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Assessment of youths' participation in agribusiness in Jigawa State, Nigeria

Gama, E. Nkwi*, Umar Mukhtar, Gabriel T. Ahungwa and Isa A. Ringim

Department of Agricultural Economics and Agribusiness, Faculty of Agriculture, Federal University Dutse, Nigeria.

*Corresponding author. Email: gamaemmanuel@gmail.com/gamaemmanuel@fud.edu.ng. Tel: +2348145005143.

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ABSTRACT: The agricultural sector in Nigeria is a major driver of economic growth and poverty reduction, given that it contributes to GDP and provides a source of employment to the population. This study was carried out to explore youth participation in agribusiness by examining the factors influencing their engagement and challenges encountered. Using a multi-staged sampling procedure, 288 participants were randomly selected from 1135 entrepreneurs for the study. Respondents were selected from the four agricultural zones that make up Jigawa State based on the concentration of entrepreneurs in each zone. Data was analysed using descriptive statistics (mean, minimum, maximum, and percentage), Likert scale, and binary logistic regression models. Results showed that the participants were on average 31.2 years old; predominantly (81.6%) male; and the majority (74.3%) were married, with a mean household size of 4 members. About 66% of the participants were educated up to secondary level and had entrepreneurial experience of 16 years. The logistic regression results showed that agribusiness participation was negatively influenced by sex, marital status, household size, level of education, and high tax rate, and different types of taxes on the same commodity. The odds of an increase in one unit of these variables showed a decrease in participation in agribusiness. Constraints identified were high investment capital requirements, different operational taxes, fixed input costs, and inadequate marketing skills. The study concluded that the youth were mostly educated and, under the right conditions, could participate in extensive agribusinesses. It was recommended that capacity-building programmes be organised to improve the skills of the youth through workshops, conferences, and seminars. Robust agricultural policies should be implemented by ensuring adequate interaction with relevant stakeholders.

Keywords: Agribusiness, entrepreneurs, Jigawa State, youth participation.

INTRODUCTION

Agriculture and agribusiness account for nearly half of GDP in Africa. The agribusiness sector can portray the importance in terms of input supply, processing, marketing, and retailing that further add to GDP. The agribusiness sector is pivotal in that it contributes not only to employment generation but also to the development of the national income. It plays a part in the country's economic stability in the country. According to Chawki (2018), agriculture (and by extension, the agribusiness sector) will be a trillion-dollar industry in sub-Saharan Africa by 2030, highlighting its critical role in economic transformation. While agriculture alone accounts for 24% of GDP, agribusiness activities (input supply, processing, marketing, and retailing) contribute about 20% to the Nigerian economy (FAO, 2022). As a result, the agribusiness sector presents opportunities that can alleviate not only the food needs of the country but, youth unemployment, as well as improve the livelihoods and food condition of the country. The annual rise in the rate of unemployment among the youths in Nigeria is increasing by the day, and therefore, is worrisome. Information from NGYouthSDGs (2024) puts the general unemployment rate at 33% of the total workforce in the country, with the youth (from 15-35 years) making up 70 million of the total population. The study further puts the national youth unemployment rate at over 40%, with variations across

states. Osabuohien *et al.* (2018) report that a population of 85 million people was employed in the agribusiness sector, 65% of this population was based in local communities, while 20% were involved in food processing, marketing, and other economic activities outside their local areas of residence. It has been shown that youth participation in agribusiness activities halts the youth unemployment rate in Nigeria (Fawole and Ozkan, 2019). This emphasises the importance of the agribusiness sector in providing livelihoods for millions and offers the potential to drive industrialisation and economic diversification.

With the increasing level of economic decline and attendant low economic performance, the Nigerian government has, over time, intended to boost the performance of food self-sufficiency. The government had introduced policies to stimulate the youth's interest in agribusiness. To achieve this objective, policies and projects were put in place to address some of the challenges encountered in the process of agribusiness practices. These programs and projects failed to encourage the youth to engage in agriculture and agribusiness activities. This shows that the probability of youth participation in agribusiness activities in the country is generally low (Uwa *et al*., 2016). While many factors are responsible for the low participation of youths in agribusiness, access to finance stands out as an important factor.

Despite barriers to youth participation in agribusiness, youths can still be identified to engage at different levels within the agricultural enterprise, particularly the agribusiness sector. Examples abound of youths who developed innovative and alternative ideas, methods, approaches, and enterprises that will improve the agribusiness sector in aspects like production, cleaning, sorting, processing, various forms of value addition, storage, marketing, and distribution (Generation Africa, 2019). The agricultural sector provides much to the economy; however, youth participation in agribusiness is not adequate to harness the innovative potential and energy of young people. Increased adaptation to new technologies and entrepreneurial spirit can drive significant advancements in productivity and efficiency in the agribusiness sector. Low youth participation in the agribusiness sector may be occasioned by no access to land, inappropriate financing, and no possibility of training. There is an emerging trend, particularly among youth pioneers who show an emerging and distinct approach to youth participation in agribusiness, particularly in Jigawa state. Understanding the factors influencing participation provides a useful pointer on youth-transformative pathways for engagement and productive employment in the agribusiness sector.

The study aimed to provide actionable insights and recommendations for policy-makers, development organizations, the government, and participants to enhance youth participation in agribusiness, leading to sustainable agricultural development and economic growth. Specifically, the study: (i) describes the socioeconomic factors influencing youths' participation in agribusiness activities, (ii) determines the factors influencing the participation of the respondents, and (iii) identifies the constraints affecting the participation of these youths.

METHODOLOGY

This study was conducted in Jigawa State. The state is located in northwestern Nigeria between latitudes 11°N and 13°N and longitudes 8°E and 10.15°E (Figure 1). The informal sector dominates economic activities and is made up primarily of agriculture, which characterises the economy as a significant economic activity. The population of Jigawa State is engaged in subsistence farming, while trade and commerce are undertaken on a small and medium scale, especially in agriculture, livestock, and consumer goods. Other economic activities are blacksmithing, leather, tailoring services, auto repairs, metal works, carpentry, tanning, dyeing, food processing, and masonry.

Sampling procedure and sample size

The multi-stage sampling procedure was used to select respondents for this study. The first stage involved a purposive selection of two Local Government Areas (LGAs) from each of the four agricultural zones that make up Jigawa State based on the concentration of youth entrepreneurs in the selected LGAs. The LGAs selected were Dutse and Kiyawa in Zone I, Gumel and Ringim in Zone II, Kazaure and Roni in Zone III, and Hadejia and Kirikasama in Zone IV, respectively. The second stage involved the purposive selection of 4 villages from each of the selected LGAs, giving a total of 32 villages. The third stage involved the random selection of 288 respondents from a population of 1135 youth entrepreneurs obtained from the FADAMA-III database of registered youths actively engaged in agricultural entrepreneurial activities (Table 1).

Primary data were used for the study. The data was collected by an interview schedule using a semi-structured questionnaire. The questionnaire was designed to ensure the relevance of solicited information in achieving the study objectives. Specifically, data were collected on important variables that could be classified into demographic information, entrepreneurial activities, and agribusiness characteristics. The data used for the study were collected by trained enumerators.

Methods of data analysis

Both descriptive and inferential statistics were used to analyse the data. Specifically, the socioeconomic characteristics of youth entrepreneurs' options were analysed

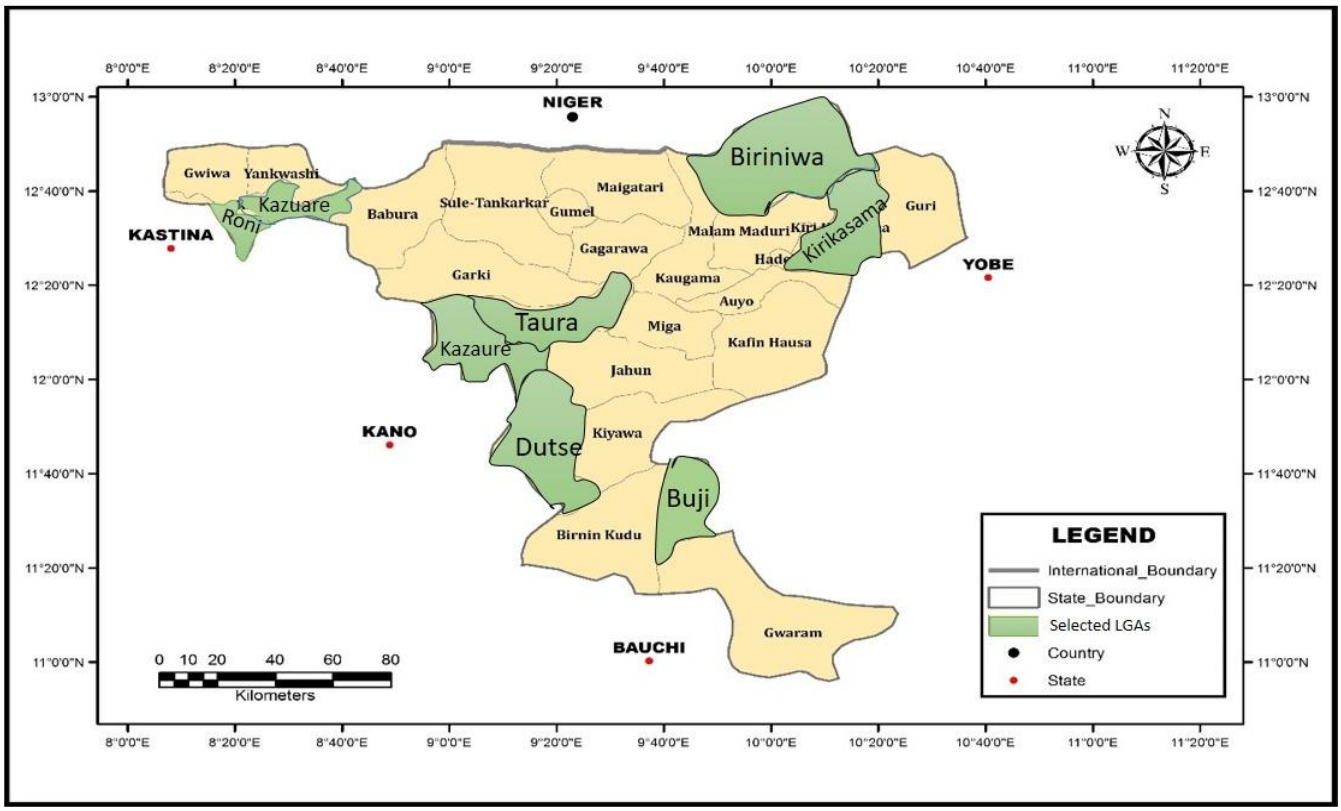

Figure 1. Map of Jigawa State (Source: OpenAfrica, 2024).

using means, frequency counts, percentages, and a Likert scale. The factors influencing youth participation in agribusiness enterprises were analysed using the binary logistic regression model. The decision by the youths to participate or not participate in agribusiness enterprises was measured as a dichotomous variable. This assumes the value of 1 if a youth participated and 0 otherwise, following the works of Adeyanju *et al*. (2021). The advantage of the model is that the probabilities are bound between 1 and 0. Logistic regression can be applied in agribusiness to determine whether or not entrepreneurs obtain maximum utility from a given enterprise. Logistic regression (equation i) tests the influence of the hypothesised explanatory factors on the dependent variable, the choices of agribusiness enterprises, and the probability of participation in entrepreneurship (Obisesan, 2019).

$$Y_i = X_i, \beta_i + \mu_i \quad \text{..... (i)}$$

Where: Y_i is 1 for those who participate and 0 otherwise. X_i represent the explanatory variables; β_i represent the parameter to be estimated, μ_i the stochastic error term. The explicit form of the equation was presented as;

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \cdots + \beta_{10} X_{10} + \mu_i$$

Where; X_1 = age (years); X_2 = gender (1 = male, 0 = female); X_3 = marital status (1 = married, 0 = otherwise); X_4 = household size (number); X_5 = education (years); X_6 = experience in production, processing, or marketing (years); X_7 = access to credit (1= access and 0= no access); X_8 = value of agricultural credit or grant (Naira); X_9 = cooperative membership (member 1, non-member 0); X_{10} = number of extension contacts (number of visits per year); β_0= slope or intercept; β_1-β_{10} = coefficient of the regressors.

RESULTS AND DISCUSSION

Socioeconomic characteristics of youth entrepreneurs

Results from Table 2 show the age distribution of youths engaged in agribusiness activities. The result shows that 56.1% of youth entrepreneurs were between 19 and 28 years, and the mean age was 31 years. This revealed that the majority of youth entrepreneurs were of an active age. A study by Olugbola (2017) shows that youths with entrepreneurship skills can transform business ideas into functional businesses. Adeyanju *et al.* (2021) had similar results and suggested the need to encourage and outscale programmes to improve access to agribusiness enterprises.

Table 1. Sampling size selection of youth entrepreneurs.

Agric Zones	LGAs	Villages	Sampling frame	Sample size
Zone I	Dutse	Dutse	50	13
		Chamo	41	10
		Baranda	34	9
		Kudaii	36	9
	Kiyawa	Andaza	42	11
		Katanga	28	7
		Kwadabe	35	9
		Dungu	40	10
Zone II	Gumel	Danfarantama	36	9
		Maidabara	43	11
		Dan Amma	24	6
		Nasarawa	38	10
	Ringim	Ringim	48	12
		Zangon Kanya	34	9
		Dabi	38	10
		Sintimawa	36	9
Zone III	Kazaure	Farundaba	28	7
		Gada	31	8
		Tudun Wayo	25	6
		Abujar galadanci	26	7
	Roni	Kagadama	26	7
		Dansure	40	10
		Unguwar Mani	30	8
		Gora	38	10
Zone IV	Hadejia	Guducin	42	11
		Aguyaka	30	8
		Bariki	46	12
		Mai Alkama	42	11
	Kirikasam	Kirikasama	32	8
		Tarabu	38	10
		Madaci	28	7
		Tuwankalta	30	8
Grand Total	**8**	**32**	**1135**	**288**

Source: Survey, 2024.

The results further revealed that 81.6% of the respondents were males, while 18.4% were females. A study by Akronga and Bekele (2022) explained that males outnumber females in agribusiness because women are more attracted to domestic tasks than farm work. The level of education showed that 66% attained up to secondary education, while 22.9% did not attend any formal education. Saeed *et al.* (2015) showed that entrepreneurship education enhances agribusiness decisions. It was concluded that education offers a level of exposure to agribusiness management, with a positive influence on an individual's willingness to exploit available agribusiness opportunities. In some instances, well-educated youths may prefer white collar jobs to participation in agribusiness activities.

The results also revealed that 85.8% of respondents had household sizes from 1-6 members, with an average of 4 persons. The table further revealed that 56.9% members belonged to agricultural cooperatives, while 61.5% had no contact with extension agents. This implies that more respondents will not access agribusiness services, given the limited access to extension services. On access to credit, 57.3% had no access. This could be explained by a lack of collateral and a tedious application process.

Table 2. Distribution of respondents based on socioeconomic characteristics.

Variable	Frequency	Percentage	Min	Max	Mean
Age (years)					
19-29	94	32.6			
30-39	166	57.6	19	41	31.2
40-49	28	9.8			
Sex					
Male	235	81.6			
Female	53	18.4			
Marital Status					
Single	74	25.7			
Married	214	74.3			
Level of Education					
Non-Formal	66	22.9			
Primary	32	11.1			
Secondary	57	19.8			
Tertiary	133	46.2			
Household size					
01-06	247	85.8			
07-12	38	13.2	1	16	4
13-18	3	1.0			
Farming experience (years)					
04-14	176	61.1			
15-24	87	30.2	5	25	16
25-34	25	8.7			
Cooperative Membership					
Member	164	56.9			
Non-member	124	43.1			
Extension contacts					
Contact	111	38.5			
No Contact	177	61.5			
Access to credit					
Access	123	42.7			
No Access	165	57.3			

Source: Field Survey (2024).

Factors affecting youth participation in agribusiness activities

Table 3 shows binary logistics results of factors affecting youths' participation in agribusiness activities. The coefficient for age of respondents was negative and had a significant ($p<0.01$) effect on youths' participation in agribusiness activities. The negative coefficient shows that as age increased by one year (estimate = -1.264, $p < 0.01$), the odds (probability) of increased participation by the youths in agribusiness activities decreased by 0.282. This shows that an increase in age is associated with a lower chance that entrepreneurs engage in agribusiness enterprises. The results are expected, given that young entrepreneurs are ready to take more risks by trying out various agribusiness activities, unlike the elderly, who

Table 3. Binary Logistic Regression**.**

Variables	B	S. E	P-Value	Odd Ratio
Age (years)	-1.264***	0.019	0.00	0.282
Sex (dummy)	-0.015	0.391	0.42	0.985
Marital status	-0.559*	0.334	0.09	0.572
Household size (number)	-0.069*	0.040	0.08	0.933
Years of experience (years)	0.025	0.020	0.20	1.026
Membership in cooperative associations	-0.200	0.290	0.49	0.819
Years of education (years)	-0.066***	0.022	0.00	0.936
Access to credit (dummy)	0.342	0.284	0.22	1.408
The volume of credit or grant received	0.002	0.082	0.74	0.018
Extension visits per year	-0.006	0.076	0.93	0.994
Model statistics				
Cox & Snell estimate	0.548			
Neglekerke estimate	0.301			
Model chi-square (df 8)	274.11**			

Source: Field Survey, 2024; n = 288***p<0.01 **p<0.05 *p<0.

prefer activities whose results are known. However, Mullu obtained positive results and opined that the more years of age of the respondents would significantly contribute to youth participation in agribusiness.

The coefficient for marital status was -0.559, showing that a change in marital status from single to married was associated with the odds (probability) that youth entrepreneurs engaged less in agribusiness activities. The p-value was 0.09, showing a weakly significant result at the 10% (P<0.01) level. The odds ratio of 0.572 showed that a change in marital status was associated with the probability of a reduction in agribusiness activities by the entrepreneurs. This may be explained by the need to spend more on family upkeep by supporting their families financially and building their careers, leaving less resources for investment in agribusiness. Adeyanju *et al.* (2021) had positive results and explained in terms of participation to improve the welfare of the family.

The coefficient for household size was -0.069 and was significant at the 10% level. The odds ratio of 0.282 indicates that a unit increase in household size will reduce the odds (probability) of youth entrepreneurs engaged in agribusiness activities by 0.282. As household size increases, more resources are required for family upkeep, taking up resources that could have been used for agribusiness activities. Boye *et al*. (2024) in their study on youth engagement in agribusiness observed that household size had positive effects. They opined that a larger household size will participate in agribusiness activities to improve the family welfare.

The coefficient for years of education was negative (-0.066) and significant at the 1% level. This shows that if the years in education increase by a unit, the probability that youth entrepreneurs undertake agribusiness activities decreases. The odds ratio of 0.936 indicates that a unit increase in years of education reduces the odds of participation in agribusiness activities. While education increases, many youths develop an interest in white-collar jobs rather than agribusiness activities. Mullu (2023) had positive results and explained that education in agribusiness enables the perception of society towards agribusiness and transforms the sector to a lucrative entity.

Constraints militating against agribusiness development in Jigawa State

The result of constraints encountered by youths in an attempt to participate in agribusiness activities is presented in Table 4. The various attributes were rated in a 4-point Likert-scale-type question as Very Severe (VS), Moderately Severe (MS), Less Severe (LS), and Not Severe (NS). The high percentage for each series revealed its importance concerning participation to agribusiness activities (Nwaiwu and Udenwa, 2022). The results showed that high capital required for investment, high cost of fixed assets, no grants to boost access to agribusiness, and low access to institutional credits were very severe in limiting access to agribusiness activities. A study by Adigun *et al*. (2017) on youths' participation in agricultural production as a panacea to agribusiness development had similar results and encouraged financial institutions to make credits available to youths interested in agricultural activities at low interest rates. A further analysis shows that poor extension services, inadequate skills, poor market control, and poor access to agribusiness processing equipment and improved transportation equipment were moderately severe in influencing access to agribusiness activities. Abdullahi *et*

Table 4. Constraints to entrepreneurship activities among youth in Jigawa State.

Constraint	Severity	Frequency	Percent
High investment capital requirement	VS	147	51.04
	MS	110	38.19
	LS	22	7.64
	NS	9	3.13
Poor extension service	VS	82	28.47
	MS	135	46.88
	LS	53	18.40
	NS	18	6.25
High costs of fixed assets	VS	144	50.00
	MS	106	36.81
	LS	32	11.11
	NS	6	2.08
Inadequate skills	VS	62	21.53
	MS	150	52.08
	LS	55	19.10
	NS	21	7.29
Labour requirement for agribusiness tasks	VS	104	36.11
	MS	142	49.31
	LS	35	12.51
	NS	7	2.43
Poor market control	VS	72	25.00
	MS	113	39.24
	LS	80	27.78
	NS	23	7.99
No grants from the government or NGOs	VS	130	45.14
	MS	71	24.65
	LS	54	18.75
	NS	33	11.44
Poor entrepreneurial skills	VS	80	27.78
	MS	122	42.36
	LS	58	20.14
	NS	28	9.72
Lack of access to processing and transportation	VS	73	25.35
	MS	100	34.72
	LS	92	31.94
	NS	23	7.99
Poor access to institutional credit	VS	137	47.57
	MS	70	24.31
	LS	50	17.36
	NS	31	10.76
Multiple taxations	VS	51	17.91
	MS	81	28.47
	LS	91	32.04
	NS	61	21.53

VS = very severe, MS = moderately severe, LS = less severe, NS = not severe (**Source:** Author analysis, 2024).

al. (2023) had similar results and recommended community-driven development through empowerment programmes. Multiple taxation was perceived as less severe in restricting participation in agribusiness activities. This was premised on the fact that transportation of agricultural inputs was taxed by different LGAs on transit in addition to finished commodities and services that pay for value-added tax.

Conclusion

The study was conducted to assess youths' participation in agribusiness. The results showed that the average age of the farmers was 31.2 years. The respondents were mostly male, while 74.3% were married. Further analysis showed that 66% attained up to secondary education, and the mean household size of the respondents was 4 persons, and a farming experience of 16 years. While about half of the respondents belonged to a cooperative society, 61.5% did not have access to extension services, and 57.3% had no access to credit. Results of binary logistic regression to determine the factors influencing the level of participation in agribusiness activities showed that age, marital status, household size, and years of education were significant, but negatively influenced participation to agribusiness activities. The negative coefficient shows that as these variables increase by one unit, the odds (probability) of increased involvement of the youths in agribusiness activities decrease. On factors affecting participation in agribusiness by youths in the study area, high investment capital requirements, high cost of fixed assets, inadequate grants from NGOs, and poor access to credit were identified as severe factors. Further analysis showed that poor extension services, inadequate skills, poor labour requirement, poor market control, low entrepreneurial skills, poor processing and transportation were moderately severe in limiting youths' participation to agribusiness activities. Multiple taxation was less severe in influencing youths' participation.

Addressing these constraints will leverage opportunities and strengthen the agribusiness sector. Collaborative efforts should be established between the public and private sectors to drive economic growth. This could be achieved by integrating youth-oriented activities like education, soft loans, appropriate skills, modern equipment, and a reduction of some taxes, especially on agricultural inputs. Government policy should be directed toward the establishment of infrastructure, like rural roads, as well as strengthening the extension services.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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