts and percentage summaries, and validated using the chi-square test. At the same time, mean rankings were used where appropriate. All analyses were summarised and presented in tables.

Table 1 – Frequency distribution showing Respondents' Social Demographics Information

Factors	Options	F	%
Location	New Haven	100	45.0
	Emene Abakpa Nike	122	55.0
	Total	222	100.0
Gender	Male	93	41.9
	Female	129	58.1
	Total	222	100.0
Household Size	3 Persons and Below	144	64.9
	4-6 Persons	43	19.3
	7-9 Persons	11	5.0
	10 Persons and More	24	10.8
	Total	222	100.0

Factors	Options	F	%
Number of Children Under 18 Years	None	14	6.3
	1 Person	69	31.1
	2-3 Persons	132	59.5
	More than 3 Persons	7	3.1
	Total	222	100.0
Household Income Source	Formal Employment	51	23.0
	Informal Business	34	15.3
	Farming	89	40.1
	Others	48	21.6
	Total	222	100.0
Urban Land Tenure	Own Backyard	116	52.3
	Rented Plot	34	15.3
	Communal Plot	38	17.1
	Occupied Public Land	34	15.3
	Total	222	100.0

Table 1 presents the respondents' social demographics. The researchers sampled respondents from two locations: 45% from the New Heaven area and 55% from the Emene Abakpa Nike area. The gender distribution of the respondents showed that 41.9% of them were males, while a larger number of them (58.1%) were females.

Regarding the respondent's household size, a reasonable number (64.9%) had 1-3 persons in their household, and 19.3% had 4-6 persons in their household. A limited number (5%) had 7-9 persons in their family, while 10.8% had 10 or more persons in their household. Considering the number of children under the age of 18 years in the respondent's family, it was reported that

6.3% of them had no child less than 18 years of age, 31.1% of them had a child that is less 18 years of age, 59.5% of them had 2 to 3 children that are less than 18 years of age, while 3.1% of them had more than 3 children that are under 18 years of age.

Regarding the respondents' sources of income, 23% had formal employment, 15.6% had informal businesses, and 40.1% were farmers. In comparison, respondents reported that 21.6% had other sources of income, but did not specify them in the study. The survey also collected information on urban land tenure, showing that 52.3% of respondents had farmland behind their own backyards, 15.3% farmed on rented plots, 17.1% used community land, and 15.3% cultivated farmland on free public land.

Analyses of Research Questions

Research Question 1: How do the interacting constraints of land tenure insecurity and economic precarity in Enugu's post-industrial neighbourhoods determine whether UA functions as a bare subsistence tactic or a viable pathway to enhanced household resilience?

The analyses of the statements regarding how interacting constraints of land tenure insecurity and economic precarity in Enugu's post-industrial neighbourhoods determine whether UA functions as a bare subsistence tactic or a viable pathway to enhanced household resilience were presented in Table 2.

Table 2 – Chi-square summary showing responses on statements relating to the way in which interacting constraints of land tenure insecurity and economic precarity in Enugu's post-industrial neighbourhoods determine whether UA functions as a bare subsistence tactic or a viable pathway to enhanced household resilience

Items	Response						
		SA	A	UN	D	SD	Total
Urban farming is a temporary way to secure survival because urban development may disrupt long-term land use.	F	138	64	13	6	1	222
	%	62.2	28.8	5.8	2.7	0.5	100.0
Households practise urban farming because residents have insufficient or unreliable income-earning opportunities in cities.	F	93	85	27	9	8	222
	%	41.9	38.3	12.1	4.1	3.6	100.0
Serious investment in land for large-scale urban farming is often difficult due to the fear of eviction at any time.	F	100	67	24	12	19	222
	%	45.0	30.2	10.8	5.4	8.6	100.0
Residents in urban areas have mitigated food shortages through urban farming, even when protection against future economic shocks is not guaranteed.	F	77	72	46	7	20	222
	%	34.7	32.4	20.7	3.2	9.0	100.0
Urban farming will be enticing to practice as a means to enhance household resilience when there is assured access to stable income and land.	F	101	62	32	11	16	222
	%	45.5	27.9	14.4	5.0	7.2	100.0
Average Summary	F	102	70	28	9	13	222
	%	45.9	31.5	12.6	4.1	5.9	100.0
Chi Square	X ²	145.973					
	df	4					
	P	<.05					

Nearly all respondents (91%) believed that urban farming is a temporary way to survive because urban development may overturn long-term land use at any time; 5.8% were indifferent, though 3.2% refuted this impression. 80.2% of the respondents believed that urban farming is practised in households due to residents' insufficient or unreliable income-earning, 12.1% were neither in support nor against this opinion, and 7.7% were of a contrary opinion.

A higher percentage of respondents (75.2%) were of the view that serious investment in land for large-scale urban farming is most of the time difficult due to the fear of eviction at any time; 10.8% were equivocal, while 14% were of a contrary view. The statement that residents in urban areas have salvaged from food shortages through urban farming, even when protection from future economic shocks is not guaranteed, was supported by 67.1% of respondents; 20.7% were indecisive, and 12.2% reported otherwise. Lastly, 73.4% of the respondents thought that urban farming would be enticing to practice as a means to enhance household resilience when there is assured access to stable income and land; 14.4% were neutral, while 12.2% thought the opposite. The average summary was with the indication that the majority of the respondents (77.4%) consented to these statements, showing that the interacting constraints of land tenure insecurity and economic precarity in Enugu's post-industrial neighbourhoods had indeed shown

that UA, though still a subsistence tactic, functions highly as a viable pathway to enhanced household resilience; this was such that 45.9% of the respondents strongly agreed with these statements, 31.5% agreed, 12.6% were unwavering in their response, 4.1% disagreed, and 5.9% strongly disagreed.

Further confirming this result is the Chi-square value ($X^2=145.973$, $df=4$, $p<.05$), which indicates that the observed difference in frequencies is significant and warrants further clarification. Thus, evidence from Enugu's post-industrial neighbourhoods affirms that interacting constraints of land-tenure insecurity and economic precarity show that, although urban agriculture (UA) remains a subsistence tactic, it functions as a highly viable pathway to enhanced household resilience.

Research Question 2: To what extent does UA, as practised in Enugu, represent a "patriarchal bargain," where women's increased labour burden for household food security is traded for social esteem but not for greater economic autonomy or decision-making power within the household?

The result on the extent to which UA, as practised in Enugu, represents a "patriarchal bargain," where women's increased labour burden for household food security is traded for social esteem but not for greater economic autonomy or decision-making power within the household, was presented in Table 3.

Table 3 – Chi-square summary on the statement relating to the extent to which UA, as practised in Enugu, represents a "patriarchal bargain," where women's increased labour burden for household food security is traded for social esteem but not for greater economic autonomy or decision-making power within the household

Items		Response					
		SA	A	UN	D	SD	Total
Women are more involved in urban farming because they handle more household chores.	F	109	69	21	12	11	222
	%	49.1	31.1	9.5	5.3	5.0	100.0
The men, as the head of the family, most often control the profits from urban farming.	F	91	81	25	11	14	222
	%	41.0	36.5	11.2	5.0	6.3	100.0
Women's contributions to urban farming earn them greater social respect in their residential area, but this does not give them control over the family's financial decisions.	F	109	59	16	17	21	222
	%	49.1	26.6	7.1	7.7	9.5	100.0
Women's involvement in urban farming increases their domestic workload as mothers and homemakers.	F	86	81	18	17	20	222
	%	38.7	36.5	8.1	7.7	9.0	100.0
Household food security is certain even when their economic interdependence is not secured, when women practice urban farming.	F	79	71	29	17	26	222
	%	35.6	32.0	13.1	7.6	11.7	100.0
Average Summary	F	95	72	22	15	18	222
	%	42.8	32.4	9.9	6.8	8.1	100.0
Chi Square	X^2	121.288					
	df	4					
	P	<.05					

The majority of respondents (80.2%) believed that women are more involved in urban farming because they handle more domestic chores, 9.5% were equivocal, and 10.3% refuted. 77.5% of respondents believed that men, as the head of the family, most often control the profit from urban farming; 11.2% were indifferent, and 11.3% disagreed with this impression.

In a similar vein, 75.7% of respondents agreed that women's contributions to urban farming earn them more social respect in their residential area, but this does not accord them control over the family's financial decisions; 7.1% neither agreed nor disagreed; and 17.2% disagreed. The statement that women's involvement in urban farming increases their domestic workload as mothers and homemakers was supported by 75.2% of the respondents, 8.1% were indecisive, and 16.7% reported the opposite. Lastly, a reasonable number of respondents (67.6%) thought that household food security is certain even when their economic interdependence is not secured when women practice urban farming; 13.1% were not certain; however, 19.3% thought the opposite.

Averaging the scores shows that higher percentage of the respondents (75.2%) with consent to these statements justified that to a great extent UA, as practiced in Enugu, though represent a "patriarchal bargain," increases women's labour burden due to their involvement more in domestic shores, this had assuredly secures food

security for the household, heightens there social esteem, but does not accrue to them the supreme decision-making power within the household nor as well greater economic autonomy; this was such that 42.8% strongly agreed with these statements, 32.4% agreed, 9.9% were wavering, 6.8% disagreed, and 8.1% strongly disagreed.

Further confirming this result is the Chi-square value ($X^2=121.288$, $df=4$, $p<.05$), which shows that the difference in frequencies supports this result and allows for further conclusions. Therefore, it is summated that that to a great extent UA as practiced in Enugu, though represent a "patriarchal bargain," increases women's labour burden due to their involvement more in domestic shores, this had assuredly secures food security for the household, heightens there social esteem, but does not accrue to them the supreme decision-making power within the household nor as well greater economic autonomy.

Research Question 3: What are the mechanisms through which UA cultivates bonding social capital, and why does this solidarity rarely translate into bridging capital that could access formal resources, market linkages, or political leverage for practitioners? The results on the mechanisms through which UA cultivates bonding social capital and why this solidarity rarely translates into bridging capital that could access formal resources, market linkages, or political leverage for practitioners were presented in Table 4.

Table 4 – Friedman Test on the statement regarding the mechanisms through which UA cultivates bonding social capital, and why this solidarity rarely translates into bridging capital that could access formal resources, market linkages, or political leverage for practitioners

Items	Responses						Mean Ranking	
	SA	A	UN	D	SD	Total		
Interacting regularly and practising shared labour in urban farming results in a strong sense of trust and viable support among urban farmers	F	111	75	27	9	-	222	3.28
	%	50.0	33.8	12.1	4.1	-	100.0	
Exchange of seeds and labour among urban farmers happens within agricultural groups in their localities	F	89	67	35	7	24	222	2.89
	%	40.1	30.2	15.8	3.2	10.7	100.0	
Informal relationships dominate coexistence among urban farmers more than reliance on official recognition	F	71	79	34	18	20	222	2.60
	%	32.0	35.6	15.3	8.1	9.0	100.0	
It is difficult for urban agric practice groups to connect with government bodies because there are no registered urban farmers' organisations	F	134	57	24	3	4	222	3.69
	%	60.4	25.7	10.7	1.4	1.8	100.0	
The sense of coherence among urban residents can be strengthened through UA bodies, even when wider economic and political chances are not guaranteed	F	71	85	42	10	14	222	2.74
	%	32.0	38.3	18.9	4.5	6.3	100.0	
Averaged Total	F	95	73	33	9	12	222	
	%	42.8	32.9	14.9	4.1	5.3	100.0	
Friedman Chi-Square	X^2	72.709						
	df	4						
	P	<.05						

The conducted Friedman test revealed that the reported mean rankings were valid in explaining the preference, with the identified mechanisms based on the perception of impact ($X^2 = 72.709$, $df = 4$, $p < .05$).

The highest-ranked identified mechanism was the difficulty in registering urban farmers' organisations, which impedes urban agric practice groups' connections with government bodies ($M=3.69$). A higher percentage of respondents (86.1%) agreed with this opinion; 10.7% were undecided, and 3.2% held a contrary opinion. The next-rated mechanism was regular interaction and shared labour ($M=3.28$). The majority of respondents (83.8%) affirmed that regular interaction and shared labour in urban farming foster a strong sense of trust and viable support among urban farmers; 12.1% were equivocal, while 4.1% refuted.

The mean value of 2.89 placed the identified mechanism, the exchange of required labour and seeds among those who practice UA, next in the ranking. It was observed that 70.3% of the respondents agreed that the exchange of seeds and labour among urban farmers occurs within agricultural groups in their localities; 15.8% were neither in support nor against this statement; meanwhile, 13.9% reported otherwise. The identified mechanism reported before the least was that the need to strengthen the coherence among urban residents ($M=2.74$); this was such that 70.3% of the respondents agreed that the sense of coherence among urban residents can be strengthened through UA bodies, even when wider economic and political chances are not guaranteed, 18.9% of them were equivocal. However, 10.8% of them report contrarily. The least reported mechanism was that informal relationships dominate coexistence among urban farmers more than reliance on official recognition ($M=2.60$); 67.6% of the respondents affirmed this idea, 15.3% neither supported nor opposed it, and 17.3% did not believe this idea.

The average summary was that a larger proportion of respondents (75.7%) who consented to these statements indicated that the aforementioned mechanisms were the ones through which UA cultivates bonding social capital. However, this solidarity rarely translates into bridging capital that could access formal resources, market linkages, or political leverage for practitioners, because informal relationships dominate coexistence among urban farmers, making it mostly

difficult for urban agric practice groups to connect with government bodies, since there are no registered urban farmer organisations; this was such that 42.8% strongly agreed with these statements, 32.9% agreed, 14.9% were indecisive, 4.1% disagreed, and 5.3% strongly disagreed.

Inference from the observed frequency variation indicated that this result is valid for further conclusions. Therefore, the analysis concludes that these mechanisms are the ways through which urban agriculture (UA) cultivates bonding social capital. However, this solidarity rarely translates into bridging capital that could access formal resources, market linkages, or political leverage for practitioners, because informal relationships dominate coexistence among urban farmers, making it mostly difficult for urban agric practice groups to connect with government bodies, since there are no registered urban farmer organisations.

The findings, therefore, point to a critical tension in which UA in Enugu is situated, and they are confirmed by showing that 91% of respondents saw UA as a temporary subsistence strategy due to the threat of eviction. However, a significant majority, 77.4%, also recognised its contribution to building household resilience, thus pointing to its dual character as a precarious subsistence strategy and a vital resilience-building strategy.

The results strongly support the gendered "patriarchal bargain" implicit in this practice. The dominant sex in the workforce is women (58.1%). Among them, 75.2% agree that while their role in the UA ensures food security and household respect, it does not guarantee economic freedom. The UA relies on the unpaid labour of women in the workforce, thus perpetuating inequality in terms of gender despite food security.

Moreover, although the UA is successful in creating bonding social capital through shared work and resource distribution (which is confirmed by 83.8% of the respondents), it is not successful in creating bridging social capital. One major factor that prevents the creation of bridging social capital is the lack of formal organisation. The lack of registered farmer groups is a major factor that prevents the UA from linking with government institutions and other formal resources. The lack of formalisation thus isolates the UA practitioners in the informal sphere.

CONCLUSIONS

This research has demonstrated that UA in Enugu State represents an essential, albeit contradictory, means of survival, mirroring the post-industrial decline of the urban area, providing a means of coping with food and economic insecurity, thereby making urban dwellers resilient. However, existing inequality dynamics inherently shape this practice. This study confirms that UA is an inherently gendered practice, which reflects a "patriarchal bargain" where women's higher labour burden contributes to food security without translating into equivalent economic control or decision-making power.

Moreover, although UA strongly fosters bonding social capital within the practitioner community, it consistently neglects the development of bridging social capital to connect with formal institutions; this is the reason why it has always maintained its informal and precarious character. Finally, UA in Enugu is a paradox of inequality: a crucial survival strategy born of the system's failure, yet without gender-transformative policies to ensure land tenure, labour, and benefits, it may reproduce the same inequality it seeks to address.

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