

Home Gardening Practices, Benefits and Constraints among University Lecturers in Akwa Ibom State, Nigeria

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Abstract

The study examined home gardening practices, benefits, and constraints among lecturers in Akwa Ibom State University, Nigeria. A two-stage sampling technique was used to select 131 respondents, and data were collected using a structured questionnaire. Descriptive and inferential statistics were employed for data analysis. The results revealed that the majority of lecturers were males (53.4%) with a mean age of 43 years. Most respondents (82.4%) were married, with a mean household size of eight (8). A large proportion of the lecturers (60.3%) possessed PhD degrees as their highest educational qualification, had a mean home gardening experience of 8 years, and resided in their own homes. The mean income of lecturers was ₦250,500.00. Furthermore, the study revealed that most lecturers engaged other household members in home gardening activities and owned gardens mainly for food-related rather than non-food-related benefits. Physical, temporal, social, psychological, and environmental constraints ranked highest (>99%), followed by resource-related and technical constraints (>90%), while human capacity constraints ranked high (>80%). Results from the tested hypothesis using multivariate analysis of variance showed that income was the only socioeconomic variable that significantly influenced lecturers' physical engagement in home gardening. The study concludes that while lecturers largely recognize the nutritional benefits of home gardening, other associated benefits remain less emphasized. It is therefore recommended that targeted educational awareness programmes, collaborations, and strategies be developed by relevant departments in the Faculties of Agriculture and Education to support and promote home gardening among lecturers, thereby improving professional productivity and enhancing environmental and economic outcomes.

Keywords: Home garden ownership, Home garden practices, University lecturers

1.0 Introduction

The lecturing profession is central to academic and intellectual development through knowledge dissemination, research, and student mentorship (Antia-Obong, *et al.*, 2019; Martinez, 2021; Antia-Obong, 2023; Johnson & Griffin, 2024). While the profession offers personal fulfillment, intellectual stimulation, job stability, and career growth (Kucuksuleymanoglu, 2025), lecturers also contribute significantly to economic development by producing skilled manpower and research-based innovations (Aregbesola, 2025). However, the profession is mentally and emotionally demanding, making good health and well-being essential. Home gardening has been identified as an effective means of enhancing lecturers' physical, mental, and emotional well-being (Andzaurova & Nartova-Bochaver, 2023). Beyond providing access to fresh and nutritious food (Seyida *et al.*, 2021; Korpelainen, 2023), gardening facilitates active engagement with nature, which is recognized as a fundamental health resource (Pretty, 2004). Gardening improves cardiovascular health, muscle strength, flexibility, and mental clarity while reducing stress and anxiety (Christie, Hulse, & Miller, 2020; Devrani & Tiwari, 2024). It also promotes relaxation, social interaction, emotional satisfaction, and cognitive enhancement, which are particularly beneficial for the mentally demanding work of lecturers (Soga, Gaston, & Yamaura, 2017; Chalmin-Pui *et al.*, 2021; Gerdes *et al.*, 2022; Sofo & Sofo, 2020; Ambrose *et al.*, 2023).

Furthermore, gardening boosts immunity, reduces inflammation, enhances neuroplasticity, and improves cognitive functions through increased neurotrophic factors such as Brain-derived neurotrophic Factor (BDNF) Vascular endothelial growth factor (VEGF) and platelet-derived growth factor (PDGF) (Lentoor, 2024). As an affordable, flexible, and accessible physical activity, home gardening is especially suitable for lecturers who spend long hours in sedentary work (de La Salle, 2022). Despite evidence that individuals with higher educational attainment are more likely to own gardens (Basarir, Al Mansouri, & Ahmed, 2022), existing studies largely focus on urban households, the general population, and older adults, with limited empirical attention given specifically to university lecturers (Mukaila, Awoyelu, & Ugwuja, 2025). Although home gardening offers numerous benefits, engagement may be constrained by factors such as limited space, water, time, expertise, high input costs, restrictive housing regulations, and lack of interest (Basarir, Al Mansouri, & Ahmed, 2022; Kirby *et al.*, 2021; Hardman *et al.*, 2022; Akpan *et al.*, 2025). Consequently, this study seeks to examine the socioeconomic characteristics of lecturers, assess their level of engagement in home gardening, identify garden types owned, evaluate the benefits derived, and ascertain the constraints affecting lecturers' participation in home gardening activities.

2.0 Methodology

The study area was Akwa Ibom State University, Obio Akpa campus, located in Obio Akpa, with four faculties; Management science, Agricultural science, Social sciences, and Faculty of Art. Obio Akpa is a village located in the northeast part of the Oruk Anam Local Government Area. It is as well one among the nine administrative areas/districts known as Obio Akpa Clan both in the region of Akwa Ibom State, South South Nigeria with latitude 4.9645° N, and longitude 7.7598° E. The village is bonded in the north with ndot village and in the south by Ikot Eka ideh and west by Obio Ibiot village and east by Ndon Ikot Asiaha and Eka Ndon Ikot. A two stage sampling procedure was used. In the first stage, Four faculties (4) of the Obio Akpa campus were purposively selected based on proximity and ease of data collection procedures. The faculties were; Agriculture, Management science, Art and Social sciences. In the second stage, due to resource, time constraints and accessibility of respondents, the Yamane formula indicated below, was used to derive randomly, with a 90% confidence level, a sample size of 131 respondents.

$$\text{Thus } n = \frac{N}{1+N(e)^2} \dots\dots\dots \text{Equation 2.1}$$

Where:

- N = Population of study,
- n = Sample size and
- (e) = Level of significance

This resulted in the sampling of 40, 32, 30 and 29 respondents from the Faculties of Agriculture, Arts, Management science and Social science respectively.

Data were collected using structured questionnaire divided into five sections based on the objectives of the study. A draft questionnaire was subjected to face and content validation by two experts in agricultural extension and rural sociology and one expert in physical and health education, which assessed the adequacy, clarity, and relevance of each item in relation to the study objectives. Their suggestions were incorporated before the final administration of questionnaires to respondents. A pilot test involving 25 respondents from each of the faculties was conducted to determine the reliability of the instrument.

Data obtained were analyzed using Cronbach's Alpha, which yielded a coefficient of 0.81, indicating a high level of internal consistency and reliability of the questionnaire. Descriptive statistics, likert scale ratings and incidence index were used for data analysis. Descriptive statistics such as means, frequencies, and percentages were employed to summarize the socioeconomic characteristics of lecturers and types of garden owned. The likert scale technique was applied to measure the proportion of lecturers' engaged in home garden practices and benefits derived from the activities by using a three response format. The incidence index was further computed to quantify the constraints that hinder lecturers from owning gardens and involving in its activities. Multivariate analysis precisely, the MANOVA was used to examine the combined influence of multiple independent variables on key outcome indicators (physical engagement of lecturers in gardening activities).

3.0 Results and Discussion

The results presented in Table 3.1 show the socioeconomic characteristics of lecturers in the study area. The findings indicate that males constituted a slightly higher proportion of respondents (53.4%) compared to females (46.6%).

The mean age of the lecturers was 43 years, with the majority (82.4%) being married. Most respondents had household sizes ranging from 6 to 10 persons. In terms of educational attainment, a large proportion (60.3%) possessed a PhD as their highest qualification, and many had between 6 and 10 years of experience in home gardening. The results further revealed that the majority of the lecturers (63.4%) were homeowners, with an average monthly income ranging from ₦150,000 to ₦250,000.

Table 3.1: Socio economic characteristics of lecturers in Akwa Ibom State University

Socioeconomic characteristics	Frequency	Percentage (%)	Mean
Age (in years)			
B.Agric/B.Sc	17	13.0	43
M.Sc	35	26.7	
Ph.D	79	60.3	
Educational level			
Graduate assistant	13	9.9	
Asst. lecturer	29	22.1	
Lecturer II	13	9.9	
Lecturer I	17	13.0	
Senior lecturer	42	32.1	
Professor	17	13.0	
Home Gardening Experience (in years)			
1-5	50	38.2	
6-10	54	41.2	8
11-15	27	20.6	
Household size			
1-5	60	45.8	
6-10	66	50.4	8
11-15	5	3.8	
Ownership of House			
Landlord	83	63.4	
Tenant	48	36.6	
Level of Income (₦)			
<100, 000	16	12.2	
101,000-200,000	47	35.9	
201,000-300,000	37	28.2	
301, 000-400,000	19	14.5	
401, 000 & above	12	9.2	
Marital Status			
Single	14	10.6	
Married	108	82.4	
Widowed	9	6.8	

Field survey 2024

The results presented in Table 3.2 indicate the proportion of lecturers engaged in home gardening, with an overall mean score of ($\bar{x} = 2.00$). The findings reveal that home gardening activities were predominantly carried out by other household members, who ranked first with a mean score of ($\bar{x} = 2.19$). Lecturers who personally engaged in home gardening (classified as “self”) ranked second, with a mean score of ($\bar{x} = 2.03$). The third position ($\bar{x} = 1.95$) comprised households that relied on hired labour for gardening activities, while the lowest-ranked group consisted of spouses (male or female) who engaged in home gardening, with a mean score of ($\bar{x} = 1.51$). These findings are consistent with the study by Basarir, Al Mansouri, and Ahmed (2022), which reported a decline in home gardening involvement among married respondents,

irrespective of gender. This suggests that married couples may be less directly involved in home gardening activities due to the availability of support from other household members who undertake tasks such as planting and weeding as part of routine household chores.

Table 3.2: Proportion of lecturers engaged in home gardening

Who engages in Home gardening?	Always	Sometimes	Never	Mean Score	Ranks
Self	49 (37.4)	37 (28.2)	45 (34.3)	2.03	2 nd
Spouse	8 (6.1)	51 (38.9)	72 (54.9)	1.51	4 th
Hired labour	38(28.9)	49 (37.7)	44 (33.3)	1.95	3 rd
Other Household Members	53(40.8)	50 (37.9)	28 (21.2)	2.19	1 st

Field survey 2024; Cut-off score=2.0

Table 3.3: Types of gardens owned by lecturers

Type of Gardens Owned	Frequency (Yes)	%	Frequency (No)	%
Traditional vegetable garden	56	42.7	75	57.3
Flower garden	30	22.9	101	77.1
Medicinal/herbal garden	26	19.8	105	80.2
Vertical/container garden	44	33.6	87	66.4
Homesteads (vegetables & livestock)	33	25.2	98	74.8

Source: Field survey 2024

The results presented in Table 3.3 show the various types of gardens owned by lecturers. The findings indicate that 42.7% of the lecturers owned traditional vegetable gardens, while 57.3% did not. Ownership of flower gardens was reported by 22.9% of the respondents, compared to 77.1% who did not own such gardens. Medicinal and herbal gardens were owned by 19.8% of the lecturers, while 33.6% reported owning container gardens. In addition, 25.2% of the respondents owned homestead gardens, which comprised both vegetable gardens and livestock. Overall, the results reveal that the proportion of lecturers who owned any form of garden was lower than those who did not. This finding contradicts the study by Basarir, Al Mansouri, & Ahmed (2022), which reported that the likelihood of owning a garden increases among respondents who have attained an MSc or PhD qualification. Therefore, the present study suggests that although the majority of lecturers in the study area hold MSc or PhD degrees, they exhibit limited interest or participation in home gardening activities.

Table 3.4: Benefits which respondents derive from home gardening

What are your benefits from home gardening?	Major Benefits	Minor benefits	No benefits	Mean scores	Ranks
Availability of variety of food for household consumption	108 (82.4)	13 (9.9)	10 (7.6)	2.76	1 st
Availability fresh foods and fruits	94 (71.7)	30 (22.9)	7(5.3)	2.66	2 nd
Consumption of less processed foods and more of organic foods	92(70.2)	30 (22.9)	9 (6.8)	2.63	3 rd
Kitchen budgets are reduced and savings enhanced	88 (67.1)	36 (27.4)	7 (5.3)	2.61	4 th
Food surpluses at home	80 (61.0)	32 (24.4)	19 (14.5)	2.46	5 th
Food surpluses for business and social connection with neighbours	50 (38.1)	37 (28.2)	24 (18.3)	2.19	6 th
Availability of fresh medicinal herbs at all times	30 (22.9)	79 (60.3)	22 (16.7)	2.06	7 th
Helps in the recycling of home biodegradable wastes	32 (24.4)	73 (55.7)	26 (19.8)	2.04	8 th
Knowledge of different gardening techniques	22 (16.7)	80 (61.0)	29 (19.8)	1.94	9 th
Preservation of planting materials	19 (14.5)	79 (60.3)	33 (25.1)	1.89	10 th
Availability of fresh flowers for business	15 (11.4)	85 (64.8)	31 (23.6)	1.88	11 th
Promotion of biodiversity	11 (8.3)	86 (65.6)	34 (25.9)	1.82	12 th
Availability of varieties of flowers for beautifying the environment	18 13.7)	70 (53.4)	43 (32.8)	1.80	13 th
Reduction of environmental heat	22 (16.7)	61 (46.5)	48(36.6)	1.80	13 th
Connecting to nature	11 (8.3)	79 (60.3)	41(31.2)	1.77	15 th
For relaxation and stress relief purposes	22 (16.7)	49 (37.4)	60 (45.8)	1.70	17 th
For breaks from academic responsibilities	11 (8.3)	70 (53.4)	50 (38.1)	1.70	17 th
For mood enhancement	17 (12.9)	56 (42.7)	58 (44.2)	1.68	19 th
Boosting of self-esteem as results of nurturing gardens successfully	13 (9.9)	48 (36.6)	70 (53.4)	1.56	20 th

Source: Field survey 2024

The results presented in Table 3.4, with a benchmark mean score of ($\bar{x} = 2.00$), identified the benefits lecturers mostly derived from home gardening as well as those perceived as less beneficial. The findings indicate that food-related benefits recorded notably high mean scores above the cut-off point. These included availability of a variety of food for household consumption ($\bar{x} = 2.76$), access to fresh fruits and vegetables ($\bar{x} = 2.66$), increased consumption of organic and less-processed foods ($\bar{x} = 2.63$), and reduction in kitchen expenditure with enhanced household savings ($\bar{x} = 2.61$). These findings align with Korpelainen (2023), who reported that cultivating fruits and vegetables ensures access to fresh and healthy produce, improves dietary quality, and reduces dependence on external food sources. In contrast, benefits not directly related to food recorded mean scores below the benchmark. These included acquisition of knowledge on different gardening techniques ($\bar{x} = 1.94$), enhancement of self-esteem ($\bar{x} = 1.56$), mood improvement ($\bar{x} = 1.68$), provision of fulfilling breaks from academic responsibilities ($\bar{x} = 1.70$), opportunities for relaxation and stress relief ($\bar{x} = 1.70$), and strengthened connection with nature ($\bar{x} = 1.77$).

Despite the low ratings assigned to these non-food-related benefits, the findings highlight the wide-ranging potential advantages of home gardening beyond food provision. However, there remains limited empirical attention to these benefits among university lecturers. This study supports existing literature which suggests that home gardening promotes relaxation and connection with nature (Soga, Gaston, & Yamaura, 2017), enhances physical health while reducing stress and anxiety (Chalmin-Pui *et al.*, 2021), improves mood and cognitive functioning (Gerdes *et al.*, 2022; Sofo & Sofo, 2020), and fosters a sense of accomplishment, self-esteem, and satisfaction—benefits that are particularly valuable for the mentally demanding nature of academic work (Ambrose, Das, Fan, & Ramaswami, 2023).

The results presented in Table 3.5, based on relative rank order positions, illustrate the constraints that hinder lecturers' involvement in home gardening. The findings indicate that nearly all the listed factors constituted significant barriers to lecturers' participation in home gardening activities. Physical, temporal, social, psychological, and environmental constraints ranked highest (1st–7th positions), with over 99% of respondents indicating them as major hindrances. Resource-related and technical constraints ranked next (8th–11th positions), with more than 90% of respondents identifying them as limiting factors, while human capacity constraints ranked slightly lower (12th–15th positions), though still considered significant by over 80% of the respondents. These findings are consistent with Ahmad, Gul, and Kashi (2022), who reported that university lecturers' demanding schedules constitute a major temporal barrier that limits their ability to engage in home gardening.

The study also corroborates the findings of Basarir, Mansouri, and Ahmed (2022), who identified lack of expertise (human capacity barrier), limited space (physical barrier), and unsuitable soil conditions (environmental barrier) as key factors constraining the establishment of home gardens. Furthermore, the results support the view of Austin (2022) that individuals with low interest in gardening (psychological barrier) are unlikely to engage in such activities, and such individuals may consequently experience reduced well-being benefits (Kirby *et al.*, 2021). In addition, the study aligns with Hardman, Clark, and Sheriff (2022) and Basarir, Al Mansouri, and Ahmed (2022), who noted that the initial costs associated with establishing a home garden such as the purchase of tools, seeds, fertilizers, and other inputs, represent significant resource-

related constraints. These costs may discourage university lecturers who are already confronted with financial limitations.

Table 3.5: Constraints that hinders lecturers from owning and practicing home gardening

Constraints	Strongly disagree	Disagree	Strongly Agree	Agree	CHLCH &RROP	Ranks
Lack of space	36(27.3)	40 (30.3)	22 (16.7)	33 (25.0)	1.141	1 st
Time constraints	4 (3.0)	28 (21.2)	52 (39.4)	47 (35.6)	1.115	2 nd
Homeowner rules	12 (9.1)	33 (25.0)	56 (42.4)	30 (22.7)	1.096	3 rd
Fear of attracting snakes	34 (25.8)	28 (21.2)	35 (26.5)	34 (25.8)	1.095	4 th
No interest	37 (28.0)	21 (15.9)	43 (32.6)	30 (22.7)	1.010	5 th
Smells from organic manures	12 (9.1)	25 (18.9)	58 (43.9)	36 (27.3)	1.048	6 th
Small family size	40 (30.3)	16(12.1)	39 (29.5)	36 (27.3)	1.000	7 th
Inadequate water supply	33(25.0)	14 (10.6)	42 (31.8)	42 (31.8)	0.993	8 th
High cost of farm inputs (seeds, organic manures, chemicals)	13(9.8)	29 (22.0)	49 (37.1)	40 (30.3)	0.957	9 th
Poor knowledge of disease and pest management	44 (33.3)	11(8.3)	44(33.3)	32 (24.4)	0.924	10 th
Lack of good soil	42(31.8)	17 (12.9)	51 (38.6)	12 (15.9)	0.911	11 th
High labour intensivity	35(26.5)	7 (5.3)	48 (36.4)	41 (31.1)	0.892	12 th
Poor technical skills in gardening	24 (18.2)	15 (11.4)	69 (52.3)	23 (17.4)	0.875	13 th
Gender bias	68 (51.5)	16 (12.1)	30 (22.7)	17 (12.9)	0.861	14 th
Lack of gardening knowledge	25(18.9)	4(3.0)	49 (37.1)	53 (40.2)	0.836	15 th

Source: Field survey 2024 CHLCH= Constraints that hinders lecturers from home gardening; RROP=Relative Rank order Position;

The results presented in Table 3.6 show the Multivariate Analysis of Variance (MANOVA) examining the relationship between respondents' socioeconomic characteristics and their physical engagement in home gardening. The findings indicate a significant multivariate effect, with income emerging as the most influential predictor of home garden ownership among university lecturers when all variables were considered simultaneously. This finding is consistent with the studies of Hardman, Clark, and Sheriff (2022) and Basarir, Al Mansouri, and Ahmed (2022), which reported that the initial costs associated with establishing a home garden such as the purchase of tools, seeds, fertilizers, and other inputs can discourage participation, particularly

Table 3.6: Multivariate analysis of variance showing the relationship between the socio-economic characteristics of lecturers and their physical engagement in home gardening

Variables		Values	F	Df	p-values	Remarks
Marital status	Pillai's Trace	.183	1.622	15	.079	NS
	Wilks Lambda	.817	1.622	15	.079	
	Hotelling's Trace	.223	1.622	15	.079	
	Roys largest root	.223	1.622	15	.079	
Level of education	Pillai's Trace	.174	1.534	15	.106	NS
	Wilks Lambda	.826	1.534	15	.106	
	Hotelling's Trace	.211	1.534	15	.106	
	Roys largest root	.211	1.534	15	.106	
Home `gardening experience	Pillai's Trace	.181	1.611	15	.082	NS
	Wilks Lambda	.819	1.611	15	.082	
	Hotelling's Trace	.222	1.611	15	.082	
	Roys largest root	.222	1.611	15	.082	
Household size	Pillais' Trace	.190	1.703	15	.061	NS
	Wilks Lambda	.810	1.703	15	.061	
	Hotelling's Trace	.234	1.703	15	.061	
	Roys largest root	.234	1.703	15	.061	
Ownership of residence	Pillai's Trace	.134	1.126	15	.342	NS
	Wilks Lambda	.866	1.126	15	.342	
	Hotelling's Trace	.155	1.126	15	.342	
	Roys largest root	.155	1.126	15	.342	
Income level	Pillai's Trace	.305	3.187	15	.000	S
	Wilks Lambda	.695	3.187	15	.000	
	Hotelling's Trace	.439	3.187	15	.000	
	Roys largest root	.439	3.187	15	.000	

NS: Not statistically significant, S: Significant

Source: Field survey 2024

among lecturers facing financial pressures related to academic responsibilities. The study also aligns with Seyida (2021), who observed that home garden production is more economically beneficial than purchasing food from the market, especially when family members provide labour and surplus produce is sold to generate additional income. Beyond economic benefits, income-related engagement in home gardening may also enhance social interactions, as lecturers can socialize within their neighbourhoods through the sharing or sale of surplus garden produce. Such interactions foster friendships, networking opportunities, improved communication skills, reduced stress, enhanced self-esteem, a stronger sense of belonging, and improved mood, as noted by Devrani and Tiwari (2024).

4.0 Conclusion

This study examined home gardening practices among lecturers in Akwa Ibom State University and found that although most lecturers were highly educated and economically active but only a small proportion participated actively in home gardening. Gardening activities were largely carried out by other household members, with traditional vegetable gardens being the predominant type. Lecturers were more aware of the food and economic benefits of home gardening than its non-food-related benefits. Constraints such as limited space, time constraints, high input costs, inadequate water supply, and limited technical knowledge significantly restricted active participation. Income was identified as the most influential predictor of home garden ownership/engagement by lecturers.

Recommendations

Based on these findings, the study recommends increased educational awareness and capacity-building initiatives to enhance lecturers' knowledge and participation in home gardening. Relevant university departments and faculties should promote space-efficient, low-cost, and water-saving gardening techniques suitable for lecturers' residential conditions. Collaborative initiatives and partnerships should be encouraged to reduce input costs and improve access to basic gardening resources. Further research is recommended to support evidence-based strategies for promoting sustainable home gardening practices among university lecturers.

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