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Involvement of Youth in Cassava Production under Value Chain Development Programme in Anambra State, Nigeria

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Abstract

This study assessed youth's involvement in the cassava value chain in Anambra State, Nigeria. The Taro Yamane sample size formula was used to determine the sample size of 387 respondents. A multistage sampling procedure was used to collect data from 387 respondents using an interview schedule. The data collected were analysed using percentages, mean scores and principal factor analysis. The result revealed that the respondents recognised the conveyance of farm inputs (52.2%), agrochemical applications (50.1%), use of appropriate tools (52.7%), sorting and cleaning (53.0%), and extraction of cyanide (52.7%) as cassava value chain activities. Respondents had a high engagement in production ($\bar{x}$=2.50), post-harvesting ($\bar{x}$=2.53), value addition ($\bar{x}$=2.51), and marketing/distribution ($\bar{x}$=2.51). Findings from PFA revealed that the high cost of labour (0.875), limited youth involvement in government policy (0.802), and inability to access land for farming (0.821) were the constraints affecting youths' involvement. The findings concluded that youths were involved in the cassava value chains but at varying degrees of interest. The government should reduce young farmers' economic burdens by providing subsidies such as low-interest loans, strengthening youth-led agricultural initiatives through meaningful policy engagement, and improving access to farmland to make agriculture more attractive and competitive.

Keywords: Involvement of youth, cassava production, value chain development

Introduction

Many young people in Nigeria struggle to find gainful employment, leading to frustration, poverty, and a sense of hopelessness (Virk et al., 2024). The limited availability of jobs contributes to dissatisfaction and restiveness among the youth (Uchemba et al., 2026). There is no quick way to generate employment opportunities

for youth in Nigeria other than through targeted policies and investments, such as job hubs and agricultural programmes (Uchemba et al., 2026).

Youth involvement in agricultural programmes is important because it replaces the ageing agricultural population, improves agriculture's image, reduces rural-urban migration, which contributes to urban overcrowding, reduces youth unemployment and its associated social problems (Uchemba et al., 2025). It is important to involve youth in the planning, design, and implementation of the agricultural programmes to ensure their unique needs and perspectives are considered (Uchemba et al., 2025).

To explore the significant potential of Nigeria's cassava value chain, the Federal Government introduced policies and programmes. Some of the programmes are the Youth Agricultural Entrepreneurship Programme (YAGEP), Anchor Borrowers' Programme (ABP), and the International Fund for Agricultural Development (IFAD) assisted Value Chain Development Programme (VCDP), among others (Uchemba et al., 2025).

IFAD VCDP was designed to improve both the cassava and rice value chains for small-scale farmers in six selected States of the Federation, with an additional State added after the programme was extended, bringing the total to nine States. The States include Taraba, Ogun, Niger, Nasarawa, Enugu, Kogi, Ebonyi, Benue, and Anambra. The programme's mandate is to improve the income, food self-sufficiency, and production capacity of poor rural farmers (women and youth) engaged in the sustainable production, processing, and marketing of rice and cassava (Maimuna et al., 2025).

There is insufficient empirical evidence on youth involvement in the cassava value chain under the VCDP in Anambra State, Nigeria. However, some general studies examine youth involvement in agriculture and value chains in Nigeria. Faleke et al. (2023), Hassen et al. (2025), Henning et al. (2022), and Ibrahim (2022) focused on promoting youth agripreneurship for sustainable agriculture in Nigeria. This study discussed the role of value chain development in promoting youth agripreneurship for sustainable agriculture in Nigeria. The research did not specify the cassava value chain and youth involvement. The lack of evidence on these important aspects limits the scope and calls for discussion. It is against this backdrop that this study seeks to identify the cassava value chain activities of the VCDP, determine the extent of youth's involvement in the cassava value chain activities, and identify the constraints to youth involvement in the cassava value chain activities of the VCDP.

Methodology

Anambra State lies between latitude 5º 32^{1} and 6º43^{1}N and longitude 6º43^{1} and 7º22^{1}E. The population for this study consists of young farmers involved in the different stages of the cassava value chain under IFADVCDP in Anambra State. The study utilised a Taro Yamane sample size determination. Sampling of respondents was done through a multi-stage procedure. Ogbaru, Orumba North, Orumba South, Ihiala, Awka North, Anambra West, Anambra East, and Ayamelum were purposively selected in the first stage due to the presence of the IFAD VCDP. In the second stage, the stratum formula used to allocate sample strata was used to select the appropriate sample size for each LGA, ensuring equal opportunity for all cassava value chain actors participating in the programme. In the third stage, only youths aged 18–35 (as specified in the programme) involved in the cassava value chain

were randomly selected by stratum. This brought the sample size to 387 cassava value chain participants.

Data were collected using an interview schedule. The instrument consists of questions to identify cassava value chain activities, investigate the extent of youths' involvement at different stages of the cassava value chain, and identify constraints to youth involvement in the VCDP. The instrument was subjected to close examination by 2 professionals in relevant fields at Chukwuemeka Odumegwu Ojukwu University to ensure content validity. Respondents rated the extent of youths' involvement in cassava value chain activities on a 4-Point Likert scale, with scores of 4, 3, 2, and 1 to “very high,” “moderately high,” “low,” and “very low.” A mean score below 2.5 indicates a low level, while scores of 2.5 or above indicate a high level. Ratings of factors hindering youth involvement in the programme were on a 5-Point Likert scale, with scores of 5, 4, 3, 2, and 1 to “very severe,” “severe,” “moderately severe,” “slightly severe,” and “not severe.” A mean score below 3.0 indicates not severe, while scores of 3.0 or above indicate severe. The data were further subjected to Principal Factor Analysis (PFA), with a KMO value of 0.5 or above.

Results and Discussion

Cassava Value Chain Activities of the VCDP

Information on respondents’ value chain activities is presented in Table 1. In the original project design, the programme's core objective is to enhance production, processing, and marketing. Again, during the Additional Financing (AF) phase of the programme, the project implementation unit introduced additional agribusiness opportunities to diversify the incomes of women and youth. The agribusiness opportunity includes the upstream sector (conveying farm input, agro-input shops or selling of certified inputs, training, and capacity-building services, facilitating access to credit and stem multiplication), harvesting (timing the harvest based on maturity, use of appropriate tools for harvesting and handling and transporting harvested cassava), postharvest handling (sorting and cleaning, removing soil and debris, peeling and washing), and value addition (flour, tapioca, starch, snacks, and animal feeds). Some women and youth involved in the core areas (production, processing, and marketing) migrated to newly formed agribusinesses.

Findings in Table 1 reveal that 52.2% of the respondents recognised the conveyance of farm inputs, 51.4% access to credit, and 50.9% training and capacity-building services as upstream activities. Cassava farmers' recognition of cassava value chain activities is moderate, indicating awareness that leads to effective linkages. In accordance with the programme’s mandate, the cassava value chain has employment potential. Cassava has created jobs for many rural women (Udemezue et al., 2024).

Also, Table 1 shows that (50.1%) of respondents were aware of fertiliser and other agrochemical applications as a production activity. Awareness reflects an understanding that favours participation and leads to the adoption of good agronomic practices. This contradicts the finding that three-quarters of the studied population had no information about the use of improved agronomic practices on farms (Phenson et al., 2025).

Additionally, Table 1 reveals that (52.7%) of the respondents were aware of the use of appropriate tools for harvesting activity. The respondents' awareness of the need

to harvest cassava with appropriate tools implies that improper harvesting could lead to wastage, which would eventually result in a supply shortage, contradicting the intervention's mission. Losses occur during harvesting (Chiekezie et al., 2023).

Subsequently, 53.0% of the respondents were aware of sorting and cleaning, and 50.4% were aware of peeling as a post-harvest activity (Table 1). The respondents understand the programme’s mission and know that cassava's viability depends on post-harvest handling. Cleaning, peeling, and washing cassava roots are more appealing to consumers and buyers, thereby improving the product's marketability (Mikidadi et al., 2023).

In addition, 52.7% of the respondents were aware of pressing to extract cyanide, and 50.1% were aware of drying as a processing activity (Table 1). This is evidence that there are more women in the programme. The cassava processing stage was the most active function in the cassava value chain performed by women (Victoria et al., 2023).

Table 1 shows that respondents recognised snacks (56.6%), starch (53.0%), and flour (51.2%) as value-added activities. The respondents provided an additional source of income—for example, by converting cassava into flour, starch, and chips. Cassava flour and garri were the most available cassava products among rural households (Anyoha et al., 2023).

Furthermore, Table 1 reveals that the respondents were aware of the distribution of cassava products (51.9%), packaging cassava products (51.4%), and branding (50.1%) as marketing and distribution activities. This tends to create an attractive market for the agro-industry. Cassava is a choice crop for rural development, poverty alleviation, employment generation, economic growth and food security (Sheela et al., 2024).

Table 1: Cassava value chain activities by respondents

Value chain activities	YES (%)
Upstream sector	
Conveying farm input	52.2
Agro-input shops or the selling of certified inputs	48.1
Training and capacity-building services	50.9
Facilitating access to credit	51.4
Stem multiplication enterprise	48.6
Production	
Land preparation	49.1
Planting	48.8
Weed control	44.7
Application of fertiliser and other agrochemicals	50.1
Harvesting	
Timing the harvest based on maturity	49.4
Use of appropriate tools for harvesting	52.7
Handling and transporting harvested cassava	49.6
Postharvest handling	
Sorting and cleaning	53.0
Removing soil and debris	49.4
Peeling	50.4
Washing	47.3
Processing	
Grating or chipping cassava root	48.6
Pressing to extract cyanide	52.7
Fermentation	48.1
Drying	50.1
Grinding	44.7
Value addition	
Flour	51.2
Tapioca	44.7
Starch	53
Snacks	56.6
Animal feed	46.3
Marketing & distribution	
Branding	50.1
Packaging cassava products	51.4
Distribution of cassava products	51.9

Source: ***Field Survey Data, 2026***

Extent of Youths' Involvement in the Cassava Value Chain Activities of the VCDP

Table 2 reveals that the respondents were involved in agro-input shops for the sale of certified inputs ($\overline{x}$=2.57), and the conveyance of farm input ($\overline{x}$=2.54) as upstream

activities. This enhances input accessibility. Youth involvement in upstream activities reflects their integration into the cassava value chain activities (Eliza et al., 2025).

Additionally, in Table 2, respondents were involved in weed control ($\overline{x}$=2.57), and land preparation ($\overline{x}$=2.53) in the production stage. Involvement in the cassava production stage contributes to productivity, optimising yields and strengthening value chain performance. Respondents' involvement in proper land preparation, planting techniques, and pest management contributes to improved cassava root development (Simon et al., 2023).

Subsequently, Table 2 shows that youths were involved in handling and transporting harvested cassava ($\overline{x}$= 2.50). Handling and transporting harvested cassava enhances value chain efficiency, food sustainability, and job creation. This contradicts the notion that respondents are not actively engaged in harvesting and in food availability and security (Mbinda & Mukami, 2022).

Also, Table 2 reveals that the respondents were involved in washing ($\overline{x}$=2.58), sorting and cleaning ($\overline{x}$=2.57), and removal of soil and debris ($\overline{x}$=2.50). The respondents' involvement in proper post-harvest handling ensures that only healthy tubers are processed, leading to better-end products. Cleaning and washing cassava roots reduce the risk of contamination during processing, resulting in higher-quality cassava-based products such as garri, fufu, and flour (Solomon et al., 2025).

In addition, Entries in Table 2 revealed that respondents were involved in pressing to extract cyanide ($\overline{x}$=2.54) and drying ($\overline{x}$=2.50). Sufficient time was allocated to the processing stage because the cultivated variety contains fewer cyanogenic glycosides. In contrast, a very small proportion of respondents rarely participated in cassava processing activities (Eliza et al., 2025).

Furthermore, Table 2 reveals that respondents were engaged in starch ($\overline{x}$=2.55), snacks ($\overline{x}$=2.52), tapioca and animal feed ($\overline{x}$=2.51), and flour ($\overline{x}$=2.50). Utilising cassava peels for animal feed or for creating new products can generate more income for respondents, reduce waste, and enhance resource utilisation, all of which are part of the intervention programme's mission. Youths may introduce new products, packaging techniques, and value-added products (Blessing, 2025).

In conclusion, findings in Table 2 indicate that the respondents were involved in branding ($\overline{x}$=2.60), and distribution of cassava products ($\overline{x}$=2.53). Involvement in marketing & distribution provides respondents with the opportunity to connect with buyers, processors, and consumers. Respondents were involved in the branding and distribution of cassava products, which provided opportunities to connect with buyers, processors, and consumers (Olanrewaju, 2024).

Table 2: Extent of youths' involvement in the cassava value chain activities

Value Chain Activities	Mean ($\overline{x}$)	SD
Upstream sector:		
Conveying farm input	**2.54**	**1.131**
Agro-input shops or the selling of certified inputs	**2.57**	**1.145**
Training and capacity-building services	2.49	1.106
Facilitating access to credit	2.47	1.113
Stem multiplication enterprise	2.39	1.124
Production:		
Land preparation	**2.53**	**1.075**
Planting	2.49	1.106
Weed control	**2.57**	**1.183**
Application of fertiliser and other agrochemicals	2.39	1.149
Harvesting:		
Timing the harvest based on maturity	2.46	1.115
Use of appropriate tools for harvesting	2.49	1.129
Handling and transporting harvested cassava	**2.50**	**1.148**
Postharvest handling:		
Sorting and cleaning	**2.57**	**1.150**
Removing soil and debris	**2.50**	**1.090**
Peeling	2.46	1.149
Washing	**2.58**	**1.086**
Processing:		
Grating or chipping cassava root	2.45	1.138
Pressing to extract cyanide	**2.54**	1.152
Fermentation	2.48	1.090
Drying	**2.50**	1.114
Grinding	2.43	1.132
Value addition		
Flour	**2.50**	**1.101**
Tapioca	**2.51**	**1.138**
Starch	**2.55**	**1.114**
Snacks	**2.52**	**1.125**
Animal feed	**2.51**	**1.099**
Marketing and distribution:		
Branding	**2.60**	**1.094**
Packaging cassava products	2.41	1.077
Distribution of cassava products	**2.53**	**1.082**

< 2.5 low, ≥ 2.5 high
Source: ***Field Survey Data, 2026***

Constraints to Youth Involvement in the Programme

From Table 3, the Principal Factor Analysis (PFA) produced a satisfactory measure of sampling adequacy (KMO = 0.591), Eigen values 65% and a highly significant Bartlett's Test of Sphericity ($p < .001$), confirming that KMO value of 0.5 is adequate to proceed with the PFA analysis (Blessing, 2025), while total variance of factor explained value of 53% is the benchmark value enough to explain the factors. Three components were extracted, together explaining 64.9% of the total variance, which indicates a strong underlying structure.

The rotated component matrix revealed that the high cost of labour (0.875) and poor access to credit facilities (0.840) constitute fundamental economic constraints that limit youth participation in agriculture. Institutional constraints revealed that limited youth involvement in government policy (0.802) and constant demand for white-collar jobs (-0.797) affected youth engagement in the cassava value chain. Additionally, infrastructural constraints are reflected in limited access to farmland (0.821) and poor roads (0.775), which hinder agricultural productivity and discourage youth engagement. Many studies suggest that young people face substantial barriers to entry due to resource constraints (Fasakin et al., 2022; Akubo et al., 2025; Adaigho et al., 2025; Ugege et al., 2022; Osuji et al., 2023).

Table 3: Constraints to youth involvement in the programme

Variable	Economic	Institution	Infrastructure
High cost of labour	0.875		
Poor access to credit facilities	0.840		
Limited youth involvement in government policy		0.802	
Constant demand for white-collar jobs		-0.797	
Inability to access lands for farming			0.821
Bad roads			0.775

Source: ***Field Survey Data, 2026***

Conclusion and Recommendations

The study concludes that youths who are the main targets of the programme were involved in the cassava value chains, but at varying degrees of interest.

Findings on the cassava value chain activities reveal that respondents recognised the conveyance of farm inputs (52.2%), access to credit (51.4%), and training and capacity-building services (50.9%) as upstream activities. Also, respondents were aware of fertiliser and other agrochemical applications as a production activity (50.1%). Additionally, the respondents were aware of the use of appropriate tools (52.7%) for harvesting activity. Subsequently, respondents were aware of sorting and cleaning (53.0%) and of peeling (50.4%) as post-harvest activities. In addition, (52.7%) of respondents were aware of pressing to extract cyanide, and (50.1%) were aware of drying as a processing activity. Consequently, respondents recognised snacks (56.6%), starch (53.0%), and flour (51.2%) as value-added activities. Finally, they identified the distribution of cassava products (51.9%), packaging cassava products (51.4%), and branding (50.1%) as marketing and distribution activities.

Findings on the extent of youths' involvement in the cassava value chain activities reveal that respondents were involved in agro-input shops for the sale of certified inputs ($\overline{x}$=2.57), and the conveyance of farm input ($\overline{x}$=2.54) as upstream activities. Additionally, respondents were involved in weed control ($\overline{x}$=2.57), and land preparation ($\overline{x}$=2.53) in the production stage. Subsequently, the respondents were involved in handling and transporting harvested cassava ($\overline{x}$= 2.50). Also, the respondents were involved in washing ($\overline{x}$=2.58), sorting and cleaning ($\overline{x}$=2.57), and removal of soil and debris ($\overline{x}$=2.50). In addition, respondents were involved in pressing to extract cyanide ($\overline{x}$=2.54) and drying ($\overline{x}$=2.50). Furthermore, respondents were engaged in starch ($\overline{x}$=2.55), snacks ($\overline{x}$=2.52), tapioca and animal feed ($\overline{x}$=2.51), and flour ($\overline{x}$=2.50). In conclusion, the respondents were involved in branding ($\overline{x}$=2.60), and distribution of cassava products ($\overline{x}$=2.53).

Findings on the constraints to youth involvement in the programme reveal that the high cost of labour (0.875) and poor access to credit facilities (0.840) constitute fundamental economic constraints. Institutional constraints reveal that limited youth involvement in government policy (0.802) and constant demand for white-collar jobs (-0.797) affected youth engagement in the cassava value chain. Additionally, infrastructural constraints are reflected in limited access to farmland (0.821) and poor roads (0.775).

The government should reduce young farmers' economic burdens by providing subsidies such as low-interest loans and tractors to assist with farm labour, strengthening youth-led agricultural initiatives through meaningful policy engagement, and improving rural roads and farmland access to make agriculture more attractive and competitive.

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