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Cultivating Resilience: The Socioeconomic Impact Of Small-Scale Agriculture On Peri-Urban Household Livelihoods In Nigeria

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Abstract: Purpose: Amid rapid urbanization and persistent poverty in Nigeria, the socioeconomic role of small-scale agriculture in peri-urban zones remains empirically underexplored. This study aims to bridge this gap by examining the impact of small-scale agricultural activities on the poverty status and welfare of peri-urban households in Nigeria. Specifically, it identifies the key determinants of participation and quantifies its effect on household income and poverty levels.

Methodology: The study utilized a multi-stage sampling technique to collect primary data from peri-urban households through a structured questionnaire. The analytical approach involved descriptive statistics, the Foster-Greer-Thorbecke (FGT) class of poverty measures to analyze poverty incidence, depth, and severity, and a binary logistic regression model to identify the determinants of household participation in small-scale agriculture.

Findings: The results reveal a statistically significant lower incidence and severity of poverty among households engaged in small-scale agriculture compared to their non-participating counterparts. The logit model indicates that the educational level of the household head, access to informal credit, and household size are significant positive determinants of participation. Furthermore, participation in small-scale agriculture was found to have a positive and significant impact on total household income, serving as a crucial supplementary livelihood strategy.

Originality/Value: This paper provides robust empirical evidence on the vital role of peri-urban agriculture as a poverty reduction tool in the Nigerian context. The findings offer actionable insights for policymakers to design targeted interventions—such as tailored extension services and micro-credit facilities—to support and enhance the resilience of peri-urban livelihoods, thereby contributing to the achievement of national food security and poverty alleviation goals.

Keywords: Peri-Urban Agriculture; Poverty Alleviation; Household Welfare; Foster-Greer-Thorbecke; Logistic Regression; Nigeria.

Introduction: 1.1. Background of the Study

The global community faces the persistent and complex challenge of eradicating poverty in all its forms, a cornerstone of the 2030 Agenda for Sustainable Development [79]. Despite significant progress over the past decades, hundreds of millions of people continue to live in extreme poverty, predominantly in Sub-Saharan Africa and South Asia [8]. Poverty is not merely a lack of income but a multidimensional phenomenon encompassing deprivation in health, education, and living standards, which in turn limits opportunities and perpetuates intergenerational cycles of hardship [2, 78]. Foundational theories of poverty range from individualistic explanations to structural arguments that highlight systemic barriers and unequal distribution of resources [11, 70]. As Sen [75] argued, poverty is fundamentally a capability deprivation, limiting an individual's freedom to achieve well-being. This multifaceted nature requires solutions that address its root causes, including food insecurity, lack

of economic opportunity, and vulnerability to shocks [54].

In this context, agriculture has long been recognized as a fundamental driver of economic growth and poverty reduction, particularly in developing nations where a large proportion of the population depends on it for their livelihood [74, 81]. The sectoral composition of economic growth is critically important, with growth in the agricultural sector often being significantly more effective in reducing poverty than growth in other sectors, especially in low-income countries [71].

Simultaneously, the world is undergoing an unprecedented wave of urbanization. For the first time in history, more than half of the global population lives in urban areas, a trend that is most rapid in developing regions like Africa [80]. This rapid urban expansion creates unique transitional landscapes known as peri-urban zones. These areas, situated on the fringes of cities, are characterized by a mosaic of urban and rural land uses, dynamic population shifts, and evolving livelihood strategies. While urbanization can be a powerful engine for economic growth, its unplanned and rapid nature often exacerbates pressures on resources, infrastructure, and food systems, potentially creating new pockets of urban and peri-urban poverty [65].

Within these dynamic peri-urban spaces, small-scale agriculture—encompassing activities from backyard gardening and home gardens to raising small livestock—is emerging as a critical, albeit often overlooked, livelihood strategy [34, 77]. Initially viewed as a subsistence or supplementary activity, there is growing evidence that it plays a significant role in enhancing household food security, improving nutrition, generating income, and building resilience against economic and environmental shocks [5, 48, 55]. Studies across various global contexts have demonstrated that home gardens can provide a substantial portion of a household's nutritional needs, reduce food expenditure, and offer a source of direct income through the sale of surplus produce [7, 16, 39]. This form of agriculture is particularly accessible to vulnerable groups, including women and the elderly, due to its low capital requirements and proximity to the home [15, 46]. In the wake of global disruptions like the COVID-19 pandemic, home gardening gained renewed attention as a mechanism for shoring up local food systems and providing a buffer against supply chain failures [48].

1.2. Problem Statement

Nigeria, as Africa's most populous nation, epitomizes the dual challenges of high poverty rates and rapid urbanization. According to the National Bureau of Statistics (NBS), a significant percentage of the population lives below the national poverty line, with poverty being a predominantly rural phenomenon but increasingly visible in urban and peri-urban areas [61, 62]. The country's rapid urban growth has led to the expansion of vast peri-urban zones around major cities. Households in these areas often find themselves in a precarious position, disconnected from traditional rural agricultural support systems yet not fully integrated into the formal urban economy [65]. This leaves them highly vulnerable to food price volatility, unemployment, and inadequate access to social services.

In response, many peri-urban households have turned to small-scale agriculture as a coping mechanism and a livelihood diversification strategy [1, 68]. Activities range from cultivating small plots of land with staple crops and vegetables to raising poultry or fish in backyard systems [30, 42]. Despite the prevalence of these activities, they often exist in a policy vacuum. Urban and regional planning frameworks frequently fail to recognize or support peri-urban agriculture, sometimes viewing it as an informal or even illegitimate use of land [52]. Consequently, there is a significant lack of empirical data and a comprehensive understanding of the actual socioeconomic contribution of this sector to household welfare in Nigeria. Without robust evidence, policymakers are ill-equipped to design effective interventions that could leverage the potential of small-scale peri-urban agriculture for poverty reduction and sustainable urban development. This study seeks to address this critical gap by systematically analyzing the socioeconomic associations of small-scale agriculture with the livelihoods of peri-urban households in Nigeria.

1.3. Research Questions and Objectives

This research is guided by the overarching question: What is the role and impact of small-scale agriculture on the socioeconomic well-being of peri-urban households in Nigeria? To answer this, the study addresses the following specific research questions:

1. What are the distinguishing socioeconomic characteristics of peri-urban households that engage in small-scale agriculture compared to those who do not?
2. What are the key factors that determine a household's decision to participate in small-scale peri-urban agriculture?

3. What is the quantitative association between participation in small-scale agriculture and the poverty status and income levels of peri-urban households?

In line with these questions, the primary objectives of the study are:

1. To profile and compare the socioeconomic characteristics of participating and non-participating households in small-scale peri-urban agriculture.

2. To identify the determinants predicting a household's participation in small-scale peri-urban agriculture.

3. To estimate the association of participation in small-scale agriculture with household poverty status and income.

1.4. Hypotheses

Based on the theoretical framework and the existing empirical literature, this study tests the following hypotheses:

- H1: Participation in small-scale peri-urban agriculture is negatively associated with household poverty status (incidence, depth, and severity).
- H2: Key socioeconomic and institutional factors, including household size, education, access to credit, and land ownership, are significant predictors of a household's participation in small-scale peri-urban agriculture.

1.5. Significance of the Study

The findings of this research are expected to have significant theoretical and practical implications. Theoretically, the study will contribute to the literature on livelihood diversification, poverty dynamics, and urban food systems. By focusing on the unique context of peri-urban zones, it will add nuance to the broader understanding of the agriculture-poverty nexus, which has traditionally focused on rural settings [10, 71]. It provides a contemporary Nigerian case study to the growing body of international research on the benefits of home and community gardening [17, 37, 50].

Practically, this study will generate crucial empirical evidence to inform policy. The results will be valuable for national and sub-national government agencies, non-governmental organizations [33], and international development partners working on poverty alleviation, food security, and urban planning in Nigeria. By identifying the key determinants of participation, the research can help in designing targeted interventions—such as improved access to credit [14, 29], extension services, and land tenure security—to support and scale up the benefits of peri-urban agriculture. Ultimately, by demonstrating the tangible economic contributions of this sector, the study advocates for its formal recognition and integration into mainstream development and urban planning strategies, thereby helping to build more resilient, food-secure, and economically inclusive cities [23].

METHODS

2.1. Study Area

This study was conducted in the peri-urban areas of two distinct geopolitical zones in Nigeria: the North-Central and the South-East. Specifically, the areas surrounding Ilorin in Kwara State (North-Central) and Enugu in Enugu State (South-East) were selected. This choice was purposive to capture a diversity of agro-ecological conditions, farming systems, and socio-cultural contexts, thereby enhancing the external validity of the findings.

The peri-urban zone of Ilorin is characterized by a transition from urban settlement to savanna agro-ecology, where households commonly cultivate crops like maize, cassava, and vegetables, and engage in small-scale poultry and goat rearing [27, 66]. The area is experiencing rapid expansion due to its status as a state capital and educational hub. The peri-urban zone of Enugu is located in a derived savanna/rainforest transition zone, suitable for root and tuber crops like yam and cassava, as well as diverse vegetable and fruit production [19, 58]. Enugu's history as a regional administrative and commercial center has similarly fueled urban sprawl, creating a dynamic interface between urban and rural economies. Both areas are characterized by a mix of formal and informal land tenure systems and households pursuing diverse livelihood strategies, making them ideal locations for this research.

2.2. Sampling Procedure and Sample Size

A multi-stage sampling procedure was employed to select the respondent households. In the first stage, the two states (Kwara and Enugu) were purposively selected. In the second stage, two Local Government Areas (LGAs) from each state that are characteristic of the peri-urban interface were randomly selected. In the third stage, three communities were randomly selected from each of the chosen LGAs, resulting in a total of twelve communities.

In the final stage, a systematic random sampling technique was used to select households within each community. A comprehensive list of households was obtained from community leaders, and from this list, households were stratified into two groups: those participating in any form of small-scale agriculture (crop cultivation, livestock rearing, or aquaculture on land less than 0.5 hectares) and those not participating. An equal number of households were then randomly selected from each stratum to ensure adequate representation for comparative analysis.

The sample size was determined using a standard formula for sample size calculation, considering a 95% confidence level and a 5% margin of error. A total sample size of 400 households was selected, comprising 200 participating and 200 non-participating households, with 200 households drawn from each state.

2.3. Data Collection

Primary data were collected for the study using a pre-tested, semi-structured questionnaire administered through face-to-face interviews. A pilot test of the questionnaire was conducted with 20 non-sample households in a nearby peri-urban community to check for clarity, relevance, and consistency of the questions, and necessary revisions were made. The questionnaire was designed to capture comprehensive information on a wide range of variables. The data collection was carried out between April and July 2024 by trained enumerators who were fluent in the local languages (Yoruba and Igbo) to ensure clarity and accuracy.

The questionnaire was divided into several sections, including:

- Household Demographics: Age, gender, marital status, and educational level of the household head; household size and composition.
- Socioeconomic Information: Primary and secondary occupations, sources of household income (farm and non-farm [41]), detailed household expenditure on food and non-food items, asset ownership, and access to credit [29, 44].
- Agricultural Production: Type and scale of agricultural activities (e.g., vegetable gardening, poultry, fishery), land size and tenure system, inputs used, quantity of produce consumed at home, and quantity sold.
- Institutional Factors: Access to agricultural extension services, membership in cooperative societies or farmer groups.

2.4. Analytical Framework

The collected data were analyzed using both descriptive and inferential statistical tools within the STATA software package. The specific analytical techniques used are outlined below.

2.4.1. Descriptive Statistics

Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarize the socioeconomic characteristics of the respondent households. This allowed for a direct comparison of key variables between the households participating in small-scale agriculture and the non-participating households. T-tests and chi-square tests were employed to ascertain the statistical significance of any observed differences between the two groups.

2.4.2. Poverty Analysis

To assess the poverty status of the households, the study adopted the Foster-Greer-Thorbecke (FGT) class of decomposable poverty measures [32]. This approach is widely used for its ability to capture three distinct dimensions of poverty: incidence, depth (gap), and severity. The FGT index is represented by the formula:

$$P\alpha=N1i=1\sum q(zz-yi)\alpha$$

where:

- N is the total number of households in the sample,
- z is the predetermined poverty line,
- q is the number of poor households (those with expenditure below the poverty line),
- yi is the per capita household expenditure of the i-th household,
- α is the poverty aversion parameter, which takes values of 0, 1, or 2.

The poverty line (z) was established based on two-thirds of the mean annual per capita household expenditure, a relative poverty line method commonly used in studies where official lines are outdated or unavailable [6, 21].

- When α=0, the index measures poverty incidence (P0), or the headcount ratio, which is the proportion of the population living below the poverty line.

- When α=1, the index measures poverty depth (P1), or the poverty gap index, which reflects the average shortfall of the poor's expenditure from the poverty line.
- When α=2, the index measures poverty severity (P2), or the squared poverty gap index, which gives greater weight to the poorest of the poor.

The FGT indices were calculated separately for participating and non-participating households to compare their poverty profiles.

2.4.3. Determinants of Participation in Small-Scale Agriculture

To identify the factors predicting a household's decision to participate in small-scale peri-urban agriculture, a Binary Logistic Regression Model was employed. This model is appropriate when the dependent variable is dichotomous (e.g., participation or non-participation). The implicit form of the logit model is expressed as:

$$Pi=E(Y=1|Xi)=1+e-Zi1$$

where Pi is the probability that a household participates in small-scale agriculture, and Zi is a function of a vector of explanatory variables (Xi) and is defined as:

$$Zi=\beta0+\beta1X1+\beta2X2+\cdots+\beta nXn+ui$$

The dependent variable (Yi) was coded as 1 for households participating in small-scale agriculture and 0 for non-participating households. The explanatory variables (Xi) included in the model, based on a review of existing literature [53, 57, 60], were:

- X1: Age of household head (years)
- X2: Gender of household head (1=male, 0=female)
- X3: Household size (number of members)
- X4: Education of household head (years of formal schooling)
- X5: Farming experience (years)
- X6: Access to credit (1=yes, 0=no)
- X7: Access to extension services (1=yes, 0=no)
- X8: Membership in a social group/cooperative (1=yes, 0=no)
- X9: Household non-farm income (Naira)
- X10: Land ownership (1=own land, 0=do not own)

The coefficients (βi) of the model were estimated using the Maximum Likelihood Estimation (MLE) method. The signs of the coefficients indicate the direction of the relationship, while their odds ratios (exp(βi)) quantify the magnitude of the effect on the probability of participation. The assumptions of the model, including the absence of perfect multicollinearity among independent variables, were checked and satisfied.

RESULTS

This section presents the empirical findings derived from the analysis of the collected data. The results are organized into subsections corresponding to the study's objectives, starting with the socioeconomic profile of the respondents, followed by the poverty analysis, and concluding with the determinants of participation in small-scale agriculture.

3.1. Socioeconomic Characteristics of Households

Table 1 (not shown, described in text) summarizes the key socioeconomic characteristics of the households, disaggregated by participation status. The analysis revealed statistically significant differences between the two groups across several key variables. The average age of the household head was approximately 48 years for participants and 45 years for non-participants, a difference that was not statistically significant. However, households participating in small-scale agriculture were significantly larger, with an average household size of 7 members compared to 5 members for non-participating households ($p<0.01$).

A notable difference was observed in the educational attainment of the household head. Participants had, on average, more years of formal schooling (9.5 years) than non-participants (7.2 years), and this difference was highly significant ($p<0.01$). In terms of gender, male-headed households were more prevalent in both groups, but the proportion was slightly higher among participants (78%) compared to non-participants (72%).

Access to critical resources also varied significantly. About 45% of participating households reported having access to some form of credit (formal or informal), whereas only 18% of non-participating households did ($p<0.01$). Similarly, membership in a cooperative or social group was significantly higher among participants (55%) than non-participants (25%). Furthermore, land ownership was a key distinguishing factor, with 68% of participants owning the land they use for agriculture, compared to a much smaller fraction of non-participants who owned any land suitable for cultivation.

The income profile of the households showed that

while non-participants had a slightly higher average non-farm income, the total annual income for participating households was significantly higher ($p<0.05$) when the imputed value of produce consumed and sold was included. This suggests that small-scale agriculture is associated with a substantial income stream that elevates the overall economic standing of these households. The primary agricultural activities reported by participants included vegetable gardening (leafy greens, tomatoes, peppers), backyard poultry (chickens, ducks), and small ruminant rearing (goats, sheep).

3.2. Poverty Profile of Peri-Urban Households

The poverty status of the households was assessed using the FGT poverty indices, with the results presented in Table 2 (not shown, described in text). The poverty line was calculated to be ₦185,500 per capita per annum.

The analysis reveals stark differences in the poverty profiles of the two groups, providing initial support for H1.

- Poverty Incidence (P0): The headcount ratio for non-participating households was 0.58, indicating that 58% of these households live below the poverty line. In sharp contrast, the poverty incidence among households participating in small-scale agriculture was significantly lower at 0.35 (35%). This suggests that a household engaged in small-scale farming is substantially less likely to be classified as poor.
- Poverty Depth (P1): The poverty gap index for non-participants was 0.24, implying that, on average, poor non-participating households have an income shortfall of 24% from the poverty line. For participating households, the poverty depth was much lower at 0.11. This indicates that even when participating households are poor, the extent of their poverty is less severe.
- Poverty Severity (P2): The squared poverty gap index, which measures the severity of poverty by giving more weight to the poorest individuals, was 0.12 for non-participants and only 0.05 for participants. This result confirms that extreme poverty is far less prevalent among the households engaged in small-scale agriculture.

These findings collectively provide strong correlational evidence that participation in small-scale peri-urban agriculture is associated with a significantly lower incidence, depth, and severity of poverty.

3.3. Determinants of Participation in Small-Scale Agriculture

The results of the binary logistic regression model, estimated to identify the factors predicting a household's decision to participate in small-scale agriculture, are presented in Table 3 (not shown, described in text). The model was statistically significant overall (LR chi2, $p<0.001$) and demonstrated good predictive power, lending support to H2. The following variables were found to be significant predictors:

- Household Size: The coefficient for household size was positive and highly significant ($p<0.01$). The odds ratio of 1.25 suggests that for each additional member in the household, the odds of participating in small-scale agriculture increase by 25%. This indicates that larger households, likely having greater labor availability and higher consumption needs, are more inclined to engage in farming.
- Education of Household Head: Years of schooling had a positive and significant effect on participation ($p<0.05$). The odds ratio of 1.15 implies that an additional year of education increases the odds of participation by 15%. This suggests that more educated individuals may be better able to recognize agricultural opportunities, access information, and adopt improved practices.
- Access to Credit: This variable was a strong and positive predictor of participation ($p<0.01$). The odds ratio of 2.85 indicates that households with access to credit are almost three times more likely to participate in small-scale agriculture than those without. This highlights the critical role of financial capital in overcoming entry barriers like purchasing inputs (seeds, fertilizer, livestock).
- Membership in a Social Group: Membership in a cooperative or community group was found to be positive and significant ($p<0.05$). The odds ratio of 2.10 suggests that households belonging to such groups are more than twice as likely to participate. These groups often serve as channels for information, labor sharing, and collective action.
- Land Ownership: The coefficient for land ownership was positive and highly significant ($p<0.01$). With an odds ratio of 3.50, households that own land are 3.5 times more likely to engage in agriculture, underscoring the fundamental importance of secure land tenure as a prerequisite for farming.
- Age and Gender of Household Head: The age and gender of the household head were found to be statistically insignificant in this model, suggesting that in this peri-urban context, the decision to farm is less

dependent on these demographic factors and more on economic and institutional ones. Similarly, non-farm income was not a significant predictor, implying that households engage in agriculture regardless of their income from other sources, likely for both subsistence and commercial reasons.

DISCUSSION

This section interprets the empirical results presented in the previous section, contextualizes them within the existing body of literature, and explores their broader implications for policy and practice. The discussion is structured around the key findings related to the poverty-reducing associations of small-scale agriculture and the factors that enable or constrain household participation.

4.1. The Association of Small-Scale Agriculture with Poverty Reduction

In strong support of H1, the study's most salient finding is the robust negative association between participation in small-scale agriculture and the incidence, depth, and severity of poverty. The observation that only 35% of participating households were poor compared to 58% of non-participants provides compelling evidence for the role of this sector as a viable poverty alleviation pathway in peri-urban Nigeria. This result is consistent with a growing body of research from both within and outside Nigeria. For instance, Enete and Mukaila [20] found that backyard agriculture significantly contributed to household income during the COVID-19 pandemic in Southeast Nigeria, acting as a critical buffer against economic shocks. Similarly, Ovharhe et al. [68] and Achoja and Obadaya [1] reported that backyard farming enhances food security and provides a steady stream of supplementary income, thereby improving overall household welfare.

The effect extends beyond mere income. By producing their own food, households can significantly reduce their food expenditure, freeing up income for other essential needs such as education, healthcare, and productive investments [45]. This direct contribution to household food availability and access helps to explain the reduced poverty depth observed among participants. Even when poor, these households are closer to the poverty line, making their escape from poverty more feasible. The finding aligns with international evidence from studies in Botswana [50], Bangladesh [7], and Mexico [36, 72], which all document the positive effects of home gardening and small-scale farming on household economic stability and nutritional outcomes. The lower poverty severity (P2) further suggests that small-scale agriculture may act as a crucial safety net for the most vulnerable, preventing them from falling into extreme destitution [15]. This reinforces the argument made by the World Bank [81] that agriculture, even at a small scale, is a powerful instrument for pro-poor growth.

4.2. Predictors of Engagement in Peri-Urban Agriculture

The logistic regression results, which support H2, shed light on the complex interplay of factors that predict household participation in peri-urban agriculture. The significance of household size as a positive predictor reflects the dual nature of labor and consumption within a household unit. Larger households possess a greater potential labor force for agricultural tasks, which are often labor-intensive at a small scale. Simultaneously, their higher food requirements create a stronger incentive for subsistence production to supplement purchased food [42].

The positive influence of education challenges the conventional notion of agriculture as an occupation for the uneducated. In the peri-urban context, educated individuals may be more adept at identifying market opportunities, adopting modern techniques, managing farm resources efficiently, and accessing information on best practices [26, 27]. This finding suggests that small-scale agriculture is not merely a subsistence fallback but can be a deliberate entrepreneurial choice for educated individuals seeking to diversify their livelihoods [3, 28].

The profound predictive power of access to credit and land ownership underscores the critical role of productive assets. Access to credit (odds ratio of 2.85) enables households to overcome the initial financial hurdles of setting up and maintaining their agricultural activities. This finding resonates with numerous studies that highlight the importance of financial services, including microfinance, in empowering smallholder farmers and reducing poverty [14, 44, 51]. The link between microfinance and poverty is complex, with some studies also pointing to its potential to increase inequality if not well-targeted [47, 67]. However, for asset-poor households, such credit is often the only means to acquire necessary inputs. Similarly, secure land tenure (odds ratio of 3.50) is arguably the most critical enabler. Without secure access to land, households are unlikely to make the necessary long-term investments in soil improvement or infrastructure, limiting their activities to transient, low-yield cultivation. This is a particularly salient issue in

peri-urban areas where land competition is fierce and tenure is often insecure [52].

Finally, the significance of membership in social groups points to the importance of social capital. Cooperatives and farmer associations act as vital conduits for knowledge exchange, resource pooling, and collective bargaining [27]. They can facilitate access to inputs, credit, and markets, thereby reducing transaction costs and enhancing the viability of small-scale farming operations [33]. This highlights that individual success in peri-urban agriculture is often embedded within broader community networks and institutional support systems.

4.3. Limitations and Avenues for Future Research

While this study provides valuable insights, its limitations must be acknowledged. First, its cross-sectional design means that it establishes associations rather than causal relationships. It is plausible that less poor households are more able to engage in agriculture (reverse causality). Future research should employ longitudinal or panel data to track households over time, which would allow for a more robust analysis of causality and the long-term dynamics of participation. Second, the study is limited to two geopolitical zones in Nigeria. While diverse, these zones do not represent the entire country. Further studies covering other regions are needed to enhance the generalizability of the findings. Finally, this study did not delve into the ecological aspects or the specific value chains of peri-urban agriculture. Future research could explore the environmental sustainability of these farming practices and analyze the market linkages that connect peri-urban producers to urban consumers.

CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

This study set out to investigate the socioeconomic role of small-scale agriculture among peri-urban households in Nigeria. The findings confirm that this often-overlooked sector is strongly associated with improved economic well-being and reduced poverty. Households participating in small-scale agriculture exhibit significantly lower rates of poverty in all its dimensions—incidence, depth, and severity. The decision to engage in these activities is not random but is predicted by a combination of household assets (labor, education), access to financial and social capital (credit, social groups), and, most critically, secure access to land. Small-scale peri-urban agriculture is therefore not merely a relic of a rural past but a dynamic and vital component of contemporary peri-urban livelihood strategies, contributing significantly to household resilience.

5.2. Policy Recommendations

Based on the empirical findings, the following policy recommendations are proposed:

1. Integrate Peri-Urban Agriculture into Urban Planning: Municipal and state governments should formally recognize peri-urban agriculture in land use planning. This involves creating policies that protect agricultural land from speculative conversion and integrating spaces for community gardens and small-scale farming into urban design and development plans.

2. Strengthen Extension and Financial Services: Agricultural support systems must be reoriented to serve peri-urban farmers. This includes deploying extension agents trained in intensive, small-space farming techniques and encouraging financial institutions to develop micro-credit and insurance products tailored to the needs of small-scale urban and peri-urban producers.

3. Enhance Land Tenure Security: Given that land ownership is the strongest predictor of participation, policies aimed at simplifying land titling and strengthening tenancy rights for smallholders in peri-urban areas are crucial. Secure tenure would incentivize long-term investment and sustainable practices.

4. Promote Farmer Cooperatives and Associations: Governments and NGOs should support the formation and strengthening of farmer groups in peri-urban areas. These platforms are essential for knowledge sharing, collective purchasing of inputs, and improving market access, thereby amplifying the benefits of individual farming efforts.

By implementing these recommendations, policymakers can effectively harness the latent potential of small-scale peri-urban agriculture to foster more inclusive, resilient, and food-secure cities in Nigeria.

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