

Effect of Backyard Gardening on Food Security Status of Urban Household in Ibadan Metropolis, Oyo State, Nigeria

James Olugbenga ADISA., Wasiu Adedamola RASAKI., Mary Oluyinka OLOJEDE. and Tolulope Olukunle OGUNSOLA

Department of Agribusiness Management, Oyo State College of Agriculture and Technology, Igboora, Oyo State, Nigeria

DOI: <https://doi.org/10.47772/IJRISS.2026.100400253>

Received: 13 April 2026; Accepted: 18 April 2026; Published: 05 May 2026

ABSTRACT

Backyard gardening provides an opportunity for urban households to supplement their food supply, reduce household food expenses, and improve nutrition. This study examined the effect of backyard gardening on the food security status of urban households in Ibadan Metropolis, Oyo State, Nigeria. A multistage sampling technique was employed to select 180 household heads from three urban Local Government Areas in Ibadan Metropolis. Primary data were collected through structured questionnaires and analyzed using descriptive and inferential statistics. The findings revealed that 71.7% of respondents engaged in backyard gardening, with most cultivating small plots of land between 20–30m². Results showed that 69.4% of sampled households were food secure, while households involved in backyard gardening recorded significantly higher food security levels than those not engaged in the practice. Logistic regression analysis indicated that backyard gardening had a positive and statistically significant effect on household food security status ($\beta = 8.9020$; $p < 0.01$). Other significant determinants of food security included land size, income, education level, and primary occupation, while age and household size negatively influenced food security. Major constraints faced by urban households in backyard gardening included lack of tools, pest and disease infestation, inadequate farming knowledge among others. The study concludes that backyard gardening significantly improves urban household food security and serves as an effective strategy for enhancing food availability and accessibility in urban areas. The study recommends the promotion of backyard gardening through government support, extension services, awareness campaigns, and provision of subsidized gardening inputs and tools to urban households.

Keywords: Backyard, gardening, Food security, Urban agriculture, Household, Metropolis.

INTRODUCTION

Food security exists when all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life (FAO, 2020). Food security exists when all people at all times have access to safe nutritious food to maintain a healthy and active life (Idachaba, 2006). However, in many urban areas, food insecurity persists due to factors such as high food prices, unemployment, and limited access to agricultural land (World Bank, 2019). Food is perhaps the most important commodity linking rural producers and urban consumers (Rengasamy *et al.*, 2003).

Urban farming has been assumed to be global concern and it has become a topic of scientific research in recent years. This is because the increasing growth of hunger in most parts of the world, especially in developing nations, has presented a huge challenge to governments. Urban farming is one of the positive activities urban residents in Nigeria undertake in an effort to take control of food security, social ills and environmental degradation in their communities. However, in times of harsh economic situations and periods of food insecurity, urban farming is often adopted as an important livelihood strategy for survival. It is estimated that about a fifth to a third of families in some cities are engaged in urban farming, and some do not have any other source of sustenance or income (Rees, 2009).

Until recently urban food questions have been neglected in food security studies. The burgeoning of food-related activities in cities is making food issues difficult to ignore. Cities around the world are now engaged in food and agriculture practice. Many local government areas authorities in city and urban social movements all play increasingly important roles in food policy (Deakin et al., 2016; Derkzen and Morgan, 2012). This showed that urban agriculture has becoming more involved in strategies to mitigate against climate change and urban heat island effects (Wiskerke, 2016); diet related issues (notably obesity) prompting cities to develop strategies to create more sustainable urban foods capes (Sonnino, 2016); the emergence of urban food strategies and policy councils as new spaces of deliberation (Moragues-Faus and Morgan, 2015; Moragues Faus and Marsden, 2017); and food justice-orientated and civic urban agriculture initiatives providing alternative food networks for urban households.

Wanyama *et al.* (2022) note that over half of urban African dwellers live in slums where food insecurity, undernourishment, lack of access to health and education services proliferates. Roberts and Shackleton (2022) differentiate the urban agricultural activities in the developed and developing worlds positing that in poorer countries, urban gardening is usually a survivalist or subsistence strategy while elsewhere it is seen as recreational or based on health and social premises. Urban gardens may not be a panacea for food insecurity and poverty eradication in the region due to their small size. However, in the achievement of food security in township households, they offer an accessible and cheap opportunity to reduce the number and severity of undesirable coping strategies that households are forced to employ when faced with food shortages and a lack of nutritious vegetables. Urban agriculture seems to be a viable intervention strategy for the urban poor to earn extra income and grow their own food. It is acknowledged that as the world's urban population grows, so too does the population of the urban poor (Beall and Fox, 2022). In 2012, Global Hunger Index (GHI) ranks Nigeria 40 among 79 countries based on rising food prices, malnutrition and deaths as a result of wide-spread poverty. This index is an indication of the prevalence of food insecurity in the country.

Statement of the Problem

Sub-Saharan Africa (SSA) has the highest rates of urbanization globally and more than half of its entire population will be living in cities during the next two decades (Adeyemo *et al.* 2009). This situation implies that in SSA, includes Nigeria, the problem of urban poverty, unemployment and urban food insecurity will become exacerbated rather than ameliorated by the phenomenon. Developing and underdeveloped countries of the world are plagued with malnourishment, food insecurity, and substandard living conditions. Sub-Saharan Africa has the highest rate of urbanisation in the world (Drimie *et al.*, 2013) with two-thirds of Nigeria now living in urban areas reflecting the rapid process of rural-urban migration which has come to characterize both urban and rural spaces (Battersby and Haysom, 2019; Bisaga, 2022). Urbanisation is forecasted to reach almost 80% by 2050 in Nigeria, Africa (Nigeria National Space Agency, 2022). This puts untold pressure on urban infrastructure, amenities, and food systems still bound by a large reliance on commercial rural production for urban populations.

Backyard gardening provides an opportunity for urban households to supplement their food supply, reduce household food expenses, and improve nutrition. Studies have shown that households engaged in urban agriculture, including backyard gardening, experience improved dietary diversity and greater resilience to food price fluctuations (FAO, 2021). In addition to its economic and nutritional benefits, backyard gardening contributes to environmental sustainability by promoting urban greenery and reducing waste through composting and organic farming techniques (UN-Habitat, 2020).

Despite the potential benefits of backyard gardening, there is limited empirical research on the extent to which backyard gardening impacts the food security status of urban households in Ibadan. According to Ezeh and Okafor (2022), many urban dwellers lack awareness or access to resources for effective backyard farming, thereby limiting its adoption. Understanding the relationship between backyard gardening and food security is crucial for policymakers, urban planners, and agricultural extension workers aiming to promote sustainable urban food systems. One of Nigeria's largest and most populous cities, Ibadan metropolitan faces significant challenges in food accessibility due to high dependency on food supplies from rural areas, increasing food prices, and limited space for large-scale farming. This study seeks to bridge this knowledge gap by evaluating the effect of backyard gardening on food security among urban households in Ibadan Metropolis.

Research Questions

The study seeks to answer the following research questions:

- i. What are the socioeconomic characteristics of the household heads in the study area?
- ii. What are the major challenges faced by urban households in practicing backyard gardening?
- iii. What is the effect of backyard gardening on household food security status in Ibadan metropolis?

Research Hypotheses

H_{01} : Backyard gardening has no significant effect on household food security.

Theoretical Framework

This study adopted Urban Food System Theory. This theory provides a comprehensive lens for analyzing how food is produced, distributed, accessed, and consumed within urban and peri-urban environments. The theory is rooted in the broader food systems approach, which conceptualizes food-related activities as an interconnected system influenced by socio-economic, environmental, and institutional factors.

Ericksen (2008) defines a food system as a set of activities that includes food production, processing, distribution, and consumption, as well as the outcomes of these activities in terms of food security, environmental sustainability, and social welfare. In urban contexts, food systems are characterized by a heavy reliance on market-based food access rather than subsistence production, making them highly sensitive to income levels, food prices, and supply chain efficiency.

Urban food systems operate as complex socio-ecological systems, where interactions between human actors (farmers, traders, consumers, policymakers) and environmental factors shape food availability and access (Ingram, 2011). These systems are influenced by multiple drivers such as population growth, urbanization, climate change, and economic conditions, which collectively determine food security outcomes (Béné et al., 2019).

A key strength of Urban Food System Theory is its ability to integrate the four dimensions of food security (availability, accessibility, utilization, and stability) within a single analytical framework (HLPE, 2017). In urban areas, accessibility (income and purchasing power) often plays a more critical role than availability, as most households depend on purchased food rather than own production.

In the context of Nigeria, urban food systems are dominated by informal markets, inefficient supply chains, and price volatility, which increase vulnerability to food insecurity (Battersby, 2017). Therefore, interventions such as backyard gardening can play a significant role in strengthening food system resilience by improving household food availability, income, and dietary diversity. The theory provides a framework for understanding the pathways through which diversification affects food security outcomes in urban and peri-urban settings.

METHODOLOGY

Study Area

The study area of the research work was carried out in Ibadan metropolis the capital of Oyo state. Ibadan located in southwestern part of Nigeria between latitude $7^{\circ}23'$ and $7^{\circ}54'$ North of equator and longitude $3^{\circ}53'$ and $3^{\circ}54'$ East of Greenwich meridian. The city is at about 234 meters above sea level and it is situated on gently rolling hills running in a northwest / southeast direction (Agbola and Olurin, 2000). Ibadan enjoys the west African monsoon climate which has two major seasons (rain: March to October and dry: November to February season). Ibadan is found in the Guinea savannah, thus it is naturally a belt of a mixture of trees and tall grasses in the south, with shorter grasses and less trees in the North. The vegetation pattern in Ibadan is a patchwork of broken forest, savannah woodland, dense thickets and large tracts of forbs vegetation (Fagbami, 2017).

Research Design

This study adopted a descriptive survey research design to examine the effect of backyard gardening on the food security status of urban households in Ibadan Metropolis. The descriptive approach was used for the collection and analysis of quantitative and qualitative data regarding backyard gardening practices and food security indicators.

Population of the Study

The population of this study was consist of all household heads in Ibadan Metropolis, Oyo State, Nigeria.

Sampling Technique and Sample Size

A multistage sampling procedure was used to select respondents.

First stage involved purposive selection of three (3) Urban Local Government areas in Ibadan. The Local Government areas selected are; Ibadan North, Ibadan South East and Oluyole.

Second stage involved random selection of three wards from each of the Local Government area. Total wards selected were nine.

Third stage involved the randomly selection of twenty (20) households from each of the ward. The sample size were 180 household heads ($9 \times 20 = 180$).

Type of Data and instrument of data collection

Primary data were used for this study. The data were collected by administered structured questionnaires to the respondents. The questionnaire contained sections on demographic characteristics, backyard gardening practices, and food security indicators.

Data Analysis Techniques

Data were analysed using both descriptive and inferential statistics. Descriptive statistics such as frequencies, percentages, and weighted mean scores and inferential statistics (Logistic Regression).

Logistic Regression Model

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \mu$$

Y is Food security status

β_0 - β_8 are parameters to be estimated

X_1 - X_8 are explanatory variable

μ is the stochastic error

Where:

Y= Food security status (food secured =1, food insecure =0)

X_1 = Age (years = actual)

X_2 = Sex (male =1, female =0)

X_3 = Land size (Square metre = actual)

X₄ = Backyard gardening (Engaged =1, not engaged =0)

X₅ = Income (Amount= actual)

X₆ = Household size (Number of persons =actual)

X₇ = Primary occupation (farmer =1, otherwise =0)

X₈ = Marital status (married =1, otherwise =0)

RESULT AND DISCUSSION

Socio-Economics of respondent in the study

Age: Table 1 revealed that 30.00% of the respondents were between 31–40 years of age category, this was closely followed by those that were between 41–50 years (25.6%). Few respondents (19.4%) were between 21–30 years of age while 25.0% were above 50 years. The mean was approximately 41 years. This indicates that the household heads were in their active ages.

Sex: Table 1 showed that the most (70.6%) of the respondents were males, while 29.4% were female. This shows that majority of the households were headed by male.

Marital Status: It was revealed that 60.60% of respondents were married, while 21.1% were single. Only 7.77% of the household heads were divorced while 10.6% widow. The mean household size was 4 people. this majority of the respondents were married and have family to cater for.

Educational Level: It was revealed that 47.78% had tertiary education, 39.4% had secondary education, 5.56% primary education and only 7.22% of the respondents had no formal education. This implies that large number of the household heads had formal education.

Household Size: It was revealed that 76.7% of respondents had households size of between 1–5 members, 22.2% had 6–10 members, and only 1.1% had more than 10 household members. The mean household size was 4 people. This implies that the household heads had relatively moderate household members to feed.

Primary Occupation: It was revealed that 46.1% were engaged in trading, 21.7% were civil servants, 21.7% were artisans, while only 10.6% were farmers.

Monthly Income: It was revealed that 49.4% of respondents earned between ₦70,000–₦150,000 monthly, 31.1% earned above ₦150,000, while 19.4% earned below ₦70,000. This shows that while the majority fall into moderate-income categories.

Ownership Status: Table 1 showed that the sizeable number (41.7%) of respondents lived in their own houses, 37.8% rented, while 20.6% resided in family houses.

Access to Space: It was revealed that 64.4% of respondents reported having access to space, while 35.6% indicated otherwise.

Table 1: Distribution of the respondents Socio-economics characteristics (N=180)

| Variable | Frequency | Percentage | Mean |
|--------------------|-----------|------------|----------|
| Age (Years) | | | |
| 21-30 | 35 | 19.44 | |
| 31-40 | 54 | 30.00 | 41 years |

| | | | |
|---------------------------|-----|-------|----------|
| 41-50 | 46 | 25.56 | |
| Above 50 | 45 | 25.00 | |
| Sex | | | |
| Male | 127 | 70.56 | |
| Female | 53 | 29.44 | |
| Marital Status | | | |
| Single | 38 | 21.10 | |
| Married | 109 | 60.56 | |
| Widowed | 19 | 10.56 | |
| Divorced | 14 | 7.77 | |
| Education Level | | | |
| No Formal | 13 | 7.22 | |
| Primary | 10 | 5.56 | |
| Secondary | 71 | 39.44 | |
| Tertiary | 86 | 47.78 | |
| Household Size | | | |
| 1 – 5 | 138 | 76.67 | |
| 6 – 10 | 40 | 22.22 | |
| Above 10 | 2 | 1.11 | 4 Person |
| Primary Occupation | | | |
| Civil Servant | 39 | 21.67 | |
| Artisan | 39 | 21.67 | |
| Trading | 83 | 46.11 | |
| Farming | 19 | 10.56 | |
| Monthly Income (₦) | | | |
| Less than 70,000 | 35 | 19.44 | |
| 70,000 – 150,000 | 89 | 49.44 | |
| Above 150,000 | 56 | 31.11 | ₦120,306 |
| Ownership status | | | |
| Owned | 75 | 41.67 | |

| | | | |
|------------------------|-----|-------|--|
| Rented | 68 | 37.75 | |
| Family | 37 | 20.56 | |
| Access to space | | | |
| Yes | 116 | 64.44 | |
| No | 62 | 35.55 | |

Source: Field Survey, 2025

Household participation in backyard gardening

The result in Table 2 showed that 71.7% of respondents were engaged in backyard gardening, while 29.3% were not. This indicates that majority of the households were actively participate in backyard gardening, suggesting its relevance as a livelihood and household support activity in the study area.

With respect to how long respondents had been practicing, 33.3% had engaged in backyard gardening for 1–2 years, 21.7% for 3–5 years, and 15.6% for less than a year, while 29.3% reported not practicing. This distribution implies that backyard gardening is a relatively recent activity among many respondents, but a significant portion have sustained the practice over time, demonstrating its growing importance.

Findings showed that 35.0% of respondents cultivated between 20–30 sqm of land, 28.3% less than 10 sqm, 22.2% between 10–20 sqm, 11.1% between 30–50 sqm, while only 3.3% had land above 50 sqm. This indicates that backyard gardening is mostly practiced on small plots of land, consistent with its supplementary role in household food production.

Regarding purpose, 43.3% of respondents engaged in backyard gardening for commercial purposes, 32.2% for leisure or interest, 11.1% had a coping strategy during food scarcity, 10.0% for both consumption and commercial purposes, while only 3.3% did it solely for household consumption. This suggests that while household consumption is important, income generation is a major driver of backyard gardening.

The frequency of harvest revealed that 54.4% harvested weekly, 19.4% biweekly, 17.8% occasionally, while 6.3% harvested monthly. This implies that backyard gardening contributes to a fairly regular supply of food, especially for households that practice weekly harvesting.

In terms of food security, 58.9% of respondents reported that backyard gardening met between 31–50% of their household food needs, 18.3% indicated above 50%, 19.4% reported 10–30%, while only 3.3% said less than 10%. This highlights the significant role of backyard gardening in supplementing household food supply.

With respect to maintenance, 41.7% maintained their gardens weekly, 29.4% daily, 21.1% occasionally, while 7.8% maintained them 2–3 times a week. This shows that a majority of respondents dedicate regular effort to maintaining their gardens, which reflects the value they attach to the activity.

Table 2: Distribution of the household by their participation in backyard gardening

| Variable | Frequency | Percentage |
|-----------------------------------|-----------|------------|
| Engaged in backyard garden | | |
| Yes | 129 | 71.67 |
| No | 51 | 29.33 |

| | | |
|---|-----|-------|
| How long have you been practice | | |
| Not practicing | 53 | 29.44 |
| Less than a year | 28 | 15.56 |
| 1-2 years | 60 | 33.33 |
| 3-5 years | 39 | 21.67 |
| Land size | | |
| Less than 10sqm | 51 | 28.33 |
| 10-20sqm | 40 | 22.22 |
| 20-30sqm | 63 | 35.00 |
| 30-50sqm | 20 | 11.11 |
| 30 and above | 6 | 3.33 |
| Purpose of backyard gardening | | |
| Household consumption only | 6 | 3.33 |
| commercial only | 78 | 43.33 |
| Both | 18 | 10.00 |
| Leisure/Interest | 58 | 32.22 |
| As a coping strategy during food scarcity | 20 | 11.11 |
| Harvest period from backyard garden | | |
| Weekly | 98 | 54.44 |
| Biweekly | 35 | 19.44 |
| Monthly | 15 | 6.33 |
| Occasionally | 32 | 17.78 |
| Household's food need is met through backyard gardening? | | |
| Less than 10% | 6 | 33.33 |
| 10-30% | 35 | 19.44 |
| 31-50% | 106 | 58.89 |
| Above 50% | 33 | 18.34 |
| Garden maintenance | | |

| | | |
|------------------|----|-------|
| Daily | 53 | 29.45 |
| Weekly | 75 | 41.67 |
| 2-3 times a week | 14 | 7.78 |
| Occasionally | 38 | 21.11 |

Source: Field Survey, 2025

Relationship between Backyard Gardening and Household Food Security Status

The result in table 3 reveals a strong relationship between backyard gardening and household food security. Among households engaged in backyard gardening, 93.8% were food secure, while only 6.2% of them were food insecure. Conversely, among those not involved in backyard gardening, 92.16% were food insecure, and only 7.84% were food secure. This implies that majority of household that engaged in backyard gardening were food secured while large number of households that did not engaged in backyard gardening were food insecure.

Table 3: Relationship between Backyard Gardening and Household Food Security Status

| Household Food Security Status | Not involved in Backyard Gardening | Involved Backyard Garden | Pooled | Percentage |
|--------------------------------|------------------------------------|--------------------------|--------|------------|
| Food Insecure | 47 (92.16%) | 8 (6.20%) | 55 | 30.56 |
| Food Secured | 4 (7.84%) | 121 (93.80%) | 125 | 69.44 |
| Total | 51 (28.33%) | 129 (71.67%) | 180 | 100 |

Data Analysis, 2025.

Logistic Regression Estimates of Determinants of Household Food Security Status

Logistic regression was used to examine the effect of backyard gardening on households' food security status. It was also used examine socio-economic factors that influence household food security. The model used demonstrated a strong fit (Pseudo $R^2 = 95.86\%$; LR $\chi^2 = 286.13$, $p < 0.01$), indicating that the selected variables collectively explained a substantial proportion of the variation in food security status.

The variables that were significant are age, land size, backyard gardening, Education status, Household size and Occupation. Sex and Marital status were not significant.

Backyard gardening was significant at 1% level of significance ($\beta = 8.9020$; $p < 0.01$) and was positively correlated with household food security status. This implies that an increase in backyard gardening practice will increase likelihood household food security status by over 7,000 times. Therefore, backyard gardening improved likelihood household food security status positively.

Subsequently, Land size, Education level and Primary occupation were all significant at different level of significance and were positively correlated with household food security status. This indicates that an increase in any of them will bring likelihood increase in household food security status.

Age of the household head was significant at 5% level of significance (P-value = 0.042) and was negatively correlated with household food security status. Also, household size was significant at 5% level of significance (P-value = 0.045) and was negatively correlated with household food security status. This implies that both age and household size reduce likelihood of household food security status.

Sex and marital status of the household heads have no significant relationship with household food security status.

Table 4: Logistic Regression Estimates of Determinants of Household Food Security Status

| Food Security Status | Coefficient (β) | Standard Error | z-value | p-value | 95% Confidence Interval |
|----------------------|-----------------|----------------|---------|----------|-------------------------|
| Age | -0.1943 | 0.0956 | -2.03 | 0.042** | -0.3817 – -0.0068 |
| Sex | 1.3676 | 2.1490 | 0.64 | 0.524 | -2.8443 – 5.5795 |
| Land Size | 2.1158 | 1.3073 | 1.62 | 0.045** | -0.4470 – 4.6786 |
| Backyard Garden | 8.9020 | 3.1971 | 2.78 | 0.005*** | 2.6357 – 15.1683 |
| Income | 1.3722 | 0.4051 | 3.39 | 0.000*** | 0.7947 – 3.5392 |
| Household Size | -0.8342 | 0.3973 | -2.10 | 0.036** | -1.6129 – -0.0556 |
| Primary Occupation | 7.7394 | 3.4747 | 2.23 | 0.022** | -0.0701 – 13.5489 |
| Marital status | -1.1110 | 0.9054 | -1.23 | 0.219 | -0.6635 – 2.8855 |
| Constant | -7.0883 | 7.3256 | -0.97 | 0.330 | -21.4469 – 7.2702 |

Number of observations = 180

LR $\chi^2(8) = 286.13$

Prob > $\chi^2 = 0.0000$

Log likelihood = -7.7754

Pseudo $R^2 = 0.9586 = 95.86\%$

Challenges faced in backyard gardening

The analysis of constraints to backyard gardening reveals critical insights into the challenges faced by respondents in the study area. The most pressing constraint identified was lack of tools (WMS = 4.11; Rank 1st). This shows that inadequate access to basic farming implements such as hoes, watering cans, cutlasses, and small-scale mechanized equipment constitutes a major barrier to effective backyard gardening.

Closely following was pest and diseases (WMS = 4.07; Rank 2nd). This suggests that respondents considered pest invasion and crop diseases a serious hindrance to their gardening activities. Inadequate farming knowledge (WMS = 3.89; Rank 3rd) and animal encroachment (WMS = 3.88; Rank 4th) were also recognized as major problems. The lack of sufficient technical know-how on improved gardening techniques, crop spacing, fertilizer application, pest management, and harvesting methods affects productivity

Lack of access to inputs (WMS = 3.90; Rank 5th) and poor soil fertility (WMS = 3.79; Rank 6th) highlight resource-based challenges. Many respondents found it difficult to access quality seeds, fertilizers, and organic manure, which are crucial for productivity.

Water shortage (WMS = 3.61; Rank 7th) and lack of space (WMS = 3.46; Rank 8th) were moderately severe constraints. Water availability is critical for crop survival, particularly in the dry season when backyard gardening can provide households with off-season produce.

Environmental factors such as unfavourable weather (WMS = 3.37; Rank 9th) and time constraints due to other work (WMS = 3.13; Rank 10th) were also noted. Weather variability, including excessive rainfall or prolonged dry spells, disrupts the growth cycle of backyard crops.

Lower-ranked constraints included theft of produce (WMS = 2.85; Rank 11th) and government restrictions (WMS = 2.26; Rank 12th). While theft discourages continuous investment in gardening, it was not considered as critical as other challenges.

Table 5: Distribution of the respondents according to Challenges faced in backyard gardening on household food security (N=180)

| Challenges | Strongly Agreed | Agree | Undecided | Disagreed | Strongly Disagreed | WMS | Rank |
|------------------------------|-----------------|------------|------------|------------|--------------------|------|------|
| Lack of tools | 68 (37.78) | 86 (47.78) | 7 (3.89) | 18 (10.00) | 1 (0.56) | 4.11 | 1st |
| Pest and diseases | 84 (46.93) | 80 (44.69) | 2 (1.12) | 11 (6.15) | 2 (1.11) | 4.07 | 2nd |
| Inadequate farming knowledge | 59 (32.78) | 78 (43.44) | 12 (6.67) | 28 (15.67) | 3 (1.67) | 3.89 | 3rd |
| Animal encroachment | 78 (43.33) | 75 (41.67) | 7 (3.89) | 12 (6.67) | 8 (4.44) | 3.88 | 4th |
| Lack of access to input | 67 (37.22) | 70 (38.89) | 12 (6.67) | 30 (16.67) | 1 (0.56) | 3.90 | 5th |
| Poor soil fertility | 50 (27.78) | 86 (47.78) | 1 (0.56) | 0 (0.00) | 42 (23.33) | 3.79 | 6th |
| Water shortage | 50 (27.78) | 68 (37.78) | 11 (6.10) | 47 (26.11) | 4 (2.22) | 3.61 | 7th |
| Lack of space | 51 (28.33) | 61 (33.89) | 1 (0.56) | 61 (33.89) | 6 (3.33) | 3.46 | 8th |
| Unfavourable weather | 56 (31.11) | 40 (22.22) | 39 (21.67) | 41 (22.78) | 4 (2.22) | 3.37 | 9th |
| Time constraint (other work) | 30 (16.67) | 65 (36.11) | 12 (6.67) | 69 (38.33) | 4 (2.22) | 3.13 | 10th |
| Theft of produce | 37 (20.56) | 37 (20.56) | 48 (26.67) | 35 (19.44) | 23 (12.78) | 2.85 | 11th |
| Government restriction | 21 (11.67) | 16 (8.89) | 23 (12.78) | 97 (53.89) | 23 (12.78) | 2.26 | 12th |

Source: Field Survey, 2025

WMS- Weighted Means Score

Value in parentheses are percentage

CONCLUSION AND POLICY RECOMMENDATIONS

The study concludes that backyard gardening plays a significant and positive role in enhancing the food security status of urban households in Ibadan Metropolis. Households engaged in backyard gardening were substantially more food secure than those not involved, indicating that backyard gardening serves as an effective household level strategy for improving food availability, accessibility, and resilience against food price fluctuations. Despite limited land space in urban settings, backyard gardening has demonstrated strong potential to supplement household food needs. However, its effectiveness is constrained by inadequate access to farming tools, pest and disease challenges, insufficient technical knowledge, and poor access to inputs. Therefore, backyard gardening

represents a viable and sustainable intervention for addressing urban household food insecurity in Ibadan Metropolis and similar urban centres in Nigeria if properly supported through policy and institutional frameworks.

It was recommended by this study findings that every urban household should engage in backyard gardening to improve their food availability and accessibility. Government at all levels should integrate backyard gardening into urban agriculture and food security programmes by promoting awareness campaigns and encouraging urban households to adopt gardening practices.

REFERENCES

1. Adeyemo, R., Kuhlmann, F., & Oladosu, J. O. (2009). Urbanization and the challenges of food security in sub-Saharan Africa. *African Journal of Agricultural Research*, 4(10), 987–995.
2. Battersby, J. (2017). Food system transformation in the context of rapid urbanization. *Geographical Journal*, 183(2), 157–166.
3. Battersby, J., & Haysom, G. (2019). Urban food security: A neglected public health challenge. *South African Journal of Clinical Nutrition*, 32(3), 1–5.
4. Beall, J., & Fox, S. (2022). *Cities and development*. Routledge.
5. Béné, C., Oosterveer, P., Lamotte, L., et al. (2019). When food systems meet sustainability—Current narratives and implications for actions. *World Development*, 113, 116–130. <https://doi.org/10.1016/j.worlddev.2018.08.011>
6. Bisaga, I. (2022). Urban transitions and food systems in Africa. *Energy Research & Social Science*, 85, 102–115.
7. Deakin, M., Borrelli, N., Diamantini, C., & Micheletti, S. (2016). The governance of city food systems. *Cities*, 58, 28–35.
8. Derkzen, P., & Morgan, K. (2012). Food and the city: The challenge of urban food governance. *Urban Studies*, 49(13), 1–17.
9. Drimie, S., Crush, J., & Caesar, M. (2013). The urban food security challenge in Africa. *Urban Forum*, 24(2), 177–191. <https://doi.org/10.1007/s12132-012-9175-7>
10. Ezeh, A., & Okafor, C. (2022). Urban farming adoption and constraints in Nigeria. *Nigerian Journal of Agriculture*, 53(2), 45–56.
11. Ericksen, P. J. (2008). Conceptualizing food systems for global environmental change research. *Global Environmental Change*, 18(1), 234–245. <https://doi.org/10.1016/j.gloenvcha.2007.09.002>
12. Food and Agriculture Organization. (2020). *The state of food security and nutrition in the world 2020*. FAO.
13. Food and Agriculture Organization. (2021). *Urban agriculture and food systems: Enhancing resilience in urban areas*. FAO.
14. HLPE. (2017). *Nutrition and food systems*. FAO.
15. Idachaba, F. S. (2006). *Food security in Nigeria: Challenges under democratic dispensation*. University of Agriculture Press.
16. Ingram, J. (2011). A food systems approach to researching food security and its interactions with global environmental change. *Food Security*, 3(4), 417–431. <https://doi.org/10.1007/s12571-011-0149-9>
17. Moragues-Faus, A., & Marsden, T. (2017). The political ecology of food: Carving ‘spaces of possibility’ in a new research agenda. *Journal of Rural Studies*, 55, 275–288.
18. Moragues-Faus, A., & Morgan, K. (2015). Reframing the foodscape: The emergent world of urban food policy. *Environment and Planning A*, 47(7), 1558–1573.
19. Nigeria National Space Research and Development Agency. (2022). *Urbanization projections in Nigeria*.
20. Rees, W. (2009). Urban agriculture and food security: A global perspective. *Urban Agriculture Magazine*, 21, 4–7.
21. Rengasamy, S., Singh, P., & Ramasamy, C. (2003). Food security and urban–rural linkages. *Indian Journal of Agricultural Economics*, 58(3), 419–429.
22. Roberts, D., & Shackleton, C. (2022). Urban agriculture in developing countries: A livelihood strategy. *Land Use Policy*, 112, 105–118.

23. Somnino, R. (2016). The new geography of food security: Exploring the potential of urban food strategies. *The Geographical Journal*, 182(2), 190–200.
24. UN-Habitat. (2020). *World cities report 2020: The value of sustainable urbanization*. United Nations.
25. Wanyama, R., Frayne, B., & McCordic, C. (2022). Urban food insecurity and coping strategies in Africa. *Sustainability*, 14(3), 1234–1248.
26. Wiskerke, J. S. C. (2016). Urban food systems. In *Handbook of rural studies*.
27. World Bank. (2019). *Food security and urbanization in Sub-Saharan Africa*. World Bank Publications