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Youths' Participation in Rice Production in Kura Local Government Area of Kano State, Nigeria

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Abstract

This study examined youth participation in rice production in Kura Local Government Area of Kano State, Nigeria, using data from162 young rice farmers selected through a multi-stage sampling procedure. Semi-structured interview schedule was used to elicit primary data from the study area, which were analysed using descriptive statistics, Chi-square and Pearson correlation tests. Findings showed that 57.4% of respondents demonstrated a high level of participation in rice farming, motivated mainly by the desire to support community development ($\bar{x}$= 3.78), uphold family farming traditions ($\bar{x}$ =3.51), and earn income ($\bar{x}$=3.34). The Chi-suare and Pearson Product Moment Correlation test showed that educational attainment (χ^2 = 9.001, P-value = 0.029), access to extension services (χ^2 = 4.378, P-value = 0.036), farming experience (r = 0.220, P-value=0.005), frequency of extension visits (r = 0.212, P-value = 0.007), and proximity to markets (r = 0.180, P-value=0.022) were significantly associated youths' participation. Constraints to participation in rice production were inadequate access to land ($\bar{x}$= 2.66), insufficient capital ($\bar{x}$= 2.60), and rising costs of farm inputs ($\bar{x}$= 2.46). The study concluded that youth participation in rice production is moderately high. The study recommended improved access to credit and farmland, strengthening extension service delivery, and investments in rural infrastructural development.

Keywords: Youths, participation, rice production

Introduction

Agriculture plays a vital role in Nigeria's economy, employing a significant proportion of the population and contributing through food production, exports, and diverse activities including crop production, livestock, forestry, and fishing (Alabi et al., 2024). Among staple crops, rice has emerged as a strategic commodity due to its potential to stimulate economic development, create employment, enhance food security, promote social stability, and reduce economic migration (Fasakin et al., 2022). Despite these national aspirations, Nigeria continues to struggle with achieving self-sufficiency in rice production, even with targeted programs such as the Agricultural Transformation Agenda (ATA) and the Anchor Borrowers' Programme (Bichi et al., 2023).

Rice now ranks as the third most important food commodity in Nigeria (Izuogu et al., 2023). Although the country is the largest rice producer in West Africa, it paradoxically remains the highest importer in Africa due to a persistent production consumption gap. This shortfall is driven by factors such as recurrent flooding, insecurity, inadequate mechanization, climate variability, rising production costs, and declining household purchasing power (United States Department of Agriculture, 2023). Kano State endowed with favorable agro-ecological conditions and extensive irrigable land capable of producing up to 81% of Nigeria's rice demand (Attamah et al*.,* 2023) remains central to national rice production efforts. Yet, despite this potential, local farmers still struggle to meet state-level demand, resulting in continued importation of milled rice Datti et al., (2024).

A major contributor to low productivity is the limited participation of youths in rice farming (Fasakin et.al 2022). Constraints such as poor access to land, inadequate capital, weak irrigation infrastructure, insufficient modern technologies, limited market linkages, and general underinvestment in rural agriculture discourage youth participation (Alabi et al., 2024). Youth participation refers to the active participation of young people (typically aged 15–35) in various activities across the rice value chain, including cultivation, processing, marketing, and agribusiness. It encompasses not only their physical labour in farm operations but also their engagement in decision-making, adoption of modern technologies, and entrepreneurial ventures within the rice sector. Effective participation implies access to key resources such as land, credit, inputs, and extension services, as well as the capacity to innovate and improve productivity. Overall, it reflects the extent to which youths contribute meaningfully to rice production and influence its efficiency, sustainability, and output.

This trend is concerning because youths possess high energy, innovative capacity, risk-taking ability, and strong motivation to adopt new technologies qualities that position them as key drivers of agricultural transformation (Izuogu et al., 2025). However, many young people increasingly migrate to urban centers or pursue non-agricultural livelihoods due to unfavorable socio-economic and cultural conditions.

Given the importance of rice to national food security and the demographic advantage of Nigeria's youthful population, understanding the factors influencing youth participation in rice farming is essential. Despite the growing body of literature on youth participation in agriculture and rice farming in Nigeria, existing studies have largely focused on isolated determinants or localized case studies, with limited attention to the integrated factors influencing participation within the rice subsector. Moreover, there is inadequate empirical evidence linking youth participation to Nigeria's demographic potential and its implications for national food security. This creates a gap for a more comprehensive analysis of youth participation in rice farming and how this participation can be leveraged to enhance productivity and food security outcomes.

This study therefore ascertains the level of youths' participation in rice production activities and perceived reasons for participating in rice production determines the relationship between the socioeconomic characteristics and level of youths' participation in rice production and finally examines the constraints to youths' participation in rice production.

Methodology

This study was conducted in Kura Local Government Area (LGA) of Kano State, situated between Latitudes 8°25′49″N and 8°49′09″N, and Longitudes 11°41′07″E and 11°54′17″E. The LGA covers approximately 206 km² of cultivable land.

A multi-stage sampling procedure was adopted. First, Kura LGA was purposively selected due to its high concentration of rice producers. In the second stage, six communities (Danhassan, Gundutse, Karfi, Kosawa, Tafasa, and Kura) were randomly selected from the ten wards in the LGA. The final stage involved the random selection of youths who are involved in rice farming from each of the selected communities. Yamane's formula was used to compute the sample size, while the Bowley allocation formula determined the proportional sample distribution across communities. This resulted in a total sample of 162 respondents drawn from a sampling frame of 271 rice-farming youths.

Primary data were collected through a semi-structured interview schedule. Face and content validation was done by professionals in the Department of Agricultural Extension to correct for vagueness and improve consistency. The instrument for data collection was pre-tested. Internal consistency was measured and a Cronbach's Alpha coefficient of approximately 0.80 was obtained. The data obtained covered the socio-economic characteristics of rice farmers, their level of participation in rice production activities, perceived determinants of youths' participation, and constraints to youth participation in rice production.

Level of youth participation was measured on a 3-point Likert-like scale of always, rarely and never with a score of 3, 2, and 1 respectively. The maximum score achievable by a respondent was 24 and the minimum was 8. Weighted Mean Scores (WMS) were computed with a cut-off mean score of 2.0 indicating active participation in production operations. An overall participation mean score was computed and mean scores in the range of the overall mean and above (participation score ≥ 15.8) were categorised to reflect high participation while scores below the overall mean (participation score < 15.81) were categorised as low participation.

Perceived reasons for youth's participation in rice Production were measured on a 4-point Likert-type scale of strongly agree, agree, disagree and strongly disagree with a score of 4, 3, 2 and 1, respectively. Mean scores were computed and used to rank the perceived reasons for participation with a cutoff of 2.5.

The constraints were assessed using a 3-point Likert-type scale of severe, mild and not a constraint with a score of 3, 2 and 1, respectively. The cutoff means score of 2.0 adopted as the decision criterion. Mean values equal to or above 2.0 were considered major constraints, while those below 2.0 were regarded as minor constraints. Data analysis was conducted using both descriptive (frequency, percentage and mean) and inferential statistics (Chi Square and Correlation) techniques with the aid of SPSS version 20.

Results and Discussion

Youths' participation in Rice Production in Kura LGA, Kano State

The result in Table1 highlights the distribution of youths' according to their level of Participation in various rice production activities such as land clearing, soil tillage, planting, weeding, fertilizer application, irrigation, threshing, and storing. The results show that respondents were actively involved in most rice production operations, as evidenced by mean scores above the cut-off point. When arranged in descending order, planting ($\bar{x}$= 2.57) ranked highest, followed by land clearing ($\bar{x}$=2.49), fertilizer application ($\bar{x}$= 2.37), and weeding ($\bar{x}$= 2.35). These findings suggest that youths are predominantly engaged in labour-intensive operations that require considerable physical strength and energy.

However, activities such as soil tillage ($\bar{x}$= 2.04), irrigation ($\bar{x}$= 2.28), threshing ($\bar{x}$= 1.94), and storing ($\bar{x}$= 2.24) recorded relatively lower mean values, suggesting less frequent participation. This may be attributed to the fact that some of these operations require technical skills, capital, or equipment that may not be easily accessible to the youths'.

Table 1: Youths' participation in rice production activities

Activities	Never (%)	Rarely (%)	Always (%)	Mean (n=162)	Standard deviation
Land clearing	10.5	29.6	59.9	2.49	0.680
Soil tillage	27.8	40.1	32.1	2.04	0.775
Planting	4.3	34.0	61.7	2.57	0.577
Weeding	9.3	46.3	44.4	2.35	0.645
Fertilizer aapplication	10.5	42.0	47.5	2.37	0.688
Irrigation	15.4	40.7	43.8	2.28	0.718
Threshing	27.2	51.2	21.6	1.94	0.698
Storing	21.0	34.0	45.1	2.24	0.779

Source: Field Survey (2025)

Level of Youths Participation in Rice Production Activities

The results in Table 2 indicate that 57.4% of the respondents fell within the high participation category, whereas 42.6% were in the low participation group. The relatively high mean score (15.81) and a low standard deviation (2.31) suggest that most respondents were consistently involved in rice production activities, with little variation in participation levels among them. This implies a generally high degree of engagement of youths in rice farming within the study area with high propensity of easing youth unemployment and providing an opportunity to harness their potential to effectively drive agricultural transformation. This line of thought agrees with the position of Izuogu et al. (2025) who opined that youths possess high energy, innovative capacity, risk-taking ability, and strong motivation to adopt new technologies qualities that position them as key drivers of agricultural transformation.

This finding is consistent with that of Ogunkunle et.al (2023 who reported that rural youths tend to actively participate in agricultural production, particularly in labour-intensive enterprises such as crop farming, due to their physical strength and limited alternative employment opportunities.

Table 2: Level of youth participation in rice production activities

Level of participation	Frequency	Percentage	Mean (n=162)	Standard deviation
High	93	57.4	15.81	2.310
Low	69	42.6		

Source: Field survey (2025)

Perceived Reasons for Youths' Participation in Rice Production

The results presented in Table 3 show that the key perceived drivers of youth participation in rice production include contributing to societal development ($\bar{x}$= 3.78), preservation of family traditions ($\bar{x}$= 3.51), and income generation ($\bar{x}$= 3.34). Other motivating factors identified were the opportunity for gaining recognition ($\bar{x}$= 3.29), ease of access to production inputs ($\bar{x}$= 3.25), availability of ready markets ($\bar{x}$= 3.24), and favorable climatic conditions ($\bar{x}$= 3.24). The result suggests that youth motivation is driven by economic and socio-cultural gains. Apart from personal fulfilment such as the need to entrench societal development, preserve family heritage and gain recognition provision of the enabling environment such as access to productive inputs and market support youths' participation in rice production. This result aligns with the findings of Ovuoba et.al (2023), who reported that youth participation in agriculture is largely driven by the need to meet socioeconomic needs, improve livelihoods, benefit from available incentives, and access employment opportunities within the agricultural sector.

Table 3: Perceived reasons for youth's participation in rice production

Statement	SA (%)	A (%)	D (%)	SD (%)	Mean (n=162)	SD
Contribution to societal growth	83.3	13.0	2.5	1.2	3.78	0.543
Preserve family culture	61.1	30.2	6.8	1.9	3.51	0.707
Gain recognition	46.9	37.7	13.0	2.5	3.29	0.786
Income generation	46.3	45.7	3.7	4.3	3.34	0.749
High level of risk	30.2	43.8	21.6	4.3	3.00	0.834
Alternate livelihood	30.2	34.0	25.3	10.5	2.84	0.977
Social network	32.1	31.5	28.4	8.0	2.88	0.957
Government incentives	26.5	35.8	25.3	12.5	2.77	0.981
Access to market	53.1	25.9	13.0	8.0	3.24	0.964
Access to inputs	56.2	21.6	13.6	8.6	3.25	0.993
Access to Information	43.2	34.0	16.7	6.2	3.14	0.911
Technological infusion	28.4	40.7	24.7	6.2	2.91	0.880
Favorable climate	51.2	28.4	13.6	6.8	3.24	0.931
Support family need	56.8	21.0	8.6	13.6	3.21	1.077

SA=Strongly agree, A= Agree, D= Disagree, SD= Strongly disagree; Cut-off point = 2.50
Source: Field Survey (2025)

Relationship between Socioeconomic Factors and Level of Youths' Participation in Rice Production

Table 4 shows the relationship between socioeconomic characteristics and the level of youths' participation in rice production activities. The results reveal that some variables had a statistically significant relationship with the level of youths' participation in rice production. The chi-square test shows that level of education ($x^2 = 9.001$; $p = 0.029$), and access to extension services ($x^2 = 4.378$; $p = 0.036$) were significantly associated with level of participation in rice production, the result implies that the category of respondents with education and access to extension were different in their level of participation in rice production. It can be inferred that both education and access to extension services were key variables that were associated with high participation in rice production. Similarly, farming experience ($r = 0.220$; $p = 0.005$) number of extension visits ($r = 0.212$; $p = 0.007$), distance to market ($r = 0.180$; $p = 0.022$) have significant positive relationship with youths' participation in rice production. However, the correlation coefficients suggest a weak unidirectional relationship between the variables and participation in rice production. This implies that increase in any of these variables is related to high youths' participation in rice production.

This result is in partial agreement with the finding of Igene et al., (2025) who reported that access to farmland, access to financial service, infrastructural development, access to inputs and access to extension service significantly influence youths' interest in agriculture.

Table 4: Relationship between socioeconomic characteristics and level of youths' participation in rice production

Variables	X^2-value	D.F	r-value	P-value
Gender	0.000	1		0.903
Level of education	9.001*	3		0.029
Marital status	2.725	3		0.436
Access to credit	3.615	1		0.057
Access to extension service	4.378*	1		0.036
Membership to rice farmers association	1.497	1		0.221
Access to farm inputs	0.155	1		0.694
Access to market	0.639	1		0.424
Access to government support	0.202	1		0.653
Age			0.063	0.428
Income			0.124	0.116
Farming experience			0.220*	0.005
Household size			0.099	0.208
Farm size			0,077	0.333
Number of extension visit			0.212*	0.007
Distance to market			0.180*	0.022

*Significant at 5%
Source: Field Survey (2025)

Constraints Affecting Youths' Participation in Rice Production

Table 5 shows the major constraints to participation in rice production. Limited access to land ($\bar{x}$= 2.66) was ranked highest, this was followed by inadequate capital ($\bar{x}$= 2.60), high cost of inputs ($\bar{x}$= 2.46), and poor infrastructural development ($\bar{x}$= 2.43). Other constraints include inadequate access to irrigation facilities ($\bar{x}$= 2.27), climate change (2.25), and poor extension services (2.10) were also perceived as significant challenges affecting youth participation in rice production. However, peer group pressure ($\bar{x}$= 1.81), with a mean score below the cut-off value, was identified as the least constraint to participation. Limited access to land is a fundamental challenge impeding youths' participation in rice production particularly with the land tenure system where fragmentation is a major challenge in expansion of agricultural production. Most rural youths lack the startup capital to pursue production, and this is compounded by the high cost of production inputs that further limits their investment potential in the enterprise. Infrastructural developments in most rural communities are inadequate or absent for youths to leverage upon to support rice production. It can be inferred from this study that youths' participation in rice production is limited by a complex of challenges.

This finding is consistent with Igene et al. (2025), who reported that limited access to land, inadequate financial services, and lack of basic infrastructure are among the major constraints faced by youths engaged in agricultural activities.

Table 5: Constraints to youths' participation in rice production

Constraints	Mean (n=162)	SD
Inadequate capital	2.60	0.540
Limited access to land	2.66	0.525
High cost of inputs	2.46	0.642
Pest and diseases	2.30	0.679
Climate change	2.25	0.621
Inadequate access to irrigation facilities	2.27	0.685
Poor extension services	2.10	0.728
Low market price	2.30	0.738
Inadequate government support	2.30	0.713
Underdeveloped infrastructures	2.43	0.648
Inadequate access to credit facilities	2.22	0.621
Poor access to market information	2.17	0.626
Wrong perception of agriculture	2.07	0.800
Lack of information on agribusiness opportunities	2.34	0.715
Inadequate supply of labour	2.12	0.691
Peer group pressure	1.81	0.741
Inadequate access to inputs	1.87	0.765

Source: Field survey (2025)

Conclusion and Recommendations

The study concludes that youths in Kura Local Government Area of Kano State are actively engaged in rice farming, driven by the need to generate income, sustain family farming traditions, and contribute to food security within their communities. This

conclusion is based on data collected specifically from youths who were already participating in rice production activities, rather than the entire youth population in the study area.

Despite their level of engagement, several constraints were found to limit their full participation and productivity. These include restricted access to land, inadequate credit facilities, limited extension support, and poor rural infrastructure. Furthermore, the study revealed that access to extension contact, level of education, farming experience, and frequency of contact with extension agents significantly related to the level of youth participation in rice production.

Based on these findings, the study recommends that government and development agencies should prioritize youth-friendly credit schemes, strengthen agricultural extension delivery, and provide other access to subsidized production inputs such as seeds, fertilizers and agro-chemicals. Investments in rural infrastructure such as access roads, irrigation facilities, and input distribution centers are also essential. Furthermore, youths should be encouraged to join cooperative groups to improve access to credit, inputs, and markets. Government programmes like the Anchor Borrowers' Programme and Youth in Agriculture initiatives should be broadened and implemented transparently to reach more grassroots participants. Finally, government through the ministry of agriculture and other stakeholders should ensure that agricultural policies are framed to promote mechanization and use of modern technologies will make rice farming more attractive, efficient, and rewarding for young people.

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