

Perception and Involvement of University Students in University-Based Farm Programs as a Strategy for Achieving Campus Food Security in Ondo State

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ABSTRACT

Food insecurity is an increasing concern among university students, particularly in low- and middle-income countries such as Nigeria. This study examined the perception and involvement of university students in university-based farm programs as a strategy for improving campus food security in Ondo State. A descriptive survey design was adopted, and data were collected using a structured questionnaire administered on undergraduate students from Adeyemi Federal University of Education, Federal University of Technology Akure, and Rufus Giwa Polytechnic. A total of 198 valid responses were analyzed using descriptive statistics, multiple response analysis, and logistic regression in SPSS version 25. The results showed that 63.6% of respondents were aware of university-based farm programs, but only 14.1% had participated in such initiatives, while awareness of active programs within campuses was low (20.7%). Most respondents (85.4%) believed that university-based farm programs could help address food insecurity, and 64.6% expressed willingness to participate if such programs were available. Logistic regression results indicated that the model was statistically significant ($\chi^2 = 20.082$, $p = 0.017$). Field of study ($p = 0.036$), year of study ($p = 0.017$), and monthly allowance ($p = 0.043$) significantly influenced perception, while other variables were not significant. The study concludes that university-based farm programs have strong potential to improve campus food security, but limited awareness and participation constrain their effectiveness. Strengthening institutional support and integrating farm programs into academic structures are recommended.

KEYWORDS: University-based Farm Programs, Food Insecurity, Student Perception, Campus Agriculture, Student Welfare.

I. INTRODUCTION

Food insecurity is increasingly recognized as a pressing issue within university communities, particularly in low- and middle-income countries like Nigeria. University students, despite being in academic institutions, are not immune to hunger, poor nutrition, and financial instability that limit their access to sufficient and quality food [1]. According to the Food and Agriculture Organization (FAO, 2023), food security exists when all people have physical, social, and economic access to sufficient, safe, and nutritious food always. However, various studies have shown that many students in Nigerian tertiary institutions frequently skip meals or consume substandard diets due to limited financial resources [1,2,3,4]. In response to this growing challenge, Universities play a crucial role in addressing food security issues through research, technology development, and education [5]. Integrated farming methods and programs like the Student Farmer Entrepreneur initiative in Malaysia demonstrate potential strategies for improving food security by increasing agricultural productivity and promoting sustainable practices [5] In Ondo State, where agriculture is a major economic activity, the

integration of such farm programs into university life holds promise for improving food access among students. The role of these programs becomes even more critical in the face of rising inflation and declining household income, both of which contribute to student vulnerability to food insecurity [6]. Despite the potential of university farms to address these concerns, the extent to which students are aware of, perceive, and engage with such programs remains unclear. Perception plays a crucial role in adoption and participation. If students do not recognize the relevance of campus agriculture to their daily food needs, they are less likely to engage with or support such initiatives. Moreover, limited student involvement may undermine the sustainability and impact of the programs. This study therefore aimed to examine the perception and involvement of university students in university based farm programs as a strategy for achieving campus food security in Ondo State. Specifically, the study sought to:

- i. assess students' awareness and knowledge of university based farm programs
- ii. determine the level of students' participation and willingness to participate in such programs.
- iii. examine students' experiences and perceived benefits of university based farm programs
- iv. identify the constraints affecting students' participation in university based farm programs
- v. assess students' perception of the potential of university based farm programs to address food insecurity
- vi. determine the socio-economic factors influencing students' perception of university based farm programs as a strategy for improving campus food security.

Ho: The study tested the hypothesis that there is no significant association between students' socio-economic characteristics and their perception of university-based farm programs as a strategy for addressing food insecurity on campus.

II. METHODOLOGY

The study was conducted in Ondo State, Nigeria, located in the southwestern region of the country, where agriculture is a major economic activity and several tertiary institutions operate institutional farms for teaching and production purposes. Three institutions were selected for the study: Adeyemi Federal University of Education, Ondo; Federal University of Technology, Akure; and Rufus Giwa Polytechnic, Owo. These institutions were purposively chosen because they are known to operate university-based farm programs or related agricultural training activities. A descriptive survey research design was adopted to obtain quantitative data on students' awareness, participation, perception, and constraints related to university based farm programs. The target population comprised undergraduate students across the three institutions. The total undergraduate population of the selected institutions was estimated at approximately 4,000 students across the faculties sampled for this study. This estimate was derived from departmental enrollment records and faculty registers available at the time of the study and was considered adequate for sample size determination.

$$n = \frac{N}{1 + N(e)^2}$$

Where n is the sample size, N is the total population size and e is the margin of error (expressed as a decimal; e.g., 5% = 0.05).

However, due to logistical constraints and response rates, a total of 200 students were targeted, and 198 valid responses were retrieved and used for analysis. A multi-stage sampling approach was adopted. First, the institutions were purposively selected. Next, students were reached through faculty level communication platforms and mailing groups, and participation was

voluntary, allowing respondents to complete the questionnaire randomly over a three-week period.

Data were collected using a structured questionnaire designed to capture key variables relevant to the study. The instrument was divided into four sections. Section A collected demographic and socio-economic characteristics such as age, gender, field of study, year of study, place of residence, and monthly allowance. Section B measured awareness and knowledge of university-based farm programs. Section C examined participation, experience, and willingness to participate. Section D assessed perceived benefits, constraints, and students' perception of the potential of university-based farm programs to address food insecurity. Examples of questionnaire items included:

- (a). "How useful do you consider university-based farm programs in addressing food insecurity among students?"
- (b). "Have you ever participated in any university farm activity?"
- (c). "What challenges would prevent you from participating in a university farm program?"
- (d). "How willing would you be to participate in a university farm program if available?"

The instrument was pre-tested with 20 undergraduate students from a department not included in the final sample to assess clarity, relevance, and reliability of items. Feedback from the pilot test led to minor revisions in wording and sequencing of questions to improve comprehension. Data analysis was carried out using the Statistical Package for the Social Sciences (SPSS) version 25. Descriptive statistics such as frequencies and percentages were used to summarize demographic characteristics, awareness levels, participation, perceived benefits, and constraints. Multiple response analysis was applied to questions that allowed respondents to select more than one option. To test the hypothesis on the influence of socio-economic characteristics on students' perception of the effectiveness of university-based farm programs, binary logistic regression analysis was employed. Perception of the ability of farm programs to address food insecurity was coded as a binary dependent variable (1 = yes, 0 = no). Logistic regression was considered appropriate because the dependent variable was dichotomous, and the technique allows estimation of the probability of a particular outcome based on multiple predictor variables. Independent variables included age, gender, religion, marital status, field of study, year of study, place of residence, university attended, and monthly allowance. Statistical significance was determined at the 0.05 level.

Ethical considerations were observed throughout the study. Participation was voluntary, and respondents were informed of the purpose of the study before completing the questionnaire. No personally identifying information was collected, and responses were treated with strict confidentiality. Data were used solely for academic purposes.

III. RESULTS AND DISCUSSION

A. Awareness of University-Based Farm Programs Among Respondents

To determine the level of awareness of University-Based Farm Programs among students, respondents were asked whether they had ever heard of such programs. Their responses are presented in Table 1.

Table 1: Respondents' Awareness of University-Based Farm Programs

	Frequency	Percentage
Yes	126	63.6
No	72	36.4
Total	198	100

Source: Field survey, 2025

The data provided in Table 1 above shows the results of the count of students who have heard about university-based farm programs aimed at addressing food insecurity among students. Results shows that 126 (63.6%) of respondents have heard of such program and 72 (19.4%) of them are yet to hear of such program.

B. Respondents' Knowledge

The data provided in Figure 1 shows the result of a multiple response analysis of respondents' knowledge on university-based farm programs. Since respondents could select more than one option then the total percent of responses exceeds 100% for this analysis and the subsequent multiple response analysis in this study. This indicates that many students identified multiple options. Result presented above shows that the most recognized benefit is that university-based farm programs teach agricultural skills, with 55.1% of total responses and 68.3% of respondents selecting this option. This suggests that students primarily associate these programs with skill development in agriculture. 19.9% of responses (24.6% of students) indicated that farm programs provide income for students, showing that some students see these programs as a means of financial support. 14.1% of responses (17.5% of students) mentioned that these programs help build the student community, highlighting their role in fostering social connections. 10.6% of responses (13.5% of students) believed that university-based farm programs provide food for students, suggesting that fewer students associate them with direct food security benefits. In summary, result shows that the primary perception of students on this program is as a learning program for Agricultural skills and a significant proportion of students identify the potential of the program to be a source of income generation and community-building. Lastly, food provision is the least recognized benefit students indicated. This suggests a need for better orientation on the programs' broader benefits.

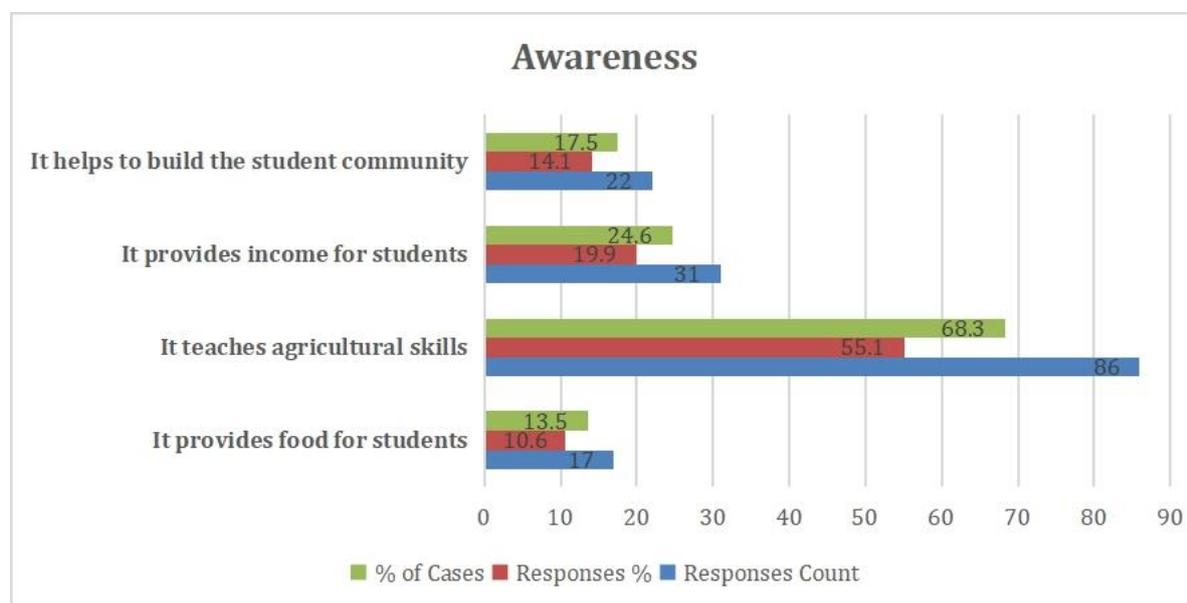


Figure 1: Respondents' Knowledge of University-Based Farm Programs (Source: Field survey, 2025)

C. Presence of University-based Farm Program on Campus

The findings in Figure 2 revealed that a significant majority of students, 79.3 percent, are unaware of any university-based farm program currently operating in their institution, while only 20.7 percent reported awareness of such a program. This indicates that most universities

in the study area either lack active university-based farm initiatives or have not effectively communicated their existence to the student body. The low level of awareness may hinder student participation and reduce the potential impact of these programs on campus food security. This reveals a critical communication gap in program implementation.

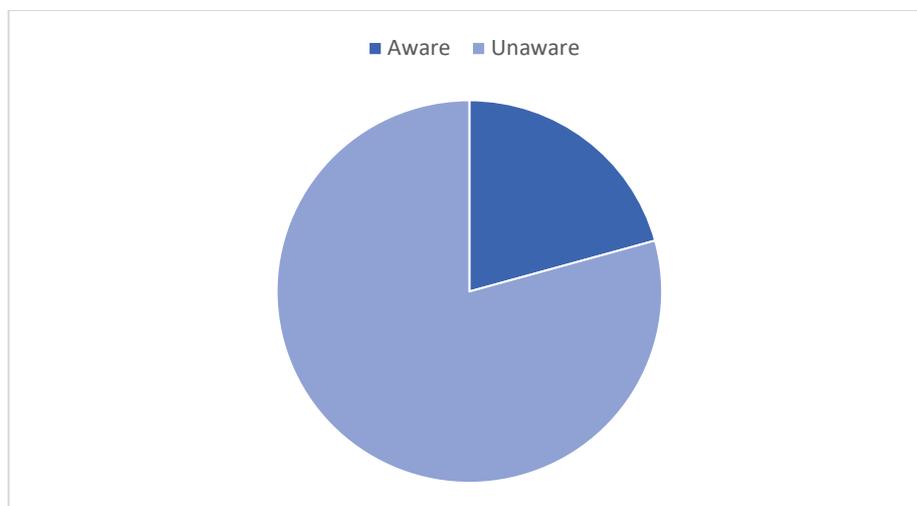


Figure 2: Awareness of University Based Programs on their Campus (Source: Field survey, 2025)

D. Available University-Based Farm Program

The data provided in Table 2 presents the result of the name of the university-based farm program currently running in students’ university. Result shows that 57.1% indicated farm practice year as the program currently running in their school out of just 41 students who indicated that such program currently runs in their school. 19%, and 14.3% of student state Agricultural education, and Agro-nucleus as the programs currently running in their institution. Just 9.5% identify that they cannot remember the name of the program currently running in their university.

Table 2: Showing Responses on the Type of Available University-Based Farm Programs

Program	Frequency	Percentage
Farm practice year	24	57.1
Agricultural education	8	19.0
Agro-nucleus	4	9.5
I have forgotten	6	14.3
Total	41	100

Source: Field survey, 2025

E. Participation in a University-Based Farm Program

The data provided in Figure 3 shows the result of the analysis of students who have participated in a university-based farm program. Result shows that just 14.1% of the respondents have participated in such program. Although, 41 students claim to have heard of such program but just 28 have participated in it and 85.9% of the students have never participated in university-based farm programs. This low participation rate could be due to lack of awareness or structural barriers. According to [7] low youth participation in agriculture is often linked to poor accessibility and institutional support.

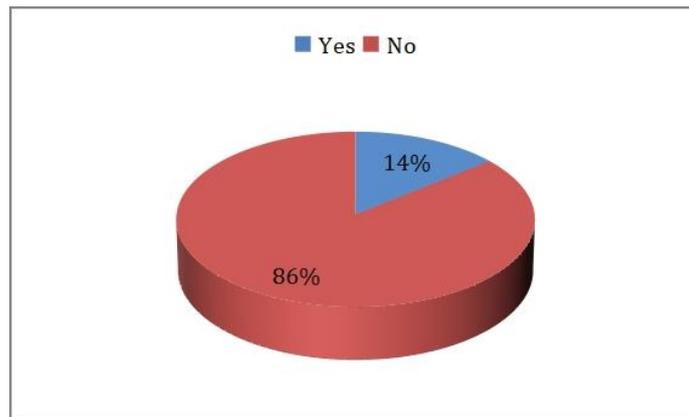


Figure 3: Respondents Participation in University-Based Farm Programs (Source: Field survey, 2025)

F. Experience of University-Based Farm Program

Table 3: Students’ Experience of University-Based Farm Program

Experience	Frequency	Percentage
Had hands on agriculture practices that boosted my fore knowledge on theoretical classes I had	13	46.5
Laborious but was as an opportunity to learn hands-on farming skills	9	32.1
It was not worth it as most of the practices were conventional and not innovative	6	21.4
Total	28	100

Source: Field survey, 2025

The responses presented in Table 3 highlight the varied experiences of students who have participated in university-based farm programs. Out of the 28 students who reported involvement, the largest proportion, 46.5%, stated that their experience involved hands-on agricultural practices that enhanced their understanding of theoretical classroom lessons. This indicates that nearly half of the students found the farm program to be a valuable practical extension of their academic work, reinforcing the pedagogical relevance of experiential learning in agricultural education. Another 32.1% of the respondents described the program as laborious but still acknowledged it as a meaningful opportunity to acquire practical farming skills. While these students recognized the physical demands of the work, they also saw it as a necessary part of skill development, especially in preparing for real-world agricultural practice. This response reflects a generally positive but realistic outlook on the challenges and benefits of practical farm exposure. However, 21.4% of the students expressed dissatisfaction, stating that the farm experience was not worthwhile due to its reliance on conventional rather than innovative practices. This group appears to be more critical of the content and delivery of the farm program, suggesting that the lack of modern or contemporary techniques may reduce student engagement or perceived relevance. Overall, the data suggests that while the majority of students found value in university-based farm programs, there is room for improvement, particularly in integrating more innovative and modern agricultural practices. Doing so could enhance student interest, satisfaction, and the overall educational impact of such initiatives. The findings also underscore the importance of aligning practical training with current trends

in agriculture to ensure that students not only gain hands-on experience but also remain motivated and future-ready. This reflects the need for modernization of farm practices in schools to keep students engaged [8]

G. Students’ Opinions on the Potential of University-Based Farm Programs to Address Food Insecurity

The data provided Table 4 presents the result of the analysis of students’ perception of farm-based programs being able to address food insecurity amongst students. The results show that 85.4% of the respondents think farm-based programs can address food insecurity among students, while 14.6% do not think such programs can address food insecurity among students. The result of the finding revealed that farm-based program can address food insecurity among students. This supports the assertion [9,10] that school-based farming can enhance food access and nutritional well-being among students.

Table 4: Farm-based Programs as a Potential Tool to Address food insecurity among Students.

Opinion	Frequency	Percentage
Yes	169	85.4
No	29	14.6
Total	198	100

Source: Field survey, 2025

H. Potential benefits of University-Based Farm Programs

The data presented in Figure 4 summarizes the results of a multiple response analysis on students’ perceptions of the potential benefits of university-based farm programs. According to the chart, 46% of students identified skill development as a key benefit of such programs within the student community. This was closely followed by improved access to fresh produce, cited by 44.4% of students. Additionally, 34.3% noted educational opportunities as a significant benefit. Furthermore, 31.3% and 22.7% of students perceived enhanced nutrition and community development, respectively, as important outcomes of university-based farm initiatives. These findings highlight a diverse range of perceived benefits, suggesting that students view farm-based programs as valuable not only for food access but also for skills, learning, and community impact. This result shows that the most recognized potential benefit of this program among students is the ability of the program to help students in the development of their skillsets. These align with global educational agricultural models that emphasize skill-building and self-sufficiency [11].

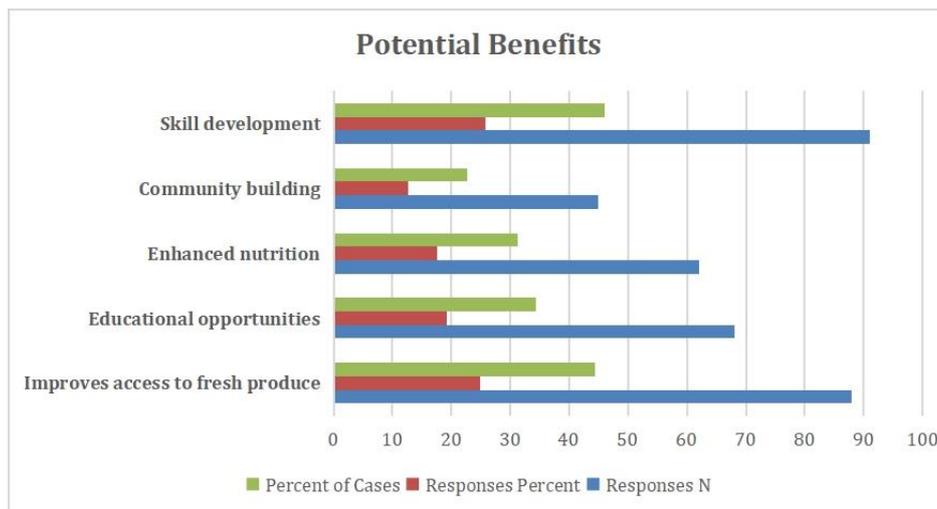


Figure 4: Showing Students’ Perception on the Potential Benefits of a University-based Farm Program

I. Perceived Constraints of Participating in a University Farm Project

The data presented in Table 5 summarizes the results of a multiple response analysis identifying the main challenges students face when participating in university farm projects. The most frequently reported challenge is balancing academic responsibilities with farm work, representing 34.8% of total responses. Notably, 62.6% of students indicated that managing their academic workload alongside farm duties is difficult. This suggests that time constraints and academic pressure significantly limit students' full participation in farm activities. Two other major challenges are physical labor demands and lack of adequate tools, which are almost equally reported. Physical labor demands account for 23.3% of total responses, with 41.9% of students highlighting it as a challenge. Similarly, 23.6% of responses reflect concerns over inadequate tools and resources, cited by 42.4% of respondents. These results imply that both the intensity of manual farm work and insufficient farm infrastructure pose serious barriers to effective student involvement. The least reported issue is the limited availability of farm work hours, accounting for 18.3% of responses and mentioned by 32.8% of students. While this is still a relevant concern, it is less impactful compared to the other factors. In summary, the study reveals that balancing academic responsibilities with farm work is the most significant challenge faced by students participating in university farm projects. These findings are consistent with the work of [12] who also identified time constraints and a lack of adequate tools as major obstacles to student engagement in institutional agricultural programs.

Table 5: Perceived Constraints to Participation in University-based Farm Programs

Challenges	Frequency	Percentages	Rank
Balancing academics and farm works	124	34.8	1 st
Physical labor demands	83	23.3	3 rd
Limited availability of farm works hours	65	18.3	4 th
Lack of adequate tools resources	84	23.6	2 nd
Total	356	100	

Source: Field survey, 2025

J. Willingness to Participate in University-based Farm Program

The data provided in the Table 6 above shows the result for the Willingness to participate in university-based farm program if available. Result shows that 64.6% of students are willing to participate in university-based farm program if available while 35.4% of the students are not willing to participate in the programs. This therefore suggested that majority of the respondents are willing to participate in university-based farm program provided it is made available in their institution. Respondents expressed willingness to participate if such programs were available, suggesting strong latent interest. According to [13] willingness to engage is often high when institutional support is guaranteed.

Table 6: Showing Respondents' Willingness to Participate in University-Based Farm Program

	Frequency	Percentage
Willing	128	64.6
Unwilling	70	35.4
Total	198	100

Source: Field survey, 2025

K. HYPOTHESIS TESTING

Hypothesis: There is no significant Association between students’ socio-economic characteristics and their perception of university-based farm programs ability to address food insecurity on campus.

Table 7: Logit Analysis of Students’ Perception on University-based Programs being able to Address Food Insecurity

Variable	Coefficient	T-Ratio (Wald)	Probability (Sig)
Constant	4.564	7.119	0.008
X ₁ = Age	-0.342	1.162	0.281
X ₂ = Gender	0.363	0.656	0.418
X ₃ = Religion	0.471	1.334	0.248
X ₄ = Marital status	1.118	3.202	*0.074
X ₅ = University	0.305	1.212	0.271
X ₆ = Field of study	0.152	0.813	**0.036
X ₇ = Year of study	0.465	5.659	**0.017
X ₈ = Where you live	0.548	1.221	0.269
X ₉ = Monthly allowance	-0.190	2.634	**0.043
<i>Diagnostic test for the model</i>			
Log likelihood function	59.862 ^a		
Chi- Squared	20.082		
Significance Level	0.017		

Source: Field Survey, 2025 **Significant Variables

The logistic regression analysis investigated the socio-economic factors that influence students’ perceptions of university-based farm programmes as a solution to campus food insecurity. The overall model was statistically significant (Chi-square = 20.082, p = 0.017), showing that the included variables collectively predict student perceptions. Among the predictors, field of study (p = 0.036), year of study (p = 0.017), and monthly allowance (p = 0.043) were found to be statistically significant. Students in agriculture-related disciplines and those at higher academic levels were more likely to see farm programmes as effective in

addressing food insecurity, possibly due to increased exposure to agricultural practices and concepts. Conversely, students with higher monthly allowances were less likely to perceive such programmes as relevant, perhaps because they are less affected by food access issues. Other variables such as age, gender, religion, university attended, and place of residence did not show significant influence. Marital status showed a marginal relationship ($p = 0.074$) but did not reach the 5% significance threshold.

The findings of this study underscore the growing recognition of food insecurity as a significant concern among university students, particularly in low- and middle-income countries like Nigeria. A substantial proportion of respondents were unaware of existing university-based farm programs, and only a small fraction had ever participated in such initiatives. This low level of awareness and engagement mirrors previous research, including that of [14] who found that food insecurity was prevalent among Nigerian undergraduates, with many students lacking consistent access to quality food due to limited financial resources. Students in that study reported skipping meals or consuming nutritionally inadequate diets, conditions that reflect the experiences observed in the present research. The logistic regression analysis revealed that specific socio-demographic variables, field of study, year of study, and monthly allowance were statistically significant predictors of students' perception of university-based farm programs as a tool for addressing food insecurity. Students studying agriculture or related disciplines, and those in higher academic levels, were more likely to view the programs as effective. This aligns with findings from studies such as those by [13], which suggested that practical exposure and academic maturity enhance students' understanding and valuation of applied agricultural programs. Conversely, students with higher monthly allowances were less inclined to perceive university farms as necessary, possibly because they are less affected by food insecurity, a pattern also observed by [1] in their study of food access determinants among university students.

Students cited several barriers to participation, with the most prominent being difficulty balancing academic responsibilities with farm work. This challenge was followed closely by the physically demanding nature of farm activities and the lack of adequate tools and equipment. These results are consistent with the observations of [7], who noted that young people's involvement in agricultural programs often declines when institutional support is lacking and workloads are poorly structured. Such barriers not only discourage participation but also hinder the sustainability and effectiveness of university farm initiatives. Despite these constraints, majority of students (85.4%) believed that university-based farm programs could serve as a viable strategy to combat campus food insecurity. This perception suggests a latent willingness to engage, particularly if the programs are well-structured, adequately funded, and integrated into the academic and social fabric of the university. Similar conclusions have been drawn from international contexts; for example, community-based farming and school garden projects have been shown to enhance food availability and nutritional well-being in studies conducted in Kenya [15] and the United States [16]. Furthermore, students' recognition of benefits such as skill development, educational opportunities, and community building echoes the Food and Agriculture Organization's [11] assertion that school-based agriculture can serve multiple functions: learning, empowerment, and food production.

In summary, this study confirms the critical role that university-based farm programs can play in supporting student welfare through improved food access and skill acquisition. However, to maximize impact, institutions must address the core barriers of awareness, time constraints, labour intensity, and lack of equipment. Providing targeted support, improving program visibility, and integrating farm experiences into curricula across disciplines may significantly enhance participation. These findings support the broader call for educational institutions to leverage agricultural innovation as a multidimensional solution to student food insecurity.

IV. CONCLUSION

This study has examined the perception and involvement of university students in university-based farm programs as a strategy for addressing food insecurity on Nigerian campuses, with a focus on Ondo State. The findings highlight that while a majority of students recognize the potential benefits of these programs, particularly in skill development, food access, and educational value, actual awareness and participation remain low. This disconnect suggests that existing programs are either insufficiently integrated into university life or poorly communicated to the student body. The logistic regression analysis further revealed that students' socio economic and academic characteristics, particularly field of study, year of study, and monthly allowance, significantly influence their perception of these programs. Students in agriculture related fields and those in higher levels of study were more likely to view farm programs as valuable tools for addressing food insecurity. In contrast, students with higher financial support were less inclined to perceive the programs as relevant to their needs. Key barriers identified include academic workload, labour intensity, and lack of farming tools and infrastructure. Despite these challenges, a significant portion of students expressed a willingness to participate in university based farm programs if made available and accessible. This reflects a strong latent interest that could be harnessed through better institutional planning and support.

Based on the findings, the following recommendations are proposed:

- (a). Universities should implement orientation programs, campus sensitisation drives, and digital outreach to improve student awareness of existing farm initiatives.
- (b). Universities should Integrate Farm Programs into Academic Curricula, especially for non-agriculture students, to widen participation and align farm activities with academic goals.
- (c). Institutions must invest in adequate farming tools, irrigation systems, and mechanised solutions to reduce the labour burden and encourage participation. Farm activities should be scheduled to accommodate academic calendars and student availability.
- (d). Incentives and Support Mechanisms such as stipends, food vouchers, or academic credit should be provided to motivate student involvement.
- (e). Universities should promote collaborative partnerships with local agricultural agencies, non-governmental organisations, and research institutions that can provide technical support, innovation, and funding for campus farm projects.

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REFERENCES

- [1] Shi, Y., Davies, A., & Allman-Farinelli, M. (2021). The Association Between Food Insecurity and Dietary Outcomes in University Students: A Systematic Review. *Journal of the Academy of Nutrition and Dietetics*, 121(12), 2475-2500.e1. <https://doi.org/10.1016/j.jand.2021.07.015>
- [2] Ikujenlola, A. V., & Adekoya, T. S. (2020). Nutritional status and feeding habits of females in public and private Universities in Osun state, Southwestern, Nigeria. *Heliyon*, 6(9), e05023. <https://doi.org/10.1016/j.heliyon.2020.e05023>
- [3] Olagunju, M. T., Aleru, E. O., Abodunrin, O. R., Adedini, C. B., Ola, O. M., Abel, C., Adewole, I. E., Okunbor, H. N., & Akinsolu, F. T. (2024). Association between meal skipping and the double burden of malnutrition among university students. *The North*

- African Journal of Food and Nutrition Research*, 8(17), 167–177. <https://doi.org/10.51745/najfnr.8.17.167-177>
- [4] Otemuyiwa, I. O., & Adewusi, S. R. A. (2012). Food choice and meal consumption pattern among undergraduate students in two universities in Southwestern Nigeria. *Nutrition and Health*, 21(4), 233–245. <https://doi.org/10.1177/0260106013510994>.
- [5] Hameed Sultan, M. T., Shahar, F. S., Mohd Zain, M. I., & Komoo, I. (2024a). A systematic review of the role of integrated farming and the participation of universities in ensuring food security: Malaysia's effort. *Italian Journal of Food Safety*. <https://doi.org/10.4081/ijfs.2024.11854>
- [6] Okolo, B. N. (2010). *Nigerian Universities and Agriculture: Their Role in the Development of Agriculture for Sustainable Food Security* (1). Agricultural and Forestry Research Center, University of Tsukuba. <https://doi.org/10.11178/jdsa.5.23>
- [7] Adesope, O. M., Asiabaka, C. C., & Agumagu, A. C. (2016). Constraints to youth participation in agriculture in Nigeria. *Journal of Agricultural Extension*, 20(2), 152–164. <https://www.ajol.info/index.php/jae/article/view/144046>.
- [8] Agbugba, I. K. (2023). Brain Re-Engineering Concept and Reimagination: Strategy for Rebranding Agriculture and Youth Engagement in Promoting Food Production. *European Modern Studies Journal*, 7(5), 213–223. [https://doi.org/10.59573/emsj.7\(5\).2023.19](https://doi.org/10.59573/emsj.7(5).2023.19)
- [9] Mobley, A., Gans, K., Adamsons, K., & Huedo-Medina, T. (2020). O17 Healthy Fathers, Healthy Kids: Preliminary Results of a Father-Focused Childhood Obesity Prevention Pilot Program. *Journal of Nutrition Education and Behavior*, 52(7), S8–S9. <https://doi.org/10.1016/j.jneb.2020.04.029>
- [10] Oo, K., Garner, J., Jackson, K., Hinton, J., Kerber, C., Ritter, C., & Stephenson, T. (2020). O16 Farm-to-Fork on a College Campus: Evaluating Impact of Free Weekly Meals on Dietary Habits and Meal Planning Behaviors. *Journal of Nutrition Education and Behavior*, 52(7), S8. <https://doi.org/10.1016/j.jneb.2020.04.028>
- [11] FAO. (2018). *School-based food and nutrition education: A white paper on the current state, principles, challenges and recommendations for low- and middle-income countries*. Food and Agriculture Organization of the United Nations. <https://openknowledge.fao.org/handle/20.500.12348/2666>
- [12] McCubbins, O., Wells, T., Anderson, R. G., & Paulsen, T. H. (2017). Examining the Relationship Between the Perceived Adequacy of Tools and Equipment and Perceived Competency to Teach Agricultural Mechanics. *Journal of Agricultural Education*, 58(2), 268–283. <https://doi.org/10.5032/jae.2017.02268>
- [13] Yusuf, S. Folaranmi. G., Popoola, Oluwabunmi. O., & Olutegbe, N. S. (2019). Perceptions of Undergraduate Students to Practical Agriculture Experience at the University of Fort Hare, South Africa. *Journal of Agricultural Extension*, 23(1), 210. <https://doi.org/10.4314/jae.v23i1.18>
- [14] Ukegbu, P. O., Uwaegbute, A. C., & Ijeh, I. I. (2019). Prevalence and determinants of food insecurity among undergraduates in a Nigerian university. *Journal of Health, Population and Nutrition*, 37(1), 21. <https://doi.org/10.1186/s41043-018-0159-z>
- [15] Nyabuto, G., & Njeru, S. (2014). School garden initiatives and their impact on food and nutrition security: A case study of Kenya. *International Journal of Agricultural Extension*, 2(2), 123–130.
- [16] Armstrong, D. (2000). A survey of community gardens in Upstate New York: Implications for health promotion and community development. *Health & Place*, 6(4), 319–327. [https://doi.org/10.1016/S1353-8292\(00\)00013-7](https://doi.org/10.1016/S1353-8292(00)00013-7)