

# Determinants of Youth Involvement in Agricultural Small and Medium Enterprises (SMEs) in Rural Communities of Ogun State, Nigeria

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## Abstract

The farming population in Nigeria is rapidly ageing and unable to meet the increasing complex challenges of technology transfer and market demands. This study investigated the determinants of youth involvement in agricultural small and medium enterprises (SMEs). A four-stage sampling procedure was used to select 153 respondents. Parameters assessed include agricultural enterprise characteristics, types of agricultural enterprise, involvement in agricultural SMEs, farm management practices and constraints to involvement in agricultural enterprise. Data were analysed using descriptive and inferential statistics at  $\alpha_{0.05}$ . Regression analysis revealed that, land management ( $\beta=0.39$ ), types agricultural enterprise ( $\beta=0.23$ ); farm size ( $\beta=0.28$ ), water management ( $\beta= -0.17$ ) and monthly income ( $\beta= -0.20$ ) were the major predictors of involvement in agricultural SMEs. However, types of agricultural enterprises ( $r = 0.38$ ) and constraints ( $r = 0.19$ ) contributed significantly to youth involvement in agriculture enterprise. Results further showed that, lack of access to credit greatly limits youth involvement in agricultural SMEs. Youth involvement in agricultural SMEs was generally low. However, cassava production was the most prominent available agricultural enterprise. Nonetheless, lack of access to credit greatly limits youth involvement in agricultural SMEs.

**Keywords:** Agricultural SMEs, Farm enterprise, Rural community, Land management, Youth involvement.

## Introduction

Agriculture is the economic mainstay of the majority of households in Nigeria (Udoh, 2000). It provides rural employment for an estimated 86 % of the entire populace (World Bank, 2007). In 1999, the agricultural sector employed over 60 % of the total labour force (Adeoti, 2002). A sectoral analysis of Gross Domestic Product (GDP) in 2006 indicated that the sector contributed about 42 % to the GDP (CBN, 2006).

Nigeria currently has farmers with age range between 46 to 60 years (Agric. News,

2014). This view is supported by a World Bank (2008) report which stated that the average ages of farmers are 52 in Brazil, 57 in the USA and 60 in Africa. Worst still, Nigeria agricultural activities are characterized with crude farming methods, low profitability and difficulty in accessing farm credit, which limit youth involvement in agriculture. Despite these challenges, there seem not to be any feasible plan to reverse this trend (Akpan, 2010). Beyond the negative consequences of this dimension on food security, is the far-reaching implication on transfer of

necessary knowledge, skills, expertise, employment and economic development.

Competitive nature of global agricultural markets and the global commitment towards achieving Sustainable Development Goal 2, which is to end hunger, achieve food security and improve nutrition, demands for quality labour composition of the agricultural sector from the ageing population to the vibrant and energetic ones. According to Bertow and Schultheis (2007), youth occupy a critical position in production and development of any nation. They possess the entrepreneurial potential to combine and utilize the other factors such as land, labour, machineries and inputs in an efficient and effective manner to achieve sustainable food production. It suffices therefore that, equipping the youth with the right education, new agricultural techniques and technology will in no small measure effectively and efficiently increase agricultural production.

Data from the National Bureau of Statistics (NBS) showed that the highest number of unemployed persons in the labour force as at 2015, were between the ages of 15-24 and 25-34, which represents the youth population (NBS, 2015). Although, many still view formal job creation in the formal wage sector as the solution to youth unemployment, prospects to get employment in this sector is becoming increasingly limited. Brooks *et al.* (2012) and Kararach *et al.* (2011) revealed that creation of non-agricultural jobs may not happen in the short run; as such agriculture is likely to continue to be a source of employment and livelihood especially for countries that heavily depend on it. The realisation of the roles of SMEs in fighting unemployment and poverty

reduction has been an age long phenomenon. However, lack of right policies and incentives, coupled with unconducive business environment have continued to hamper the pivotal roles of SMEs in addressing Nigeria's economic problems (Fatai, 2011). Oni and Daniya (2012) also asserted that SMEs in Nigeria have been a recognized approach for achieving self-independence, employment creation, import substitution, effective and efficient utilization of local raw materials and contribution to economic development of the country.

Small and Medium Enterprises (SMEs) are considered globally to be the engine of growth for generating employment and poverty reduction (Oba and Onuoha, 2013). In response to the potential roles of agricultural SMEs, several agricultural programmes were established to stimulate youth involvement in agriculture at all levels. These include: Youth Empowerment Scheme (YES), National Economic Empowerment and Development Strategy (NEEDS) and National Directorate of Employment (NDE). The programmes were designed to provide training and financial empowerment that will facilitate involvement in agricultural production. Despite these fast growing opportunities, it is alarming to note that many rural youth are opting out of farming in search of non-existing white-collar jobs in the cities, leading to an unprecedented level of rural-urban migration (Adekunle *et al.*, 2009). Corroborating this view, World Bank (2008) and Bosompem *et al.* (2011) pointed out that agriculture has enormous potential to offer employment and thus reduce poverty. However, irrespective of the recognition of its potential and proven

antecedents for employment creation within the sector, youth participation in agriculture is on the decline.

The theory of Reasoned Action (Fishbein and Ajzen, 1975) clearly fits into the framework of the study. The theory identifies factors underlying the formation and change of behavioural intent. It assumes that human action is predicated on intention to perform or be involved in a task. The theory elucidates the gap between the behaviours of rural youth and actual attitudes toward involvement in agricultural activities. Faralu (2003) demonstrated the application of this theory by proposing that intention for involvement in agricultural enterprise may be predicted by economic, social and environmental factors. Invariably, decision to participate in agricultural activities would be enhanced if efforts are in place to promote these factors among the youth. Thus, the study investigated the determinants of youth involvement in agricultural small and medium enterprises (SMEs) in rural communities of Ogun state, Nigeria. Specifically, the study:

1. examined personal characteristics of the youths involved in agriculture;
2. determined agricultural enterprises practiced by respondents
3. investigated constraints to involvement in agricultural SMEs and
4. described factors influencing youths' involvement in agricultural SMEs.

### **Materials and Methods**

The study was carried out in Ogun state, Southwestern, Nigeria. The state covers an area of about 16,980.55 km<sup>2</sup> with an estimated population of over 3 million people which is located in the rainforest vegetation belt of Nigeria within longitude 2° 45' E and 3° 35' E and latitudes 7° 01' N and 7° 8' N in the tropics. The state is

administratively divided into twenty local government area.

All rural youth involved in agricultural enterprise constitute the study population. A four-stage sampling technique was used. As shown in Table 1, there are four Agricultural Development Programme (ADP) zones in Ogun state: Abeokuta, Ilaro, Ijebu-Ode and Ikenne. Randomly, Ilaro, Ijebu-Ode and Ikenne ADP zones were selected. Four extension blocks are in Ilaro, and Ikenne, while there are six blocks in Ijebu-Ode. One extension block was randomly selected from each zone. Each block has an average of seven cells and three cells were randomly selected from each block. Proportionately, 33% of registered youth farmers were randomly selected to give a total of 153.

To achieve effective data collection processes, the research design adopted questionnaire survey. The Instrument was subjected to face and content validity. Reliability of the instrument was determined through split-half technique using Guttman split-half reliability coefficient (0.87). Parameters assessed were agricultural enterprise characteristics, types of agricultural enterprise, involvement in agricultural SMEs and constraints to involvement in agricultural enterprise.

### **Measurement of variables**

Parameters measured for agricultural enterprise characteristics were, Farm size, years of farming experience, sources of labour, land ownership, sources of agricultural information and estimated income from agricultural practices.

Agricultural enterprise available and practiced in the study area was determined with scores assigned as: Available = 1, Not available = 0. Mean scores were generated for each item and ranked to ascertain the extent of enterprise availability.

**Table 1:** Summary of sampling procedures and sample size

Selected ADP Zone	Number of Blocks	Block randomly selected	Number of Cells	Cells Randomly Selected	Registered Youth farmers in the selected Cells	Proportionate 33% selected
Ilaro zone	4	Ado-Odo	8	3	70	23
					37	12
					65	21
Ikenne zone	4	Obafemi	6	3	58	19
					35	12
					47	16
Ijebu Ode zone	6	Isoyin	6	3	52	17
					45	15
					55	18
<b>Total</b>						<b>153</b>

For constraints to involvement, selected individuals responded to fifteen possible constraints to involvement in agricultural SMEs on a three-point scale of severe = 2, mild = 1 and not a constraint = 0. Maximum possible score was 30, while the minimum possible score was 0. The weighted mean scores were computed and used to rank the severity of the constraints.

Involvement in agricultural SMEs items were assigned scores as follows: Fully Involved = 2, Partially Involved = 1, Not Involved = 0. The maximum possible score for a respondent was 30 while the minimum possible score was 0. The mean score was used as the benchmark to categorize respondents into high and low.

**Data Analysis**

The study used both descriptive and inferential statistical analysis. Cross-sectional design to collect information from all rural youth involved in agricultural enterprises in Ogun state, Southwestern Nigeria between February and August, 2016. The design considers the multi-agricultural dimensions which are expected to affect involvement.

A multiple regression was used to ascertain variables influencing involvement in agricultural SMEs (Eqn. 1).

$$Y = b_0 + b_1X_1 + b_2X_2 + \dots + b_{10}X_{10} + b_u \quad (1)$$

Components of the regression equation:

- b0: regression constant
- b<sub>1</sub>–b<sub>10</sub>: coefficient of X, which is the contribution of each independent variable to dependent variable
- Y: Involvement in agricultural SMEs
- X<sub>1</sub>: age (years) (exact number)
- X<sub>2</sub>: years of formal education (exact number)
- X<sub>3</sub>: household size (exact number)
- X<sub>4</sub>: farm size (hectares) (exact number)
- X<sub>5</sub>: years of farming experience (years) (exact number)
- X<sub>6</sub>: income from agriculture (Naira)
- X<sub>7</sub>: type of agricultural enterprise: Practice crop farming=1, Not Practicing crop farming=0
- X<sub>8</sub>: type of agricultural enterprise: Practice non-crop farming =1, Not practicing non-crop farming=0
- X<sub>8</sub>: sustainable water management (exact number)

X<sub>9</sub>: sustainable land management (exact number)  
 X<sub>10</sub>: constraints (exact number)  
 b<sub>ii</sub>: error term

**Results**

**Youths' enterprise characteristics**

Results in Table 2 indicated that the average farm size was 3.3 hectares with the majority (86.6%) having sole ownership. However, majority (77.1%) actually cultivate between 1 to 2.5 hectares. Average year of farming experience was 8.2 years. About half (49.7%) made use of both family and hired sources of farm labour. Majority (70.6%) of the respondents claimed to obtain agricultural information mainly from family and friends. The respondents' mean income per month was ₦36,705.00.

**Distribution according to types of agricultural enterprise**

Cassava production ranked first ( $\bar{x}$ = 0.97) among the available agricultural enterprise (Table 3). Maize production was ranked second ( $\bar{x}$ = 0.92), while poultry production was third ( $\bar{x}$ = 0.89) in agricultural enterprise profile among the youth in the study area. Results further indicated array of diverse agricultural activities and actors along the value chain. Bee keeping was ranked least among agricultural activity in the study area.

**Respondents' involvement in agricultural SMEs**

Results presented in Table 4 reveals that respondents' involvement in cassava production was ranked first among other agricultural SMEs ( $\bar{x}$ =1.63). In the same vain, maize production ( $\bar{x}$ =1.36), marketing and distribution of different agricultural produce ( $\bar{x}$ =1.63) were main agricultural activities practiced. However, bee keeping ( $\bar{x}$ =0.22) and rice production ( $\bar{x}$ =0.08) respectively,

were the least in the ranking order of involvement in agricultural SMEs.

**Table 2:** Distribution of respondents by enterprise characteristics

Variables	Freq	Per-centage
<b>Farm Size (ha)</b>		
<1	15	9.8
1-5	118	77.1
6- 10	17	11.1
More than 10	3	2.0
<b>Mean±SD</b>	3.3±3.1	
<b>Years of experience</b>		
1- 5	47	30.7
6-10	72	47.1
11-15	30	19.6
More than 15	4	2.6
<b>Mean±SD</b>	8.2±4.3	
<b>Labour source</b>		
Family members only	22	14.4
Hired labour only	55	35.9
Both	76	49.7
<b>Farm ownership</b>		
Sole proprietorship	133	86.6
Company	5	3.3
Partnership	15	9.8
<b>Source of information*</b>		
Family	108*	70.6
Association	97*	63.4
Radio	51*	33.3
Television	20*	13.1
Newspaper	23*	15.0
Extension agents	49*	32.0
<b>Income from agriculture (₦)</b>		
< 20,000	38	24.8
20,000-40,000	65	42.4
40,000-60,000	35	22.9
60,000-80,000	14	9.2
More than 80,000	1	0.7
	36,705.2±	
<b>Mean±SD</b>	17,933.8	

SD = Standard Deviation, \* =Multiple response

**Table 3:** Percentage distribution of the types of agricultural enterprise

Agricultural Enterprise	Percentage	Mean	Rank
Cassava production	97.4	0.97	1 <sup>st</sup>
Maize production	92.2	0.92	2 <sup>nd</sup>
Rice production	19.0	0.19	14 <sup>th</sup>
Agricultural processing	88.2	0.88	4 <sup>th</sup>
Fish rearing	85.0	0.85	5 <sup>th</sup>
Poultry production	88.9	0.89	3 <sup>rd</sup>
Piggery	73.2	0.73	9 <sup>th</sup>
Sheep/goat rearing	62.1	0.62	11 <sup>th</sup>
Oil palm production	64.7	0.71	10 <sup>th</sup>
Vegetable production	84.3	0.84	8 <sup>th</sup>
Bee keeping	16.3	0.16	15 <sup>th</sup>
Fish value addition	52.9	0.53	13 <sup>th</sup>
Marketing and distribution of different agricultural produce	82.4	0.82	7 <sup>th</sup>
Supply of animal feed	78.4	0.78	8 <sup>th</sup>
Supply of improved seeds	58.8	0.59	12 <sup>th</sup>

**Table 4:** Distribution of respondents by their involvement in agricultural SMEs

Agricultural activities	Mean	Rank
Cassava production	1.63	1 <sup>st</sup>
Maize production	1.36	2 <sup>nd</sup>
Rice production	0.08	14 <sup>th</sup>
Agricultural processing	0.82	4 <sup>th</sup>
Fish rearing	0.61	5 <sup>th</sup>
Poultry production	0.79	5 <sup>th</sup>
Piggery	0.31	7 <sup>th</sup>
Sheep/goat rearing	0.22	10 <sup>th</sup>
Oil palm production	0.22	10 <sup>th</sup>
Vegetable production	0.79	5 <sup>th</sup>
Bee keeping	0.11	13 <sup>th</sup>
Fish Value addition	0.25	8 <sup>th</sup>
Marketing and distribution of different agricultural produce	0.91	3 <sup>rd</sup>
Supply of animal feed	0.22	10 <sup>th</sup>
Supply of improved seed varieties	0.25	8 <sup>th</sup>

**Constraints to involvement in agricultural enterprise**

Results in Table 5 identify a wide range of constraints that militate against respondents' involvement in agricultural enterprise. The lack of access to credit ( $\bar{x}$ =1.71), climate change ( $\bar{x}$ = 1.42) and lack

of access to storage facility ( $\bar{x}$ = 1.31) severely limited the extent of youth involvement in agricultural enterprise. However, lucrateness of agriculture, lack of basic farming knowledge and parental influence do not severely hamper involvement in agricultural enterprise.

**Table 5:** Distribution of respondents' constraints to involvement in agricultural SMEs

Constraints to Involvement in Agricultural SMEs	Mean	Rank
Lack of access to input	1.25	5 <sup>th</sup>
Lack of access to credit	1.71	1 <sup>st</sup>
Lack of access to processing facility	1.25	5 <sup>th</sup>
Lack of access to storage facility	1.31	3 <sup>rd</sup>
Lack of market for produce	0.93	12 <sup>th</sup>
Poor returns on investment	1.02	10 <sup>th</sup>
Agriculture is not lucrative	0.59	13 <sup>th</sup>
Lack of basic farming knowledge	0.42	14 <sup>th</sup>
Inadequate land	0.98	11 <sup>th</sup>
Climate change	1.42	2 <sup>nd</sup>
Water availability	1.23	7 <sup>th</sup>
Poor means of transportation	1.31	3 <sup>rd</sup>
Parental influence	0.41	15 <sup>th</sup>
Lack of access to extension service	1.14	8 <sup>th</sup>
Land degradation	1.13	9 <sup>th</sup>

**Relationship between agricultural enterprise available, constraints to involvement and youth involvement in agricultural SMEs**

The type of agricultural enterprises ( $r = 0.382$ ,  $p < 0.05$ ) and constraints ( $r = 0.189$ ,  $p < 0.05$ ) were significantly related to youth involvement in agricultural SMEs (Table 6).

**Table 6:** Correlation analysis of agricultural enterprise available, constraints to involvement and youth involvement in agricultural SMEs

Variables	r-value	p-value
Agricultural enterprise practiced	0.382	0.000*
Constraints to involvement	0.189	0.019*

\* Significant at  $<0.05$

**Contributions of selected independent variables to youth involvement in agricultural SMEs**

Inferential statistics results in Table 7 reveals that land management ( $\beta=0.39$ ), types of agricultural enterprise ( $\beta=0.23$ ); farm size ( $\beta=0.28$ ), water management ( $\beta=$

$-0.17$ ) and monthly income ( $\beta= -0.20$ ) were the major predictors of involvement in agricultural SMEs. Household size ( $\beta= -0.045$ ) and years of farming experience ( $\beta= -0.015$ ) were inversely and not significantly related to youth involvement in agricultural SMEs.

**Table 7:** Regression analysis to show the contribution of explanatory independent variables on youth involvement in agricultural SMEs

<b>Variables</b>	<b>Beta</b>	<b>Std. error</b>	<b>T</b>	<b>p-value</b>
Age	-0.001	0.108	-0.012	0.991
Number of years in formal education	0.063	0.079	0.874	0.383
Household size	-0.045	0.182	-0.619	0.537
Farm size	0.282*	0.142	3.174	0.002
Years of farming experience	-0.015	0.092	-0.191	0.849
Income from agriculture	-0.197*	0.000	-2.446	0.016
Type of Agricultural enterprise	0.227*	0.118	3.124	0.002
Sustainable water management	-0.166*	0.297	-1.972	0.051
Sustainable land management	0.391*	0.238	4.577	0.000
Constraints	0.103	0.077	1.416	0.159

\*Significant at 0.05

### **Discussion**

Nigerian farmers are largely small farm holders according to the submission of Ojuekaiye (2001), as cited in Chikezie *et al.*, (2012) where farm size of 0.1 hectare to 5.9 hectares was classified as small farms. Acquired years of farming experience suggests that respondents have enough experience in agricultural activities that could enable them to make sound decisions regarding resource allocation and management of agricultural enterprise. Family and hired labour were the most used form of labour. This is confirmed by Nmadu and Akinola, (2015). They reported that a combination of family and hired sources contributed most of the labour supplied for crop production in Nigeria.

Majority of the respondents claimed to obtain agricultural information mainly from family and friends. This is a reflection of close circuit information sharing that operates in a typical rural setting. Respondents' mean income shows that majority of the respondents earn low income from agricultural enterprise, which may negatively influence their involvement in agricultural enterprise. Ojiagwu and

Uchena, (2014) in a related study affirmed that agricultural enterprise is characterized by low economic returns due to market related uncertainties.

Cassava production was ranked first among the available agricultural enterprise. Corroborating this finding, FAO, (2004) reported that cassava production is ranked first among other agricultural enterprise in Nigeria. This implies that cassava production has enormous potential as an insurance crop among small farm holders probably because of its tolerance to climate change. This affirmed the submission of Iheke, (2008) who opined that small-scale farmers in rural communities in Nigeria mainly produce cassava. Similarly, cassava production was ranked first among other agricultural SMEs ( $\bar{x}=1.63$ ). This is an indication that cassava is widely grown on a small-scale across the ecological zones by young entrepreneurs (International Institute for Tropical Agriculture, 2002). Emerole *et al.* (2014) also reported high involvement of youth in cassava production in Nigeria. This suggests that cassava production has advantage over other agricultural commodities probably due to its tolerance



against harsh climate and availability of ready market, which ensures quick turnover. However, Mangal (2009) maintains that there is generally low involvement of youth in agricultural SMEs even though this class is the most productive sector of the society.

Access to credit was the most severe constraint. This implies that issues of limited resources is a major challenge among the youth to start and remain in agricultural SMEs. This finding is consistent with that of Gemma *et al.* (2013) who posited that youth opt out of agricultural enterprise often due of lack of capital required to strengthen agricultural production venture. Similarly, Asian Vegetable Research and Development Centre (2007) as cited in Millicent (2015) asserted that access to credit is critical for improving farm productivity and economic returns.

Agricultural enterprises practiced and constraints were significantly related to youth involvement in agricultural SMEs. This is consistent with Oluyole *et al.* (2007) who affirmed that availability of farm labour could have positive impact on planting precision, better weed control, timely harvesting and crop processing. However, several mitigating factors limiting involvement in agricultural enterprises as identified by Adekunle *et al.* (2009) include inadequate rural credit facilities, low returns to agricultural investments and lack of modern farming techniques and lack of access to farm inputs.

Regression analysis indicated that land management, availability of agricultural enterprise, farm size, water management and monthly income were the major predictors of involvement in agricultural

SMEs. The finding is suggestive of an increasing consciousness in sustainable agricultural practices required for agricultural productivity. In tandem with these results, Ayuk (2001) opined that sustainable agricultural practice is a major determinant of food security. Goetz and Debertin (2001) posited that an increase in average farm-size significantly reduces the tendency to abandon agricultural enterprise. Sunday *et al.* (2015) reported that as the previous farm income of youth increases, current hours spent per day in agricultural activities reduces. From the foregoing, it could be deduced that interventions targeted at youth involvement in agricultural enterprises, which foster building capacity in land management practices would be a sustainable productive venture to drive food security at the grass root.

### **Conclusion and Recommendations**

Youth involvement in agricultural SMEs was generally low. However, cassava production was the most prominent agricultural enterprise. Nonetheless, lack of access to credit greatly limits youth involvement in agricultural SMEs. Sustainable land management, availability of agricultural enterprise, farm size, sustainable water management and monthly income were the major predictors of involvement in agricultural SMEs. Collaborations from government and non-governmental organization that engenders timely access to credits will promote involvement, while strengthening policy on farm settlement scheme and strategic training by agricultural extension agents will culminate into sustainable agriculture needed for food security.

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