



AGRI. EXTENSION

PARTICIPATION OF POSTGRADUATE AGRICULTURAL STUDENTS IN AGRICULTURAL ENTERPRISES AND ITS IMPLICATIONS FOR FOOD SECURITY: EVIDENCE FROM FEDERAL UNIVERSITY OF AGRICULTURE ABEOKUTA, NIGERIA.

Ogunjinmi, Kehinde Oluwaseye¹, Wole-Alo, Felicia Itunu², Dada, Olusegun Emmanuel³, Adeuyi, Oluwabunmilofe Oluwatosin⁴, Oyediji Beatrice Itoya⁵ and Ajasa Boluwatife Racheal⁶

ABSTRACT

The participation of agricultural students in agribusiness activities is essential for achieving Sustainable Development Goals (SDGs) 1 and 2. This research was carried out in 2023 to examine the participation of postgraduate agricultural students in agricultural enterprises and its implication for food security in FUNAAB, Ogun State, Nigeria. The researchers used a multistage sampling procedure to identify 291 out of 359 registered postgraduate students. A validated and structured questionnaire was used to collect the data for this study. Frequency, percentages, and mean scores (descriptive statistics) and such tools as Chi-square, Pearson Product Moment Correlation (PPMC), and multiple linear regression analysis were used. Results indicated that 55.7% of the respondents were males and the average age of the respondents was 32 years. Respondents cultivated an average farm size of 0.84 hectares and earned a mean monthly income of ₦78, 200 (\$57.48USD). The most common source of motivation to get engaged in agricultural enterprises was through social media platforms (62.9%). The most prominent of agricultural enterprises involved by the respondents were teaching and research ($\bar{x}=2.08$), crop production ($\bar{x}=2.03$) and livestock production ($\bar{x}=1.97$). The most important challenges to participation in agricultural enterprises were inadequate funding ($\bar{x} = 2.39$) and climate-related risks ($\bar{x} = 2.36$). Chi Square analysis showed that no significant association ($p>0.05$) existed between participation of the respondents in agricultural enterprises and sex ($\chi=1.443$, $p=0.486$), marital status ($\chi=7.931$, $p=0.094$) and religion ($\chi=5.963$, $p=0.071$). In addition, a significant relationship ($p<0.05$) existed between participation in agricultural enterprises and monthly income ($r= 0.473$), farm size ($r=0.412$), experience ($r= 0.473$) and education ($r=0.267$) while age ($r= 0.188$) was not statistically significant. Regression analysis indicated that farming experience ($\beta = 0.187$, $t = 4.203$, $p < 0.01$) and challenges encountered ($\beta = 0.782$, $t = 2.149$, $p < 0.05$) had the most significant effect on participation in agricultural enterprises among the respondents. The study recommended that increased access to financial assistance and specialized training programmes that concentrate on small-capital agricultural businesses can greatly increase the participation while utilisation of adaptation strategies could help to reduce the effects of climate-related risks.

¹Senior Lecturer, ^{3,4}Lecturer, ⁵Assistant Lecturer, ⁶Student, Department of Agricultural Extension and Rural Development, Federal University of Agriculture, Abeokuta, Ogun State, ²Associate Professor, Department of Agricultural Extension and Communication Technology, Federal University of Technology Akure, Ondo State, Nigeria.

^{*}Corresponding author's email: ogunjinmiko@funaab.edu.ng

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INTRODUCTION

In developing nations, especially in Nigeria, agriculture continues to be the main source of food security, job creation, and economic growth. It is a key sector in Nigeria, constituting over 25% of the nation's GDP and employing a significant portion of the workforce, particularly in rural areas (National Bureau of Statistics, 2023). The sector is widely regarded as essential for the provision of means of human survival; in particular,

it offers food, employment opportunities, income, foreign exchange revenues, and raw materials (Ogunjinmi *et al.*, 2023). Therefore, agriculture is still the leading sector that is responsible for ensuring universal food security, especially in low-income countries where it assists as a source of livelihood (Mokgomo *et al.*, 2022). The sector generates foreign exchange through exports, increasing domestic saving and rural purchasing power (Pronyith *et al* (2001) cited

in Oluwafemi *et al.* (2015). In sub-Saharan Africa, the agricultural sector offers immense youth engagement opportunities, poverty alleviation, and sustainable livelihoods (Henning *et al.*, 2022).

Agricultural universities were established to provide students with the technical knowledge, practical skills, and professional skills needed in the agricultural development (Agrawal and Jaggi, 2023). The Federal Government through the National Universities Commission in Nigeria has intensified agricultural training through practical training at academic levels. Consequently, the graduates of agriculture are supposed to not only act as professionals, but also as business people who can create jobs and help boost the economy (Mukaili *et al.*, 2024). The youth involvement in agriculture is thus vital in the maintenance of farming population, reducing rural to urban migration and enhancing food production. The idea of involving youths in agriculture has emerged as one of the most effective measures to tackle unemployment and food insecurity (Giwu *et al.*, 2024).

The traditional offering of jobs to graduates is becoming more challenging with the rising number of graduates joining the labour market each year in Nigeria. There is an increasing call for trained agricultural graduates to apply their knowledge and skills toward ensuring food security, reducing poverty, unemployment and hunger. In addition, graduates of agriculture are expected to serve as potential employers. Nigerian young people must be involved in agriculture to increase agricultural production and reinstate the country as a food-self-sufficient economy (Mukaili *et al.*, 2024). To ensure food security and the sustainability of agricultural practices, deliberate efforts must be made to actively engage young people in agriculture (Afolabi *et al.*, 2022). Agricultural students who are considered as the future of any nation must be mentored, encouraged, and supported with modern agricultural and entrepreneurial skills, as well as access to necessary inputs, to sustain global food supply and address food insecurity. This method can also offer an avenue through which youth unemployment in Nigeria can be addressed (Musa *et al.*, 2021). Unfortunately, Nigerian youths are often underrepresented in policy formulation and programme implementation, despite being at a very critical age of transformation into adulthood (Fabian *et al.*, 2022).

This expectation notwithstanding, the youths have not been able to engage in agriculture because of factors like lack of access to credit and information, poor policy support, high costs of inputs, and poor market connection (Banga *et al.*, 2021; Mapiye *et al.*, 2023; Giwu *et al.*, 2024). Such limitations have led to the decreasing youth participation in agricultural production

thus threatening food security.

Even though other researchers (Ngatigwa *et al.*, 2020; Ogunmodede *et al.*, 2020; Adeyanju *et al.*, 2021; Mabe *et al.*, 2021; Akrong and Kotu, 2022; Mukaila, 2022) have explored the focus of participation of youth in agriculture, limited attention has been given to postgraduate agricultural students, who possess advanced knowledge and technical capacity. Understanding their level of engagement is essential for strengthening agricultural production to boost food security.

The guiding research questions of the paper were: to find out what inspires postgraduate students' participation in agricultural enterprises, examine engagement in agricultural enterprises? And what difficulties are encountered and other factors that make respondents participate. The study therefore sought to examine the socioeconomic characteristics of the respondents, sources of inspiration, participation in agricultural enterprise, challenges encountered and factors that determine their participation in agricultural enterprises.

MATERIALS AND METHODS

Study area: The study was carried out in the Federal University of Agriculture, Abeokuta (FUNAAB), Odeda Local Government Area of Ogun State, Nigeria. The institution was founded in 1988 and has a mandate of teaching, research and extension services (Adenubi *et al.*, 2020). It is approximately within located 7°13'47"N and 3°26'21"E in the south-western zone of the country. The institution is a specialized and pioneer institution and one of the three specialized Universities of Agriculture in Nigeria that was founded between 1988 and 1992.

Target population: The target population comprised 359 registered postgraduate agricultural students.

Sampling procedures and sample size: A multistage sampling procedure was employed to randomly select one Federal University of Agriculture out of the three specialised universities of agriculture established in 1988, secondly is purposively selection of three out of ten colleges/faculty in the university where agricultural courses are domiciled. Thirdly, approximately 80 percent of postgraduate agricultural science based students in the three colleges were randomly sampled. A total of 291 questionnaires were administered for the study.

Data collection: Data were collected using a structured questionnaire. The instrument was subjected to face and content validity to improve its construction and appropriateness. The reliability test for the instrument was carried out in a location outside the study area using test -retest method in an interval of two weeks.

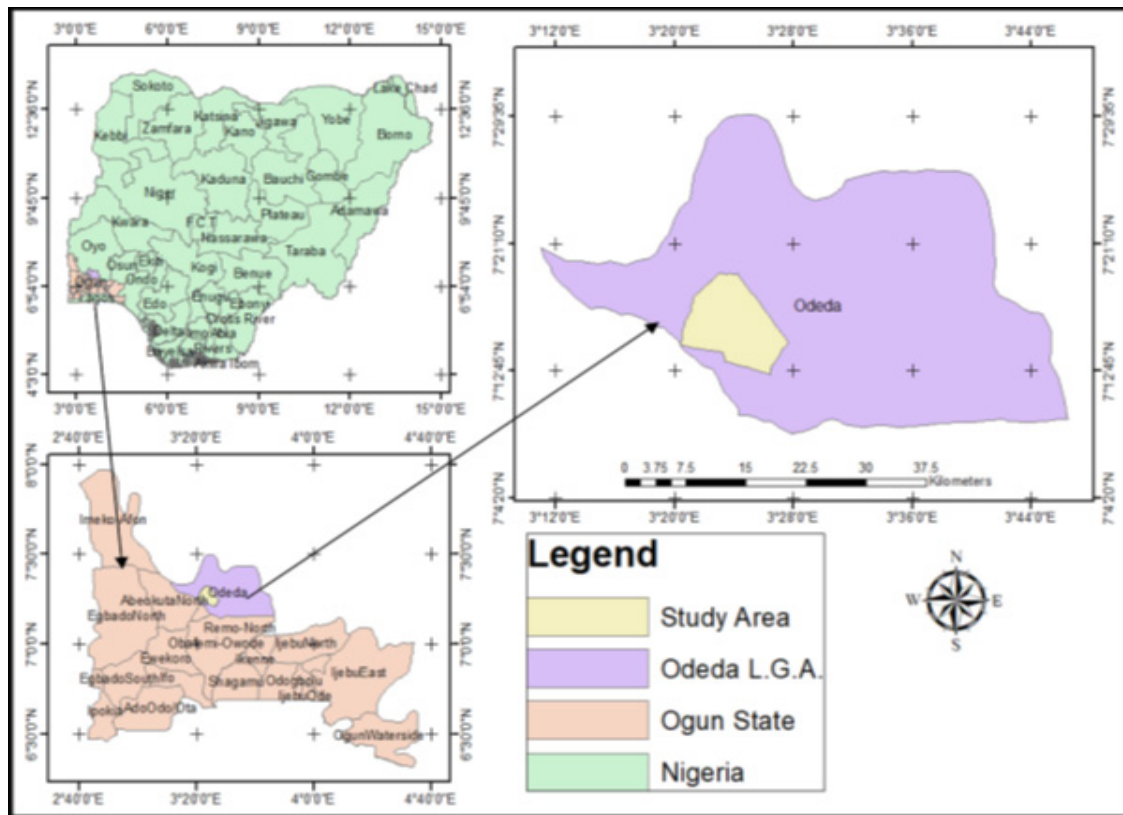


Fig. 1: Map of the study area (The Federal University of Agriculture Abeokuta, Nigeria)

Table 1: Sampling size selection procedure

s/n	Post-graduate colleges selected	Departments	Sampling frame	Selection of 80%
1.	College of Agricultural Management and Rural Development (COLAMRUD)	Agricultural Economics and Farm Management	62	50
		Agricultural Extension and Rural Development	37	30
		Agricultural Administration	35	28
2.	College of Animal Science (COLANIM)	Animal Breeding and Genetics	25	20
		Animal Nutrition	25	20
		Animal Physiology	13	10
		Animal Production and Health	40	32
		Pasture and Range Management	9	7
3.	College of Plant Science (COPLANT)	Crop Production	30	24
		Horticulture	11	9
		Plant Breeding and Seed Technology	29	23
		Plant Physiology and Crop Production	27	25
		Soil Science and Land Management	16	13
		13	359	291

The internal consistency reliability of the instruments was ascertained using the Cronbach-alpha procedure. The reliability coefficient of the instruments range from 0.79 to 0.85.

Measurement of variables: Measurement scales included three point Likert type scale for 'participation' as fully participated-3, moderately participated-2 and never participated-1 and constraints was measured as 'major constraint-3, minor constraint-2 and not a constraint'-1. Binary scale of Yes and No was used for sources of inspiration for agricultural enterprises. The dependent variable for the study was 'participation of the respondents in agricultural enterprise while the independent variables include socioeconomic characteristics, sources of inspiration for agriculture, challenges and determinants of participation in agricultural enterprises'.

Data analysis: Both descriptive and inferential statistics were employed in this study. Frequency counts, mean scores, tables and percentages were utilized to summarize and present the data to achieve the research objectives. The data obtained were analysed by using Statistical Package for Social Sciences (SPSS) for Windows version 23. Chi-square and Pearson Product Moment Correlation (PPMC) were used to show the association and strength of the relationships between variables. The most coherent variable among the respondents' determinants of participation in agricultural enterprise was done by carrying out a multiple linear regression test, in which a set of predictor values were weighted, with the weights indicating each predictor's proportionate contribution to the final prediction. Hence, the multiple linear regression model is of the following form:

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_nx_n$$

Where Y assumed the dependent variable (participation). The predictors are explained below:

$X = (x_1 = \text{sex}, x_2 = \text{marital status}, x_3 = \text{educational level}, x_4 = \text{parents' occupation}, x_5 = \text{farm size}, x_6 = \text{monthly income}, x_7 = \text{farming experience}, x_8 = \text{family background}, x_9 = \text{personal interest}, x_{10} = \text{farm practical year programme}, x_{11} = \text{challenges})$

RESULTS AND DISCUSSION

Socioeconomic characteristics of the respondents

age: Descriptive statistics show that the respondents were mostly young (mean = 32 years) implying that they have a promising population, able to participate in agribusiness. This study corroborates Ogunmodede et al., (2020) who reported that Nigeria is mostly a youthful country with over 60 percent of the 200 million population between 18 and 35 years old. They thus are strong and possess the surplus of energy that requires rightful directing and in accumulating towards

broadened farming outputs (Wangi, 2022).

Sex: The majority of the respondents (60.8%) were single, and males (55.7%) slightly outnumbered females (44.3%). This could imply that agriculture is studied by both sexes despite that practical agriculture is energy demanding and require a great deal of perseverance. These finding agree with Ngatigwa et al. (2020), Mujuru et al. (2022), Thibane et al. (2023) and Mukaila et al (2024) who observed that males tend to dominate in the field of agriculture.

Level of study: Master level students (72.2%) dominated the respondents' population, which implies sufficient academic exposure and technical skills in the discipline of agriculture.

Farm size and scale of production: The majority (59.8%) of the respondents operated on small-scale farms (mean = 0.84 ha) at subsistent level of production (80.4%) , indicating a low production capital. This could have a negative implication for food security.

Monthly income: It was found that approximately 41.2% of the respondents earned an average of ₦78,200 naira (\$57.48USD) per month. This can inform that the earning is commensurate with their scale of production, though slightly higher than the minimum wage (₦77,000 which is equivalent to \$56.59USD) rate that a government worker earns in Ogun State, Nigeria, this reflects limited financial capacity to operate on large-scale. This can have negative consequences on ability of the respondents to expand their enterprises.

Experience: Respondents had an average farming experience of 3.5 years, suggesting moderate exposure to agricultural enterprises. This finding is lower to the finding of Mukaila et al. (2024) that reported 4.5 years of experience in a related study. The probable reason could be that their respondents are fully available and not engaged with further studies.

Marital status: The majority of the respondents were single (60.2%) and 38.8% married, this could impact farming engagement outcomes, because marital status can influence the perspectives, responsibilities, and availability of labour, support system and decision-making patterns. This finding corroborates Yue et al. (2026) that 68.5% of their respondents were single.

Respondents' sources of inspiration for agricultural enterprises: Results in Figure 2 indicates that there are different avenues that the respondents got motivated to agricultural enterprises.

Social media (62.9%) was the major source of motivation, highlighting the role of digital platforms in promoting agricultural participation. This may significantly contribute to the establishment of awareness and exposing individuals to different agricultural enterprises. Also, formal education (18.6%) and peer influence (17.5%) were also major and the

Table 2: Socio-economic characteristics of the respondents

Socioeconomic characteristics	Frequency	Percentage (%)	Mean (x̄)	
Age (years)				
> 25	27	9.3	32 years	
26-35	231	79.4		
36-44	24	8.2		
45-53	3	1.0		
>53	6	2.1		
Sex				
Female	129	44.3		
Male	162	55.7		
Religious				
Christianity	225	77.3		
Islam	66	22.7		
Marital status				
Single	177	60.8		
Married	114	39.2		
Level of education				
Post Graduate Diploma	42	14.4		
Masters	210	72.2		
PhD	39	13.4		
Farm size (ha)				
< 1	174	59.8	0.84 ha	
1-2	63	21.6		
3-4	30	10.3		
5-6	9	3.1		
Greater than 6	15	5.1		
Scale of production				
Subsistence	234	80.4		
Commercial	57	19.6		
Monthly income from agriculture (₦)				
< 50,000	48	16.5	₦78, 200	
50,000-100,,000	120	41.2		
101,000-150,000	69	23.7		
151,000-200,000	18	6.2		
201,000-250,000	12	4.1		
>250,000	24	8.3		
Farming experience (years)				
< 1	66	22.6	3.5years	
1-5	153	52.6		
6-10	36	12.4		
Greater than 10	36	12.4		

Source: Field survey, 2023

family background (5.2%) had a minimum impact. This shows the importance of educational institutions in stimulating agricultural education, this is a sure way of sparking the interest of students into agriculture. In addition, informal social networks is essential in decision-making and dissemination of agricultural opportunities. Where individuals observe their counterparts excelling in the agricultural career, they tend to have interest and pursue the same careers. However, family background/ parents was the least source of inspiration for agricultural enterprises. This can imply a change to the old trend where farming was intergenerational and transmitted among generations, this time around the parents are not necessarily in

support of their wards to practice agriculture, and this can influence the succession of farming population and food security. This finding is in tandem with Ango *et al.*, (2020) that reported parental influence as the least source of inspiration for wards in a related study.

Participation of the respondents in agricultural enterprises: Results in Figure 3 reveal that the respondents participated in different practical and entrepreneurial ventures. This exposes them to actual applications of their academic knowledge and skills. This suggest that students in this categories may depend less on white collar jobs. The participation of the respondents in agricultural enterprises is between 2.08 and 1.07, the higher the mean scores, the higher

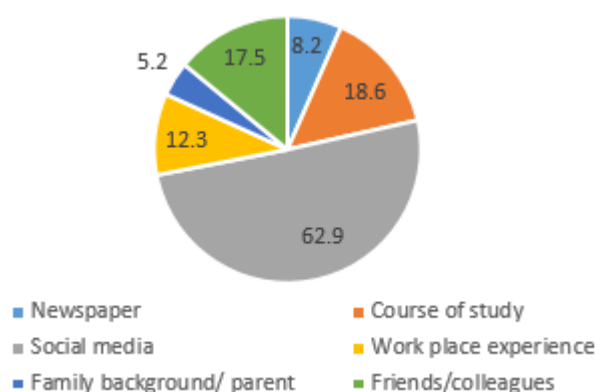


Fig. 2: Sources of inspiration for agricultural enterprises
Source: Field survey, 2023

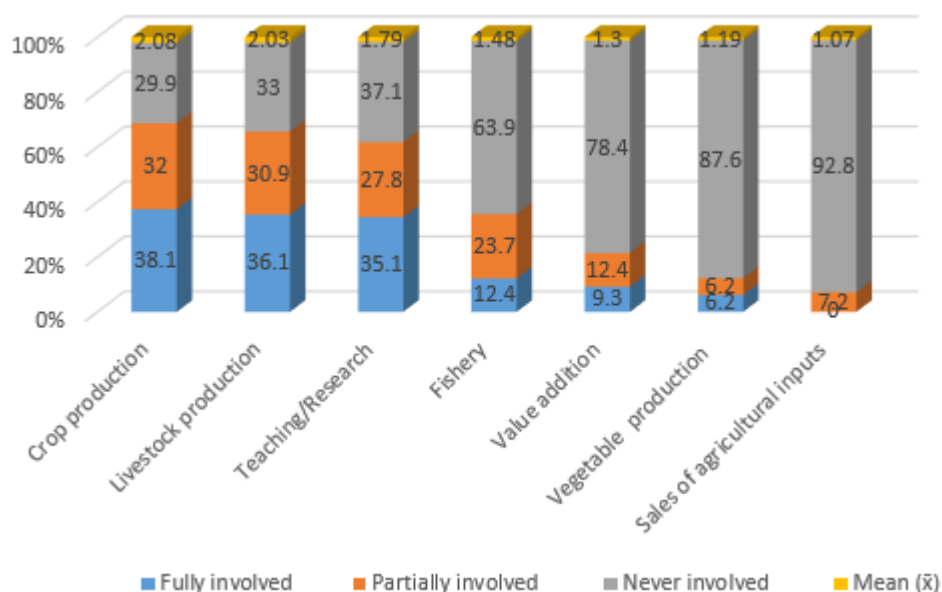


Fig. 3: Involvement of the respondents in agricultural enterprise
Source: Field survey, 2023

the percentage of the respondents' in an agricultural enterprise. The most prominent areas of agricultural enterprises involved by the respondents were teaching and research ($\bar{x}=2.08$), crop production ($\bar{x}=2.03$) and livestock production ($\bar{x}=1.97$). This is an indication that these areas guaranteed to be quick payback and steadily incomes. This study aligns with Olayemi *et al.* (2021) that more than half (58% of their respondents chose to work as an agricultural educator (trainer/ teacher/ lecturers). In addition, Ntlanga *et al.* (2024) and Giwu *et al.* (2024) buttress that their respondents were mostly involved in poultry keeping and crop production. Moreover, the young generation believe in a quick selling agricultural business, not an enterprise that takes time (Giwu *et al.*, 2024). In addition, there was low involvement in fishery, value addition and input marketing. These results show that a smaller number of students explore these areas, even though it is profitable and relevant in the contemporary agriculture.

This result is in line with Akinagbe and Ogundele (2024) who found a low level of participation in fishing farming.

Additionally, findings in Figure 4 also buttressed that the respondents generally had low engagement in agricultural enterprises (3.9%), implying that they were not exploring fully their potentials in utilizing the skills and knowledge gained from the University. This could negatively affect food security, where students who have been trained in the agricultural field are not involved in agriculture to the full extent. This finding is consistent with Maisule, *et al* (2023) who observed that their respondents had a high low level of participation.

Challenges encountered by the respondents in agricultural enterprises: Results in Table 3 indicate that the poor involvement of the respondents in agribusiness was significantly inhibited by inadequate fund ($x=2.39$), climate-related risks ($x=2.36$) and poor market value ($x=2.31$) which had been experienced

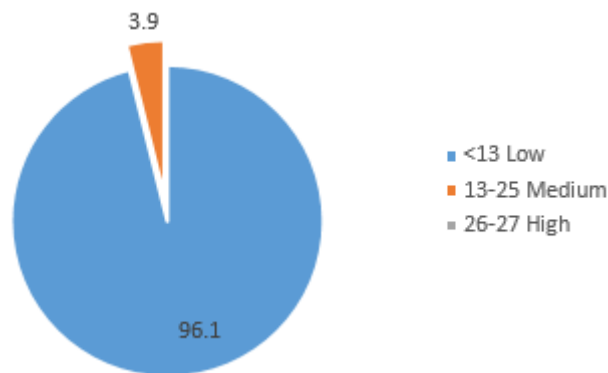


Fig. 4: Categorisation of students' involvement in agricultural enterprises

Table 3: Challenges faced by the respondents in involving in agricultural enterprises (n=291)

Challenges	Major Constraint	Minor Constraint	Not a Constraint	Mean (x)	Rank
Inadequate fund	159(54.6)	87(29.9)	45(15.5)	2.39	1 st
climate-related risks	147(50.5)	102(35.1)	42(14.4)	2.36	2 nd
Poor market value	150(51.5)	81(27.8)	60(20.6)	2.31	3 rd
High cost of farm inputs	126(43.3)	114(39.2)	51(17.5)	2.26	4 th
Lack of agricultural insurance	129(44.3)	108(37.1)	54(18.6)	2.26	4 th
Poor storage facilities	132(45.4)	90(30.9)	69(23.7)	2.22	6 th
Lack of irrigation facility	105(36.1)	96(33.0)	90(30.9)	2.05	7 th
Non-accessibility to input subsidy	93(32.2)	117(40.2)	81(27.8)	2.04	8 th
Inaccessibility to land	81(27.8)	96(33.0)	114(39.2)	1.89	9 th

Source: Field survey 2023

by more than half of the respondents. These results corroborate Mulema *et al.* (2021), Komolafe *et al.* (2022); Thibane *et al.* (2023); Brenya *et al.* (2023) and Giwu *et al.* (2024) who reported finance/ fund and marketing challenge as the main constraint faced by their respondents in a similar study. Moreover, high prices of farm inputs ($x=2.26$), absence of agricultural insurance ($x=2.26$) and poor storage facilities ($x=2.22$) were also significant problems affecting over 40% of the respondents. This could have consequence on food security because practising agriculture on a large scale may not be feasible with these challenges. The findings from this study conform to Fabian *et al.*, (2022); Adebayo *et al.*, (2022) and Giwu *et al.* (2023). In addition, inaccessibility to land ($x=1.89$) was the least constraints. This show that land is not an issue of serious concern.

These limitations could be a great setback to the successful involvement and expansion of farming enterprises. According to International Labour Organisation (ILO), a massive proportions of fertile land are lying idle in Nigeria (Fabian *et al.*, 2022).

Association between socioeconomic characteristics of the respondents and Participation in agricultural enterprises

Results in Table 4a reveals that no statistical significant association ($p>0.05$) existed between sex ($\chi^2=1.443$, $p=0.486$), marital status ($\chi^2=7.931$, $p=0.094$), religion ($\chi^2=5.963$, $p=0.071$) and participation of the respondents in agricultural enterprises. This imply that these variables do not have tendency to directly influence the respondents' participation in agricultural enterprises, meaning that the respondents are equally likely to participate in agriculture irrespective of their marital status, religion and sex. In addition, economic and institutional factors can more influence the participation of the respondents. This result aligned with Giwu *et al.* (2024) who found no significant relationship between sex and religion, and involvement of students in farming venture.

Table 4a: Test of association between socio-economic characteristics of the respondents and participation in agricultural enterprises

Socio-economic characteristics	Chi-square value (χ^2)	p-value	Decision
Sex	1.443	0.486	NS
Marital status	7.931	0.094	NS
Religion	5.963	0.071	NS

Source: Field survey, 2023
Significant at 0.05 level

Correlation between selected socioeconomic characteristics of the respondents and Involvement in agricultural enterprises:

Results on Table 4b showed a significant relationship ($p<0.05$) between participation in agricultural enterprises and monthly income ($r= 0.473$), farm size ($r=0.412$), experience ($r= 0.473$) and education ($r=0.267$). However, no significant relationship occurred between participation in agricultural enterprises and age ($r= 0.188$).

Monthly income showed a positive and significant relationship ($r = 0.473$, $p < 0.05$), indicating that respondents with higher incomes tended to exhibit higher levels of participation. This suggests that increased financial capacity may enhance access to resources, technologies, or opportunities that influence participation.

Farm size was also positively and significantly correlated with participation ($r = 0.412$, $p < 0.05$). The result implies that farmers operating larger farms are more likely to demonstrate higher levels of the participation, possibly because larger farm holdings provide greater opportunities for production, investment, and adoption of innovations.

Similarly, farming experience exhibited a positive and significant relationship ($r = 0.473$, $p < 0.05$). This finding suggests that experienced farmers may possess better knowledge, skills, and decision-making abilities acquired over time, which could positively influence participation.

Educational level showed a positive and significant relationship with participation ($r = 0.267$, $p < 0.05$). This finding suggests that respondents with higher educational attainment are more likely to achieve better results, possibly due to their greater ability to access, understand, and utilize agricultural inputs.

However, age was not significantly related to participation ($r = 0.188$, $p = 0.059$). This indicates that age alone does not appear to be a determining factor influencing participation in agricultural enterprises among the respondents.

Table 4b: Test of relationship between socio-economic characteristics of the respondents and participation in agricultural enterprises

Socio-economic characteristics	r- value	p-value	Decision
Monthly income	0.473	0.00	S
Farm size	0.412	0.00	S
Experience	0.473	0.00	S
Age	0.188	0.06	NS
Education	0.267	0.01	S

Source: Field survey, 2023, Significant at 0.05 level
S-Significant, NS- Not Significant

Relationship between challenges encountered and participation in agricultural enterprises: Results in Table 5 shows that a statistically significant relationship existed between challenges ($r=0.502$, $p<0.01$) and participation in agricultural enterprises. This means that there is a direct correlation between involvements in agricultural enterprises despite of the constraints. In addition, it represents a moderately positive relationship, this result is consistent with Schober *et al.*, (2018) who adjudge that r value of greater than 0.40 as a moderate strength of relationship.

Table 5: Test of relationship between challenges encountered and participation in agricultural enterprises

Variable	r-value	p-value	Decision
Challenges	0.502	0.00	S

Significant at 0.05 level

Determinants of participation in agricultural enterprises: A multiple linear regression analysis was carried out to predict the respondents' involvement in agricultural enterprises. The results are presented in Table 6, along with values for the constant and adjusted R^2 values, t-statistical value, and standardized regression coefficient.

The regression analysis examining the determinants of participation in agricultural enterprises revealed that the explanatory variables jointly accounted for 42.9% of the variation in respondents' involvement in agricultural enterprises ($R^2 = 0.429$), while the adjusted R^2 value of 0.345 indicates that approximately 34.5% of the variation was explained after adjusting the number of predictors in the model. The F-value of 5.137 suggests that the model had a reasonable explanatory power. Findings show that challenges ($\beta=0.187$, $t=1.535^{**}$, $p<0.01$) and farming experience ($\beta=0.782$, $t=2.149^*$, $p<0.05$) had positive statistically significant beta coefficients, they are thus the dominant predictors and are the dominant factors having more effect on likelihood of the students to be involved in agricultural enterprises while sex ($\beta=-0.815$, $t=-1.326$), marital status ($\beta=0.756$, $t=1.187$), educational level ($\beta=0.554$, $t=1.128$), parents' occupation ($\beta=-2.316$, $t=-1.924$), farm size ($\beta=0.437$, $t=1.637$), average mean income ($\beta=0.090$, $t=0.419$), personal interest ($\beta=0.205$, $t=0.333$), farm practical year programme ($\beta=0.607$, $t=0.742$), friends ($\beta=-2.256$, $t=-1.378$) and internet access ($\beta=2.262$, $t=1.535$) were also among the predictors. Specifically, among the variables considered, farming experience ($\beta = 0.782$; $t = 2.149$, $p < 0.05$) and challenges encountered in agricultural enterprises ($\beta = 0.187$; $t = 4.203$, $p < 0.01$) significantly influenced respondents' involvement in agricultural enterprises.

For every unit increase in farming experience will result to increased involvement by 0.782. The positive coefficient for farming experience implies that respondents with more years of farming experience were more likely to be actively involved in agricultural enterprises. This may be attributed to the acquisition of technical skills, managerial competence, and increased confidence gained through years of agricultural practice. Experienced farmers are generally better equipped to identify profitable opportunities and manage production risks, thereby enhancing their participation in agricultural activities. This result is consistent who Amegnaglo *et al.* (2014) who reported experience as a significant determinant of youth participation in Agricultural enterprises.

Similarly, challenges encountered by respondents significantly influenced their involvement in agricultural enterprises. The positive relationship suggests that those who are more active are more likely to encounter and report challenges. Statistically, for every one unit increase in challenges faced by respondents, the level of involvement will be increased by 0.187.

Table 6: Determinants of involvement in agricultural enterprises

Determinants	β -value	t-value
Constant	-0.02	-0.127
Sex	-0.81	-1.326
Marital status	0.756	1.187
Farm size	0.437	1.637
Farming experience	0.782	2.149*
Educational level	0.554	1.128
Income	-0.090	-0.419
Parents' occupation	-2.316	-1.924
Personal interest	0.205	0.333
Farm practical year programme	0.607	0.742
Friends	-2.256	-1.378
Internet access	2.262	1.535
Challenges	0.187	4.203**
R^2	0.429	
Adjusted R^2	0.345	
F change	5.137	

P>0.05

Although not statistically significant, farm size ($\beta = 0.437$; $t = 1.637$), marital status ($\beta = 0.756$; $t = 1.187$), educational level ($\beta = 0.554$; $t = 1.128$), personal interest ($\beta = 0.205$; $t = 0.333$), farm practical year

programme ($\beta = 0.607$; $t = 0.742$), and internet access ($\beta = 2.262$; $t = 1.535$) exhibited positive coefficients, indicating a tendency to increase involvement in agricultural enterprises.

Conversely, sex ($\beta = -0.810$; $t = -1.326$), income ($\beta = -0.090$; $t = -0.419$), parents' occupation ($\beta = -2.316$; $t = -1.924$), and friends' influence ($\beta = -2.256$; $t = -1.378$) showed negative relationships with involvement in agricultural enterprises, although these effects were not statistically significant. The negative coefficients suggest that these variables may not be strong motivating factors for participation in agricultural enterprises among the respondents.

CONCLUSION

Participation of graduates of agriculture in agricultural enterprises is crucial to enhance food security. The respondents had a good potential of being involved in agricultural enterprises but their participation is low. In addition, research, crop and livestock production were mostly practised by the respondents at a subsistent scale. However, there is a notable gap in the area of value addition, fishery, vegetable production and input sales. In addition, insufficient fund and climate-related risks were the key obstacles to the respondents' participation in agricultural enterprises. These challenges could limit respondents' production capacity and consequently obstruct the realization of Sustainable Development goals 1 and 2. In addition, to enhance and sustain food security status in developing country like Nigeria, there is a need for the federal government to motivate agricultural graduates by facilitating their access to credit facilities and agricultural financing, enhance low capital agribusiness models (such as hydroponics, vegetable and mushroom farming, or digital agricultural consultancy), strengthen training in value addition, fisheries and agribusiness management, encourage formation of cooperatives among students and the federal government of Nigeria could also give policy support to that address agricultural production constraints. Additionally, capacity-building initiatives through extension agents may contribute to increased participation in agricultural enterprises to enhance food security.

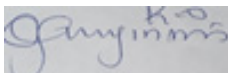
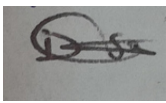
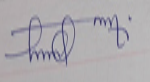
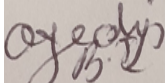
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CONTRIBUTION OF AUTHORS

Sr. No.	Authors' name	Contribution	Signature
1.	Ogunjinmi, Kehinde Oluwaseye	Wrote up the manuscript	
2.	Wole-Alo, Felicia Itunu	Proof read the manuscript	
3.	Dada, Olusegun Emmanuel	Collected the data	
4.	Adeuyi, Oluwabunmilofe Oluwatosin	Analysed the data statistically	
5.	Oyediji Beatrice Itoya	Reviewed the manuscript	
6.	Ajasa Boluwatife Racheal	Collected the data	