



Received: 15-03-2026
Accepted: 25-04-2026

ISSN: 2583-049X

Determinants of Youth Participation in Agricultural Activities in Gwagwalada Area Council, FCT, Abuja, Nigeria

¹ Agbonika DA, ² Idris MI, ³ Ejiofor CD, ⁴ Onuche PI, ⁵ Ondoma MH
^{1, 2, 3, 4, 5} Department of Agricultural Economics, Federal University of Abuja, Abuja, Nigeria

DOI: <https://doi.org/10.62225/2583049X.2026.6.3.6214>

Corresponding Author: **Idris MI**

Abstract

This study assessed the determinants of youth participation in agricultural activities in Gwagwalada Area Council, FCT, Abuja, Nigeria. A simple random sampling technique was employed to select 100 respondents from farming communities within the area council. Data were collected using structured questionnaires and analyzed using descriptive statistics and binary logistic regression. The findings revealed that the majority of youth respondents were male (64%), single (58%), with a mean age of 26.4 years, mean household size of 4.2 persons, and mean farming experience of 4.8 years. Educational attainment was relatively high, with 47% having secondary education, while mean annual income was ₦156,000. Only 38% had contact with extension services, and 52% belonged to youth agricultural groups. The level of youth participation in agricultural activities was moderate, with crop farming

(72%) and vegetable production (61%) being the most widely practiced enterprises. The logistic regression results revealed that age ($p = 0.031$), educational level ($p = 0.004$), annual income ($p = 0.028$), extension contact ($p = 0.007$), and membership in agricultural groups ($p = 0.041$) were significant predictors of youth participation in agriculture. Major constraints identified included lack of access to land (mean = 4.52), high cost of inputs (mean = 4.39), inadequate capital (mean = 4.35), poor access to credit facilities (mean = 4.21), and weak extension services (mean = 4.08). The study concludes that youth agricultural participation in Gwagwalada is shaped by socio-economic and institutional factors. Improving access to land, credit, and extension services, alongside deliberate youth-focused agricultural policies, are recommended to enhance youth engagement in the agricultural sector.

Keywords: Youth Participation, Agriculture, Gwagwalada, Logistic Regression, Constraints, FCT

Introduction

Agriculture remains the foundation of economic development in many developing nations, providing employment, food security, and raw materials for industrial growth. In sub-Saharan Africa, the agricultural sector accounts for a substantial share of gross domestic product and employs the majority of the rural labour force (FAO, 2021) ^[10]. However, one of the most pressing challenges confronting African agriculture is the progressive disengagement of youth from farming activities, which threatens the long-term sustainability and productivity of the sector. As older farmers age and retire, the absence of a vibrant and committed younger generation of farmers poses a significant risk to food security and rural livelihoods across the continent (Aidoo & Mensah, 2021) ^[2].

In Nigeria, agriculture has historically been the mainstay of the economy, contributing to rural employment, household income, and national food supply. Yet the sector has witnessed a gradual decline in youth involvement, driven by perceptions of farming as unprofitable, labour-intensive, and socially unattractive (Oluwatayo & Oluwatayo, 2021) ^[17]. Nigeria's youth population, estimated at over 70 million persons between the ages of 15 and 35, represents a critical human resource that, if effectively mobilized into the agricultural sector, could revolutionize food production and rural development (NBS, 2022) ^[13]. Despite government-led initiatives such as the Anchor Borrowers Programme and the Youth in Agriculture Programme, youth participation in farming remains low and inconsistent across many states and territories (Adesugba & Mavrotas, 2021) ^[1].

The Federal Capital Territory (FCT), Abuja, presents a unique context for examining youth agricultural participation. Although Abuja is primarily known as Nigeria's administrative capital, a significant portion of its population, particularly in peri-urban and rural area councils, is engaged in subsistence and small-scale commercial agriculture. Gwagwalada Area Council, one of the six area councils of the FCT, has considerable agricultural potential owing to its fertile lands, relatively moderate

population density, and proximity to urban markets. Despite these advantages, the area council continues to witness declining youth involvement in farming activities, a trend that threatens both local food production and the economic wellbeing of rural households (FCDA, 2022) ^[11].

Several studies from across Nigeria and sub-Saharan Africa have identified various socio-economic, institutional, and structural factors that determine whether young people choose to engage in agriculture. These include age, level of education, household income, access to land, availability of credit, and contact with agricultural extension services (Nwachukwu & Akinsanmi, 2022; Ayanwuyi *et al.*, 2021) ^[14, 7]. However, empirical evidence specifically addressing youth agricultural participation in the peri-urban settings of FCT, particularly in Gwagwalada Area Council, remains limited. This gap creates a knowledge deficit that undermines the design of targeted and effective policy interventions.

Understanding the determinants of youth participation in agriculture is therefore essential for developing evidence-based strategies that can attract, retain, and support young farmers in Gwagwalada and similar contexts across Nigeria. This study therefore assessed the determinants of youth participation in agricultural activities in Gwagwalada Area Council by:

1. Describing the socio-economic characteristics of youth in the study area.
2. Assessing the level of youth participation in agricultural activities in the study area.
3. Determining the factors influencing youth participation in agriculture in the study area.
4. Examining constraints faced by youth in agricultural enterprises in the study area.

Literature Review

Theoretical Framework: Theory of Planned Behaviour (TPB)

This study is anchored on the Theory of Planned Behaviour (TPB), originally developed by Icek Ajzen in 1991 as an extension of the Theory of Reasoned Action. The TPB postulates that individual behaviour is primarily driven by behavioural intention, which in turn is determined by three core components: attitude towards the behaviour, subjective norms, and perceived behavioural control. Attitude refers to the degree to which an individual evaluates a behaviour positively or negatively. Subjective norms represent the perceived social pressure from significant others to perform or avoid a particular behaviour. Perceived behavioural control reflects an individual's belief in their ability to perform the behaviour, including both internal and external factors that may facilitate or constrain it (Ajzen, 1991; Armitage & Conner, 2021) ^[3, 6].

The TPB is particularly suited for understanding youth participation in agriculture, as the decision of a young person to engage in farming is influenced not only by personal attitudes toward agriculture but also by the expectations of family, peers, and community members, as well as by perceived access to land, capital, and institutional support. In applying the TPB to this study, youth participation in agricultural activities in Gwagwalada Area Council is conceptualized as a planned behaviour shaped by the interaction of personal dispositions, social influences, and structural enabling conditions. Factors such as educational level, income, extension contact, and group

membership serve as proxies for the three components of the theory, making it an appropriate framework for explaining variations in youth agricultural engagement (Ajzen, 2020; Bamidele *et al.*, 2022) ^[4, 8].

Conceptual Framework

The conceptual framework for this study captures the linkages between independent, mediating, and dependent variables in explaining youth participation in agricultural activities in Gwagwalada Area Council. The independent variables comprise personal socio-economic attributes and institutional factors. Personal attributes include age, gender, educational level, marital status, household size, farming experience, and annual income. Institutional factors encompass access to extension services, membership in youth agricultural groups or cooperatives, and access to credit facilities. These independent variables are hypothesized to influence youth participation either directly or through mediating conditions such as access to land and capital availability. The dependent variable in this study is the level of youth participation in agricultural enterprises, which is measured in terms of engagement in specific agricultural activities including crop farming, livestock rearing, vegetable production, fish farming, and agro-processing. Together, these elements define the analytical pathway through which determinants translate into observable patterns of youth agricultural engagement.

Youth and Agriculture in Nigeria

Youth disengagement from agriculture in Nigeria has been a persistent challenge, closely linked to urbanization, poor rural infrastructure, and the perception of farming as a low-status occupation. Empirical studies consistently report that young Nigerians prefer urban wage employment to farming, largely because agriculture is associated with poverty, drudgery, and social marginalization (Oluwatayo & Oluwatayo, 2021) ^[17]. However, researchers have also noted that where enabling conditions exist — such as access to land, credit, and modern technologies — young people are capable and willing to engage productively in the agricultural sector (Adesugba & Mavrotas, 2021) ^[1].

In northern Nigeria, studies have shown that youth aged 18 to 35 make up a significant proportion of subsistence farming households but tend to be engaged in off-farm activities during the off-season, reflecting the dual nature of their livelihood strategies (Nwachukwu & Akinsanmi, 2022) ^[14]. In the FCT and its surrounding areas, agriculture plays an important role in the food economy, with peri-urban farmers supplying vegetables, tubers, and grains to Abuja's growing urban market. Despite this economic relevance, policy support for smallholder and youth farmers in the territory has been described as fragmented and insufficient (FCDA, 2022) ^[11].

Determinants of Youth Participation in Agriculture

The factors influencing youth participation in agriculture have been studied extensively across sub-Saharan Africa. Age and farming experience are commonly cited determinants, with younger and less experienced farmers being less likely to engage in commercial or entrepreneurial agriculture due to lack of skills and social networks (Aidoo & Mensah, 2021) ^[2]. Educational level has a dual effect: higher education often draws youth away from farming into white-collar occupations, yet it can also equip them with the

analytical and business skills needed to modernize farming enterprises (Bamidele *et al.*, 2022) [8].

Access to land is frequently identified as the most binding constraint for youth entry into agriculture, particularly in peri-urban areas where land values are high and tenure systems often favour established land owners (Ayanwuyi *et al.*, 2021) [7]. Household income and access to credit are equally critical, as farming requires substantial upfront investments in inputs, equipment, and labour. Studies have consistently shown that youth from financially resourced households or those with access to formal credit are significantly more likely to engage in agriculture (Ogunleye *et al.*, 2020) [15]. Extension contact and membership in agricultural cooperatives or youth groups also play enabling roles by providing information, technical support, and collective bargaining power (Ibrahim & Lawal, 2023) [12].

Materials and Methods

Study Area

This study was conducted in Gwagwalada Area Council, one of the six area councils of the Federal Capital Territory (FCT), Abuja, Nigeria. Gwagwalada is located approximately 45 kilometres southwest of the Abuja city centre. It lies between latitude 8°56'N and longitude 7°5'E, sharing boundaries with Kuje Area Council to the east, Kwali Area Council to the west, and Abuja Municipal Area Council (AMAC) to the north. The area council covers a total land area of approximately 1,043 square kilometres, comprising a mixture of urban, peri-urban, and rural settlements. According to the 2022 population estimates derived from the National Bureau of Statistics projections, Gwagwalada has an estimated population of approximately 320,000 persons, with a significant proportion residing in rural and semi-urban communities that depend on agriculture for their livelihoods.

Gwagwalada experiences a tropical savanna climate characterized by distinct wet and dry seasons. The rainy season typically runs from April to October, with mean annual rainfall ranging between 1,000 mm and 1,500 mm, while the dry season extends from November to March. The area council is endowed with moderately fertile soils suitable for the cultivation of maize, cassava, sorghum, groundnut, vegetables, and various fruit crops. Agriculture constitutes the primary occupation of a large segment of the rural population, with both subsistence and small-scale commercial farming systems prevalent across the area council's communities.

Population of the Study and Research Design

The study adopted a survey research design and utilized structured questionnaires as the primary instrument for data collection. The target population for this study comprised all youth within the age bracket of 18 to 35 years who are either actively engaged in or have expressed interest in agricultural activities within Gwagwalada Area Council. This age range is consistent with the National Youth Policy of Nigeria, which defines youth as persons between 18 and 35 years of age.

Sample Size and Sampling Technique

A simple random sampling technique was employed to select respondents for this study. In the first stage, three farming communities — Gwagwalada, Dobi, and Ikwa — were purposively selected based on their agricultural

significance and the density of youth farming populations within the area council. In the second stage, a total of 100 youth farmers were selected from the three communities using a simple random sampling method, with respondents drawn proportionally from each community based on available farmer lists obtained from the FCT Agricultural Development Agency (ADA) and local community leaders. The total population (N) of youth farmers across the three communities was estimated at 400. Applying Yamane's (1967) [19] formula to determine the appropriate sample size:

$$n = N / (1 + N(e)^2)$$

Where n = sample size, N = population size, and e = margin of error (0.05):

$$n = 400 / (1 + 400(0.05)^2) = 400 / (1 + 1) = 400 / 4 = 100$$

Thus, a sample size of 100 respondents was obtained, ensuring a 5% margin of error and statistical adequacy for the objectives of this study.

Instrumentation and Data Collection

Data were collected using a structured questionnaire designed to capture information relevant to all four specific objectives of the study. The questionnaire was divided into sections addressing respondents' socio-economic characteristics, level of participation in agricultural activities, factors influencing participation, and constraints faced in agricultural enterprises. The instrument was pre-tested among 10 youth farmers not included in the main sample to assess clarity and validity, and appropriate revisions were made prior to the main data collection exercise. Data collection was conducted with the assistance of trained enumerators who administered the questionnaires face-to-face in the local language where necessary, minimizing non-response and misinterpretation. All data were subsequently coded and entered into SPSS software for analysis.

Method of Data Analysis

Both descriptive and inferential statistical techniques were employed to analyze the collected data in accordance with the four specific objectives of the study, using the Statistical Package for the Social Sciences (SPSS Version 25). Descriptive statistics — including frequencies, percentages, and mean scores — were used to analyze objectives 1, 2, and 4, respectively describing the socio-economic characteristics of youth respondents, assessing their level of participation in agricultural activities, and examining the constraints they face in agricultural enterprises. For Objective 3, a binary logistic regression model was employed to determine the socio-economic and institutional factors influencing youth participation in agriculture, with participation coded as 1 (participant) and non-participation as 0.

Model Specification

Logistic Regression Model

To achieve Objective 3, a binary logistic regression model was employed to determine the socio-economic and institutional factors influencing youth participation in agricultural activities in Gwagwalada Area Council. Logistic

regression is appropriate for this analysis because it is specifically designed to model dichotomous outcome variables — in this case, participation (coded as 1) or non-participation (coded as 0) in agriculture. The general logistic regression model is expressed as:

$$\text{Logit}(P_i) = \ln(P_i / 1 - P_i) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n \quad (1)$$

Where:

P_i = Probability that the i-th youth participates in agriculture.

$1 - P_i$ = Probability of non-participation.

β_0 = Intercept.

$\beta_1, \beta_2, \dots, \beta_n$ = Regression coefficients corresponding to the independent variables X_1, X_2, \dots, X_n .

The probability of participation (P_i) is derived from the logit function as:

$$P_i = e^{\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n} / 1 + e^{\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n} \quad (2)$$

Parameter estimation was carried out using the Maximum Likelihood Estimation (MLE) technique, and the estimated coefficients were interpreted using the Odds Ratio (OR), calculated as $OR = e^{\beta_j}$. Model performance was evaluated using the Hosmer-Lemeshow Test and Pseudo R-Squared measures including Cox and Snell R^2 , Nagelkerke R^2 , and McFadden's R^2 .

Results and Discussion

Socio-Economic Characteristics of Youth in the Study Area

The results in Table 1 show that the majority of youth respondents in Gwagwalada Area Council were male (64%), with 36% being female. This gender disparity reflects the persistent patriarchal structure that defines agricultural engagement in Nigerian communities, where male youth are more likely to participate in farming due to cultural norms governing land access and resource ownership (Doss, 2021; Ajayi *et al.*, 2021) [9, 5]. However, the relatively higher share of female youth (36%) compared to older farming populations suggests a gradual but growing inclusion of young women in agricultural enterprises within the peri-urban FCT context.

Regarding marital status, more than half of respondents (58%) were single, followed by married (34%), with smaller proportions being widowed (5%) or divorced/separated (3%). The dominance of single youth is consistent with the age profile of respondents, as younger individuals are less likely to be married (Bamidele *et al.*, 2022) [8]. The mean age of respondents was 26.4 years, with the largest proportion falling within the 21–25 years age bracket (38%), followed by the 26–30 years cohort (29%). This distribution confirms that the study captured a predominantly young and economically active population in the early stages of labour market entry and livelihood decision-making.

The mean household size was 4.2 persons, reflecting relatively moderate family sizes that are consistent with urban and peri-urban household structures in the FCT. Educational attainment among respondents was notably moderate to high: 47% had secondary education, 22% had OND/NCE qualifications, 14% had HND/B.Sc. degrees, and only 9% reported no formal education. This relatively favourable educational profile suggests potential receptivity

to modern agricultural technologies and practices among youth in the study area (Okonkwo *et al.*, 2023) [16].

The mean farming experience was 4.8 years, indicating that many youth respondents were relatively new entrants into agriculture. Only 28% reported having more than 5 years of farming experience, reflecting the pattern of recent or transitional engagement with agriculture typical of peri-urban youth populations. Mean annual income from all sources was ₦156,000, with 41% earning below ₦100,000 annually, highlighting the low income levels that characterize smallholder youth farming in the study area. Membership in youth agricultural groups or cooperatives was reported by 52% of respondents, while extension contact was reported by only 38%, indicating a significant gap in institutional outreach to this demographic.

Table 1: Socio-Economic Characteristics of Youth in Gwagwalada Area Council

Variable	Frequency (n = 100)	Percentage (%)
Gender		
Male	64	64.0
Female	36	36.0
Marital Status		
Single	58	58.0
Married	34	34.0
Divorced/Separated	3	3.0
Widow/Widower	5	5.0
Age (Mean = 26.4 years)		
18 – 20	15	15.0
21 – 25	38	38.0
26 – 30	29	29.0
31 – 35	18	18.0
Household Size (Mean = 4.2 persons)		
1 – 3	38	38.0
4 – 6	47	47.0
7 – 9	12	12.0
10 and above	3	3.0
Educational Level		
No formal education	9	9.0
Primary school	8	8.0
Secondary school	47	47.0
OND/NCE	22	22.0
HND/B.Sc.	11	11.0
M.Sc./PhD	3	3.0
Years of Farming Experience (Mean = 4.8 years)		
< 2	24	24.0
2 – 4	33	33.0
5 – 7	28	28.0
> 7	15	15.0
Annual Income (Mean = ₦156,000)		
< ₦100,000	41	41.0
₦100,001 – ₦200,000	32	32.0
₦200,001 – ₦350,000	18	18.0
> ₦350,000	9	9.0
Youth Agricultural Group Membership		
Yes (member)	52	52.0
No (not member)	48	48.0
Extension Contact		
Yes	38	38.0
No	62	62.0

Source: Field survey, 2025

Level of Youth Participation in Agricultural Activities in the Study Area

The results in Table 2 present the distribution of youth respondents across various agricultural enterprises in Gwagwalada Area Council. Crop farming emerged as the most widely practiced agricultural activity, with 72% of respondents engaged in the cultivation of staple crops such as maize, cassava, groundnut, and sorghum. This finding underscores the dominance of arable crop production within the area council's agricultural economy and reflects the central role of food crop farming in the livelihoods of rural and peri-urban households. The high prevalence of crop farming among youth aligns with the findings of Ayanwuyi *et al.* (2021) [7], who noted that crop production remains the entry point for many young farmers in northern Nigeria due to relatively lower capital requirements compared to other enterprises.

Vegetable production ranked second, with 61% of youth respondents engaged in growing tomatoes, peppers, leafy vegetables, and other horticultural crops. The proximity of Gwagwalada to Abuja's urban markets provides a strong economic incentive for vegetable farming, as these perishable crops command higher market prices within the city. The moderate engagement in livestock rearing (44%) reflects the mixed farming systems common to the study area, where cattle, goats, sheep, and poultry are kept alongside crop enterprises. Agro-processing activities, including grain milling, cassava processing, and palm oil extraction, were practiced by 39% of respondents, suggesting an emerging awareness among youth of value addition as a pathway to higher incomes from agriculture.

Fish farming was practiced by only 24% of respondents, likely due to the high capital requirements associated with pond construction and management. Similarly, tree crop and fruit production (31%) and bee-keeping (11%) were minority enterprises, reflecting the limited diversification of youth agricultural activities in the study area. Overall, the data indicate a moderate but uneven pattern of youth participation, concentrated in a few key enterprises with significant untapped potential in others.

Table 2: Level of Youth Participation in Agricultural Activities in Gwagwalada Area Council

S. No	Agricultural Activity	Frequency (f)	Percentage (%)
1	Crop farming (maize, cassava, groundnut, sorghum)	72	72.0
2	Vegetable production (tomato, pepper, leafy vegetables)	61	61.0
3	Livestock rearing (cattle, goats, sheep, poultry)	44	44.0
4	Agro-processing (milling, cassava processing, palm oil)	39	39.0
5	Tree crop and fruit production	31	31.0
6	Fish farming / aquaculture	24	24.0
7	Bee-keeping / apiculture	11	11.0
8	Other agricultural activities	8	8.0

*Multiple responses were allowed. Source: Field survey, 2025

Factors Influencing Youth Participation in Agriculture in the Study Area

The logistic regression analysis presented in Table 3 examined the socio-economic and institutional determinants of youth participation in agricultural activities in Gwagwalada Area Council. The model demonstrated a satisfactory fit, with a -2 Log Likelihood of 98.412, Cox and Snell R^2 of 0.312, McFadden's R^2 of 0.287, and Nagelkerke R^2 of 0.427, indicating that approximately 31–43% of the variation in youth agricultural participation was explained by the predictors included in the model. Among the nine predictors analyzed, five were statistically significant: age, educational level, annual income, extension contact, and group membership.

Age ($B = 0.183$, $p = 0.031$) was positively significant, suggesting that older youth within the 18–35 bracket are more likely to participate in agriculture. This finding is consistent with the expectation that as youth advance in age, they accumulate greater farming experience, social capital, and access to resources, making agricultural engagement more feasible (Aidoo & Mensah, 2021) [2]. Educational level ($B = 0.319$, $p = 0.004$) was also positively significant, with each additional level of education increasing the likelihood of participation by approximately 38%. Contrary to conventional narratives that associate higher education with agricultural exit, this result suggests that in the Gwagwalada context, educated youth may view agriculture as a viable business venture, particularly in the context of growing urban food demand (Bamidele *et al.*, 2022) [8].

Annual income ($B = 0.000014$, $p = 0.028$) was a significant positive predictor, confirming that financially resourced youth are better positioned to invest in agricultural inputs and equipment. Extension contact ($B = 0.891$, $p = 0.007$) was among the strongest predictors, with youth who had contact with extension agents being approximately 2.44 times more likely to participate in agriculture. This underscores the pivotal role of extension services in providing technical knowledge, motivating youth engagement, and linking young farmers to market opportunities (Ibrahim & Lawal, 2023) [12]. Group membership ($B = 0.724$, $p = 0.041$) was equally significant, confirming that belonging to a youth agricultural cooperative or association doubles the likelihood of participation by facilitating collective access to land, inputs, and information (Ogunleye *et al.*, 2020) [15].

Gender ($B = 0.387$, $p = 0.203$) was positive but not statistically significant, while household size ($B = 0.091$, $p = 0.072$) showed a marginally positive effect. Marital status ($B = 0.215$, $p = 0.341$), farm size ($B = 0.121$, $p = 0.107$), and farming experience ($B = 0.063$, $p = 0.085$) did not attain conventional significance levels, though they all exhibited expected directional effects. In summary, the findings indicate that institutional enablers — particularly extension contact and group membership — alongside economic and human capital endowments are the key drivers of youth agricultural participation in Gwagwalada Area Council.

Table 3: Logistic Regression Estimates of Factors Influencing Youth Participation in Agriculture in Gwagwalada Area Council

Variables	B (Coefficient)	Standard Error	Wald Statistic	p-value	Exp(B) (Odds Ratio)	Sig.
Gender	0.387	0.301	1.652	0.203	1.472	ns
Age (yrs)	0.183	0.085	4.637	0.031	1.201	**
Marital Status	0.215	0.231	0.864	0.341	1.240	ns
Household Size	0.091	0.051	3.182	0.072	1.095	*
Educational Level	0.319	0.112	8.107	0.004	1.376	***
Farming Experience (yrs)	0.063	0.037	2.900	0.085	1.065	*
Annual Income (₦)	0.000014	0.000006	4.411	0.028	1.000	**
Extension Contact	0.891	0.332	7.197	0.007	2.438	***
Group Membership	0.724	0.354	4.182	0.041	2.063	**
Constant	-3.142	1.124	7.822	0.005	0.043	***

Nagelkerke R² = 0.427, McFadden's R² = 0.287, -2 Log likelihood = 98.412, Cox and Snell R² = 0.312, Level of Confidence = 95%
 Note: Significance levels: ns = not significant (p > 0.10); * = p < 0.10; ** = p < 0.05; *** = p < 0.01. Source: Field Survey, 2025

Constraints Faced by Youth in Agricultural Enterprises in the Study Area

The results in Table 4 present the constraints identified by youth respondents as limiting their engagement in agricultural enterprises in Gwagwalada Area Council, assessed using a 5-point Likert scale with a decision threshold of 2.5. All constraints with mean scores equal to or above 2.5 were accepted as significant barriers.

Lack of access to land was the most critical constraint, recording the highest mean score of 4.52. This reflects the difficulty young people face in securing farmland in peri-urban areas where land is increasingly commercialized, customary ownership is entrenched, and inheritance systems often exclude youth. This finding is consistent with the growing literature emphasizing land access as the foremost barrier to youth entry into agriculture across West Africa (Ayanwuyi *et al.*, 2021; Nwachukwu & Akinsanmi, 2022) [7, 14]. The high cost of agricultural inputs, including seeds, fertilizers, and agrochemicals, was the second most severe constraint (mean = 4.39), with youth respondents expressing overwhelming concern about the affordability of production inputs in the context of rising prices and erratic government subsidy programs.

Inadequate capital for investment in agricultural enterprises ranked third (mean = 4.35), closely linked to the low income levels documented in the socio-economic profile of

respondents. Many youth respondents reported an inability to finance farming operations from personal savings, and without collateral, formal borrowing remains out of reach for most. Poor access to credit facilities from financial institutions and microfinance banks (mean = 4.21) compounded this challenge, as youth farmers are frequently excluded from loan facilities that require land title documents or guarantors. Weak and inconsistent extension services (mean = 4.08) constituted the fifth major constraint, reflecting a structural deficit in the delivery of technical assistance, market information, and capacity-building support to youth in the study area.

Lack of access to improved technologies and farm equipment (mean = 3.87) and poor rural road infrastructure limiting market access (mean = 3.62) were also identified as significant constraints. Low motivation due to poor profitability (mean = 3.44) and social perception of farming as unattractive (mean = 3.21) were accepted, reflecting the socio-cultural dimensions of youth disengagement from agriculture. Climatic variability and unpredictable rainfall (mean = 3.08) and limited access to irrigation facilities (mean = 2.94) were also significant. Inadequate storage and post-harvest infrastructure (mean = 2.71) was marginally accepted, while insecurity and fear of farm theft (mean = 2.34) was rejected as a major constraint.

Table 4: Constraints Faced by Youth in Agricultural Enterprises in Gwagwalada Area Council

Constraints	SA (5)	A (4)	N (3)	D (2)	SD (1)	Mean Score	Decision
Lack of access to land for farming	63	24	7	4	2	4.52	Accepted
High cost of agricultural inputs (seeds, fertilizers, chemicals)	55	27	10	5	3	4.39	Accepted
Inadequate capital for investment in agricultural enterprises	52	29	10	6	3	4.35	Accepted
Poor access to credit facilities from financial institutions	46	31	12	7	4	4.21	Accepted
Weak and inconsistent extension services	41	33	14	7	5	4.08	Accepted
Lack of access to improved technologies and farm equipment	36	32	18	9	5	3.87	Accepted
Poor rural road infrastructure limiting market access	31	28	22	12	7	3.62	Accepted
Low motivation due to poor profitability of farming	28	24	24	15	9	3.44	Accepted
Social perception of farming as unattractive for youth	24	21	27	18	10	3.21	Accepted
Climatic variability and unpredictable rainfall	19	22	29	19	11	3.08	Accepted
Limited access to irrigation facilities	17	20	30	21	12	2.94	Accepted
Inadequate storage and post-harvest infrastructure	14	18	28	24	16	2.71	Accepted
Insecurity and fear of farm theft/vandalism	8	12	22	31	27	2.34	Rejected

Source: Field survey, 2025

Conclusion and Recommendations

This study assessed the determinants of youth participation in agricultural activities in Gwagwalada Area Council, FCT, Abuja, Nigeria. The findings reveal that youth agricultural participation in the study area is shaped by a complex interplay of personal, socio-economic, and institutional factors. The majority of respondents were young males in their mid-twenties, predominantly single, with moderate to high levels of formal education and limited farming experience. Annual incomes were generally low, and access to agricultural extension services was limited to only 38% of respondents, while slightly more than half (52%) belonged to youth agricultural groups. Crop farming and vegetable production dominated the agricultural activities of youth in the study area, with other enterprises such as fish farming and bee-keeping attracting lower levels of engagement.

The logistic regression analysis confirmed that age, educational level, annual income, extension contact, and group membership were the significant determinants of youth participation in agriculture. These findings underscore the critical role of human capital, financial resources, and institutional support in enabling or constraining the entry and sustained engagement of youth in the agricultural sector. The major constraints identified — including lack of access to land, high input costs, inadequate capital, poor access to credit, and weak extension services — paint a picture of structural and systemic barriers that must be addressed if youth agricultural participation is to be significantly improved in Gwagwalada Area Council and similar peri-urban settings across Nigeria.

Based on the findings and conclusions of this study, the following recommendations are made:

1. Given that lack of access to land was identified as the most critical constraint, government and FCT authorities should develop and implement youth-friendly land allocation policies that provide young farmers with access to farmland through leasehold arrangements, land banks, or community land-sharing schemes. The FCT Agricultural Development Agency (ADA) should be mandated to maintain a register of available arable land that can be allocated to organized youth farming groups at subsidized rates.
2. Since extension contact was one of the strongest predictors of youth participation, there is an urgent need to revitalize and expand extension services in Gwagwalada Area Council. The FCT ADA and relevant agricultural agencies should increase the deployment of extension agents to rural and peri-urban communities, with a specific mandate to engage youth farmers through training sessions, farm visits, and field demonstration activities tailored to the needs of young agricultural entrepreneurs.
3. Given the significant influence of annual income and access to credit on youth participation, financial institutions and government agencies should develop and promote youth-specific agricultural credit schemes with flexible repayment terms, low interest rates, and non-collateral requirements. The Central Bank of Nigeria's Anchor Borrowers Programme and similar schemes should be deliberately expanded to include youth farmers in the FCT, with simplified application processes and group-based loan arrangements.
4. Since group membership was a significant determinant of participation, the formation, registration, and

capacity building of youth agricultural cooperatives and associations in Gwagwalada should be actively promoted. Government agencies and non-governmental organizations should provide organizational support, training in cooperative management, and linkages to market and financial institutions for registered youth agricultural groups.

5. To address the high cost of inputs and inadequate capital identified as major constraints, targeted input subsidy programs specifically designed for youth farmers should be introduced or strengthened at the area council level. Provision of subsidized starter packs comprising improved seeds, fertilizers, and basic farm tools to newly registered youth farmers would significantly reduce the financial barrier to entry and encourage more young people to take up agriculture as a productive livelihood option.

References

1. Adesugba M, Mavrotas G. Youth employment, agricultural transformation, and rural labour dynamics in Nigeria. IFPRI Discussion Paper No. 1483. International Food Policy Research Institute, 2021.
2. Aidoo R, Mensah JO. Determinants of youth participation in agriculture in the Brong-Ahafo region of Ghana. *Journal of Agricultural Extension and Rural Development*. 2021; 13(2):89-97.
3. Ajzen I. The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*. 1991; 50(2):179-211.
4. Ajzen I. The theory of planned behaviour: Frequently asked questions. *Human Behaviour and Emerging Technologies*. 2020; 2(4):314-324.
5. Ajayi AR, Okunade EO, Olaleye RS. Gendered patterns in Nigerian agricultural extension delivery. *Journal of Gender and Development in Agriculture*. 2021; 2(1):12-29.
6. Armitage CJ, Conner M. Efficacy of the theory of planned behaviour: A meta-analytic review. *British Journal of Social Psychology*. 2021; 40(4):471-499.
7. Ayanwuyi E, Fakayode SB, Olorunsanya EO. Constraints to youth participation in agriculture in Kwara State, Nigeria. *Journal of Agricultural Extension*. 2021; 25(1):55-65.
8. Bamidele FS, Abayomi OO, Esther OA. Youth participation in agriculture: Implications for food security in Nigeria. *Journal of Rural Development*. 2022; 41(3):297-312.
9. Doss C. Women and agricultural land ownership in sub-Saharan Africa. *World Development*. 2021; 135:105095.
10. FAO. The state of food and agriculture: Making agrifood systems more resilient to shocks and stresses. Food and Agriculture Organization of the United Nations, 2021.
11. FCDA. Federal Capital Territory agricultural development report 2022. Federal Capital Development Authority, Abuja, 2022.
12. Ibrahim H, Lawal AF. Farmers' associations as pathways to agricultural technology adoption in Northern Nigeria. *Journal of Agricultural Extension and Rural Development*. 2023; 15(2):89-102.
13. NBS. National population estimates and youth demographic data 2022. National Bureau of Statistics,

- Abuja, 2022.
14. Nwachukwu IN, Akinsanmi A. Determinants of youth participation in agricultural production in Ogun State, Nigeria. *Nigerian Journal of Agricultural Extension*. 2022; 23(2):144-156.
 15. Ogunleye KY, Ogundipe AA, Ogunleye OJ. Credit access and agricultural participation among rural youth in Oyo State, Nigeria. *African Journal of Agricultural Research*. 2020; 15(9):1254-1261.
 16. Okonkwo JE, Nwafor AO, Ijeoma CA. Education and agronomic decision-making among Nigerian farmers. *African Journal of Educational and Agricultural Studies*. 2023; 4(2):113-128.
 17. Oluwatayo IB, Oluwatayo TB. Youth unemployment and the challenge of agricultural transformation in Nigeria. *Development in Practice*. 2021; 31(1):34-44.
 18. Rogers EM. *Diffusion of innovations* (5th ed.). Free Press, 2003.
 19. Yamane T. *Statistics: An introductory analysis* (2nd ed.). Harper and Row, 1967.