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What drives youth participation and labour demand in agriculture? Evidence from rural Nigeria

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Abstract

This study investigated the determinants of youth participation and labour demand in Nigerian agriculture using the 2015/16 Living Standard Measurement Survey-Integrated Survey Agriculture (LSMS-ISA) data. The analytical tools used included descriptive statistics, Logistic and Tobit regression models. Summary statistics showed that the mean age of the respondents was 53 years. There were more male farmers than female farmers. The farmers were small-holders as the average farm size cultivated was 0.97 hectares. The results revealed low participation of youth in Nigerian agriculture. Youth participation in Nigerian agriculture is significantly influenced by farm size, access to credit and household size. Age, use of inorganic fertilizer, farm income, household size and cultivated farm size were labour enhancing. The study suggests that efforts to shape future work in Nigerian agriculture should include among other things, access to land and provision of credit facilities.

Keywords: Agricultural labour, Youth, Rural, Nigeria

1. Introduction

The relevance of agriculture in any economy cannot be overemphasized. Agriculture contributes significantly to national food self-sufficiency by accounting for over 90% of total food consumption requirements and also helps to maintain a healthy population (Alliance for a Green Revolution in Africa (AGRA), 2017). Growth in the overall economy of a nation depends on the development of agricultural sector (Gollin, 2014). The sector controls non-agricultural activities by its potential to alleviate poverty. It is interesting to note that more than fifty percent of the reduction in poverty achieved in the many countries of the world can be attributed to growth in agricultural income (Organization for Economic Co-operation and Development, (OECD), 2017). Agriculture is an established way to prosperity in the sense that no region in the world has been

able to develop a diverse and bouyant economy without first establishing a successful foundation in agriculture (AGRA, 2017).

Moreover, efficiency of the agricultural sector has a multiplier effect on economic development. Aside self-sufficiency in food production, a vibrant agricultural sector is contributory to generation of employment, foreign exchange earnings and provision of raw materials for agro-allied industries. In Africa, agriculture accounts for over 32% of the Gross Domestic Products (GDP) and more than 70% of African population engages in agriculture. Hence, it is the best sector for addressing much of the remaining poverty in Africa. A 1% increase in crop productivity reduces number of poor people by 0.72% in Africa (Thirtle, Piesse and Lin, 2003),.

Furthermore, the escalating world population has driven up the demand for food. This substantiates the fact that the menace of food insecurity will become more complicated, as approximately 70 percent more food will have to be produced across the globe in order to feed an estimated 9 billion people by 2050 (Food and Agriculture Organization (FAO), 2017). Hence, this necessitates improvement in agricultural production in order to satisfy the expected increased demands for food (FAO, 2017). The relevance of agricultural sector notwithstanding, its performance is quite below its potential in sub-Saharan Africa (SSA), However, despite the continent's huge potentials in agricultural production, it is disturbing to note that most of the African countries still depend on food importation (Salami and Arawomo, 2013). Food imports are expected to increase from thirty five billion United States dollars to above one hundred and ten billion dollars by 2025 (FAO, 2017). The wide gap between potential and current crop yields makes increased food production achievable. This points to the need for agricultural transformation.

In Africa, several factors are responsible for low agricultural productivity, this includes: insufficient knowledge of improved practices, low use of improved seed, low fertilizer use, inadequate irrigation, conflict, absence of strong institutions, ineffective policies, lack of incentives, and prevalence of diseases and pests (Asenso-Okyere, 2011). Moreso, agricultural labour force is growing older as rural youths are looking for better and more lucrative means of livelihoods than the traditional farming and are migrating to the urban areas in spite the insufficient

jobs there. However, agriculture remains Africa's undisputable means of growing inclusive economies and panacea for unemployment especially among the youth.

In Nigeria, prior to the advent of oil, agricultural sector was the major source of foreign exchange contributing over 60% of the gross domestic product. However, with the advent of oil, there has been a decline in the contribution of agriculture (National Bureau of Statistics (NBS), 2014). The neglect of the sector and the negative impact of oil boom were responsible for the decline. Despite this, agriculture still plays significant role in the nation's economy by employing about two-third of total labour force and providing livelihood for over 90% of the rural population. Moreover, with the dwindling world oil price, there is need to diversify the nations revenue source, hence government has to shift attention towards the agricultural sector which remains a key driver for growth, poverty eradication and youth employment.

The youth have been recognized as the greatest asset of any nation and are the highest investment for a country's development (National Youth Policy of Nigeria, 2001). According to the National Population Commission (2013) approximately half of Nigerian population is made of youth, defined as individuals between 18 and 35 years of age. It is quite alarming that youth unemployment rises, as their population grows (Akande, 2014). Unemployed youth numbered about 11.1 million in 2012. According to International Labour Organization estimates, youth unemployment rate stood at 13.41% in 2017 (ILO, 2017).

Encouraging youth active participation in agriculture will introduce new vigour and innovations into its development in Nigeria. This will however need to be enhanced by certain factors among which are adoption of output enhancing technologies. Hence, the question remains to what extent is labour demand being affected by adoption of these technologies. According to Schneider and Gugerty (2011), a new technology can have a variety of impacts with different consequences for output, profits and employment. According to the study, if the technology reduces needed inputs, production costs will decrease (raising profits), but output may not be affected and employment could be reduced. If instead the technology raises yields, output and (most likely) employment will increase, but profits will not necessarily increase. Alternatively, if the technology raises labor

productivity, wage rates will increase but probably at the expense of the quantity of labor employed, and with unclear effects on profits and output.

It is against this background that this study investigates determinants of youth participation and labour demand in Nigerian agriculture. Though there are studies on youth engagement in agriculture in Africa [Okwoche, Age and Alegwu, 2012 (Nigeria); Ahaibwe, Mbowa and Lwarga, 2013 (Uganda); Njeru and Gichimi, 2014 (Kenya); Gutu, 2016 (Ethiopia); Maiga, 2016 (Nigeria and Uganda)] and several studies on technology adoption and welfare impacts in Nigeria (Omonona *et al*., 2005; Alene *et al*., 2009; Dontsop *et al*., 2011; Awotide *et al*., 2012; Obisesan, 2015) to name a few. However, empirical assessment of youth participation and effect of technology on labour demand is scarce in Nigeria. This reveals a gap in the literature that needs to be filled. To fill the gap and complement previous studies, this study investigates youth participation and effect of adoption of improved seeds and inorganic fertilizers among other factors on labour demand in Nigerian agriculture. The study provides answers to pertinent questions such as: are Nigerian youth actively participating in agriculture?, what are the factors influencing youth participation in agriculture?; what are the effects of cultivation of improved seeds, use of inorganic fertilizers and other demographic factors on agricultural labour demand?. From a policy perspective, answers to these questions will have implications for future work in agriculture and potential of agriculture to remain panacea to poverty.

The rest of the paper is organized as follows: section 2 presents the literature review while section 3 presents data and analytical techniques. Section 4 entails the results and discussion. Finally, section 5 gives a brief summary of the main findings, the conclusion, and policy recommendation.

2. Literature Review

2.1 Empirical review on youth participation in agriculture in Africa

Gutu (2016) investigated the trends, patterns and prospects of youth involvement in agriculture in Ethiopia, by gender. It also analyzed the determinants of youth labor supply in agriculture using household and youth sample survey data collected during 2010/11 and 2014/15 main agricultural seasons in Oromia, one of the designated high agricultural potential area of

Ethiopia. Labor supply was measured as the total annual working days (in adult equivalent) of male and female youth members of the household allocated to on-farm and off-farm work. Based on this data the marginal products (shadow wages) of youth workers of each gender and net income (shadow income) were estimated, using a structural time-allocation models. Then the estimated shadow wages and shadow income were used as regressors in a structural model of youth labor supply. The results indicated that trends and patterns of youth involvement in agriculture vary across gender and work locations, and so do their marginal products. Whilst the on-farm participation of youth is declining across time irrespective of gender, the participation in off-farm agricultural activities is increasing for both. There is statistically no significant decrease in the total agricultural labor supply of both male and female youths. Furthermore, the study found that the effect of own shadow wage on labor supply is positive for male youth members, suggesting an upward sloping labor supply. However, the effect of own marginal product of female youth labor is negative, suggesting that female youth agricultural labor supply is backward bending. The study concluded that changes in economic incentives such as shadow wages and shadow income matter for youth involvement in agriculture and off-farm agricultural employment opportunities could help to reduce youth underemployment.

Maiga (2016) employed the Living Standards Measurement Surveys-Integrated Surveys of Agriculture (LSMS-ISA) in investigating the determinants of changes in youth and women participation in agriculture in Nigeria and Uganda. Participation in the agricultural labor force is measured using hours per week in agriculture and change in hours worked per week in agriculture between two survey waves. Ordinary Least Squares and Tobit methods are used to estimate the model. The results revealed age as a strong determinant in hours worked per week in agriculture in Nigeria but not in Uganda. Nigerian men work more hours per week in agriculture than women while the opposite is true for Uganda. The study concluded that education, gender, rural residence, and non-agricultural wage income strongly affect hours worked per week in agriculture.

Ahaibwe, Mbowa and Lwarga (2013) examined youth employment dynamics across different sectors and provided insights into the determinants of youth participation in agriculture. The Uganda National Panel Survey data of 2005/6 and 2009/10 were employed in the study. The findings revealed that youthful farmers are concentrated more in agricultural production. Furthermore, a relatively lower percentage of youth use improved inputs (such as improved seeds,

fertilizers, agricultural chemicals and veterinary drugs). Land tenure issues impeded many youths from engaging in agriculture, with the majority of youth using land without exclusive ownership rights. In addition, the results pointed to the fact that the youth are less likely to access credit, extension services and social capital (farmer group membership), all key factors in agricultural transformation. The results further suggested that the youth with at least secondary education, males (both married and unmarried) and those youth residing in households with a large share of adults are less likely to engage in agriculture.

2.2 Empirical review on technology adoption and welfare impacts

Tiamiyu *et al* (2009) examined the levels, determinants and effects of complementary technology adoption on productivity of NERICA rice farming in savanna zone of Nigeria. Data for the study were obtained from sample survey of 227 NERICA rice farmers in the guinea savanna zone using multistage sampling technique. Data collected were analyzed using descriptive statistics, Tobit regression model and Cobb-Douglas production function. Results showed that the average technology score was 52.1 percent. Fifty-five percent of the farmers who scored below the mean were categorised as low technology users. Tobit regression estimation showed that farmers' technology score was affected significantly by farmer's level of education, extension visit, farming experience, land ownership status, credit use and level of rice commercialization. Cobb-Douglas production estimation showed a neutrally outward shift in production function as the level of complementary technology increases, indicating increasing productivity. The study suggested that the promotion of complementary technology in NERICA rice production is a worthwhile effort and should continue to be funded. Improvement of those factors that significantly affect adoption of complementary technology is recommended.

Omilola (2009) assessed the impact of agricultural technology on poverty alleviation in rural Nigeria. The study argued that any change in poverty situation attributed to those who adopt new agricultural technology (treatment group) without a counterfactual comparison of carefully selected non-adopters (control group) are likely to be questionable. Primary data were collected with the aid of questionnaire between 2004 and 2005. Multistage random sampling approach was adopted in the selection of 200 adopters and 200 non-adopters of tube wells and pumps for the study. Foster, Greer and Thorbecke poverty indices were employed in estimating the poverty levels of the respondents. To estimate the treatment effect of agricultural technology on poverty, the

study utilised the difference-in-difference method by comparing changes in desired outcome indicators between a treatment group (adopters) and a comparison group or control group (non-adopters) over time before and after the introduction of new technology. The results showed that the coefficient of the unconditional treatment effect of the agricultural technology is negative and statistically insignificant, using the poverty headcount ratios. This indicated that the differences in poverty outcomes between the technology adopters and non-adopters are not significant. However, the gain in reduction of poverty incidence is disproportionately higher among the adopters than the non-adopters. Similarly, the reduction in income gap among the poor adopters is disproportionately more than the reduction in income gap among the poor non-adopters while the inequality of the poor tends to be lower among the adopters than the non-adopters. The study concluded that new agricultural technology would not expressly lead to poverty reduction in poor countries, the exact channels through which new agricultural technology impact poverty outcomes need to be further explored. An effort toward introducing new agricultural technologies in Africa should go hand in hand with increasing access of specific technology adopters to markets, education and land.

Omonona *et al* (2005) examined the various factors influencing the adoption of improved cassava varieties and its impact on the welfare of rural farmers in Edo State, Nigeria. The study utilised cross-sectional data collected through personal interviews of 150 farmers from the three senatorial districts in Edo State. The personal interviews were conducted with the aid of a structured questionnaire using multistage random sampling technique. The Tobit regression model was used to determine the factors that affect adoption and poverty, while the Foster, Greer, and Thorbecke (FGT) class of measures was used to determine the incidence, depth, and severity of poverty among farming households who are adopters and non-adopters of improved cassava varieties. The results showed that sex, age, access to extension agents, access to inputs and crop yield were significant variables positively influencing adoption of improved cassava varieties. The incidence, depth, and severity of poverty were higher amongst households who were non-adopters of improved cassava varieties. The results of the determinants of household poverty revealed that age, household size, years of education, and extent of commercialisation were significant variables. Age, years of education, and extent of commercialisation influenced household poverty in the negative direction, implying that a unit increase in any of the variables will lead to a decrease

in household poverty. Household size, on the other hand, moved in a positive direction, implying that a unit increase in that factor will lead to an increase in household poverty. Implicit in these results is that, in order for poverty alleviation to be effective, human capital such as education should be emphasised. Extension services should also reach greater depths in which campaigns are staged to promote the relevance of new innovations, which are labour-saving and cost-effective.

Obisesan (2015) examined off-farm activity participation, technology adoption and impact on food security of Nigerian farming households. Data were collected using structured questionnaire through a multistage sampling technique. Propensity Score Matching, descriptive statistics and Foster-Greer-Thorbecke weighted index were employed in analysis. Participation in off-farm activity has a positive and significant ($p<0.05$) influence on level of adoption. The mean per capita household food expenditure (MPCHHFE) was ₦30198.34 while the food insecurity line was ₦20132.22 per annum. The impact of improved technology adoption on food insecurity incidence of adopters with off-farm activity was higher than their counterparts without participation. This suggests that participation in off-farm activity and technology adoption have the potential to improve food security. Hence, there should be further sensitization on this technology to improve food security and policy measures should also be oriented towards the support and improvement of rural off-farm income opportunities

3.0 Data and Analytical approaches

3.1 Data

The study used secondary data from the 2015/16 Living Standard Measurement Survey-Integrated Survey on Agriculture (LSMS-ISA). A multi-stage stratified sample design was used for the Panel Survey. The data comprises of 5,000 households. The study made use of the data from maize farming households in rural Nigeria where agriculture is predominant. However, because many did not record of their age and maize yield, data for this study comprised of 1,104 households. The data used for this study include: age, household size, sex, credit access, farm size, crop yield, labour used, use of improved seeds, farm income and self-employment income.

3.2 Analytical Techniques

Descriptive statistics such as mean, percentage and tables were used to analyze the socio-economic characteristics and youth participation. Logit regression model and Tobit regression models were used to examine the factors influencing youth participation and labour demand respectively.

The Logistic Regression Model

Following Maddala (1983), Logistic regression model was used to determine factors that influence a cassava farming households' ability to secure/access loan. Logistic regression is useful for this kind of situation where prediction of the presence or absence of an outcome based on values of a set of predictor variables is needed. This model is similar to a linear regression model but it is suited to models where the dependent variable is dichotomous.

If Y_i is the random variable (dichotomous), it can then be assumed that Y_i takes on the values 0 or 1, where 0 denotes the non-occurrence of the event in question and 1 denotes the occurrence. If X_1,....., X_n are characteristics to be related to occurrence of this outcome, then the logistic model specifies that the conditional probability of event (i.e., that Y = 1) given the values of X_1,.....,X_n is as follows:

$$P(Y) = 1/[1 + \exp - (\alpha - \Sigma \beta_i X_i) \quad (1)$$

In order to linearize the right hand side a logit transformation was applied by taking logarithm of both sides, therefore we have:

$$\text{Logit } P(Y) = \alpha + \Sigma \beta_i X_i \quad (2)$$

Where,

$Y_i = 1$ if success i.e respondent participates.

and $Y_i = 0$ if failure i.e if respondent did not participate

α = Constant term

X_i = independent variable

β = logistic coefficient for independent variable

The independent variables specified as determinants of participation are:

X_1= Household size (number), X_2= self-employment income source (1= self-employed, 0 otherwise), X_3= wage employment (1= yes, 0 otherwise), X_4= credit access (1= yes, 0 otherwise), X_5= farm size (hectares), X_6= education (years), X_7 = extension agent access (1= yes, 0 otherwise), X_8 = cultivation of improved seeds (1= yes, 0 otherwise), X_9farm income (Naira).

Tobit Regression Model

Tobit regression model for the continuous variable can be expressed as:

$$AL_i^* = \beta_0 + \beta_i X_i + \mu_i$$

$$AL_i = AL_i^* \quad if\ \beta_0 + \beta_i X_i + \mu_i > 0 \text{.....(3)}$$

$$= 0 \quad if\ \beta_0 + \beta_i X_i + \mu_i \leq 0$$

Where,

AL_i^* = the latent variable and the solution to utility maximization problem of level labour demand subjected to a set of constraints per household

AL_i = Agriculture labour (man-days) for ith farmer

X_i = Vector of factors affecting labour demand

β_i = Vector of unknown parameters

μ_i = Error term

The explanatory variables specified as determinants of agricultural labour demand are defined as follows:

X_1= Household size (number), X_2= self-employment income source (1= self-employed, 0 otherwise), X_3= wage employment (1= yes, 0 otherwise), X_4= credit access (1= yes, 0 otherwise), X_5= farm size (hectares), X_6= education (years), X_7 = extension agent access (1= yes, 0 otherwise), X_8 = cultivation of improved seeds (1= yes, 0 otherwise), farm income (Naira), X_9 = age (years), X_{10} = use of inorganic fertilizer (1= yes, 0 otherwise), X_{11} = crop yield (kg/ha), X_{12}= Sex (female=1, 0 otherwise),.

4. Empirical Results and Discussion

4.1 Descriptive Analysis of the Socio-economic Characteristics of the Respondents

The descriptive analysis of the socio-economic characteristics of the respondents is presented in Table 1. From the results, the mean age of the respondents was 53 years, thus they are not in their economically active age. The majority of the respondents (89.67%) are male, with an average

household size of 8 persons. This implies that maize production is dominated by male. This can be explained by the tedious nature of maize farming activities. The average farm size cultivated is 0.97ha which indicates that maize farmers in Nigeria are smallholders. Very few of the respondents, 19.84% and 27.17% cultivated improved seeds and had access to formal credit respectively. This reveals that low adoption of improved technology and access to credit remains major constraints to agricultural production especially among small scale farmers in the country. The mean crop yield was 8.04tonnes/ha while the mean labour demand was 888.91 man-days. The respondents had poor access to extension services as shown by the small percentage (14%) of the farmers that had contact with extension agents. The average value of the respondents' farm income and total household income was ₦145924.80 and ₦395287.60 respectively.

Table 1: Definition and Description of Variables

Variables	**Definition**	**Mean**	**SD**
Age	The age of the respondent in years	53.10	13.12
Sex	Dummy =1 if respondent is female	0.133	0.022
Household size	Total household size (number)	7.87	3.50
Farm size	Total farm size	0.97	1.25
Access to formal credit	Dummy=1 if respondent has access to credit	0.27	0.014
Improved seeds	Dummy=1 if respondent cultivated improved varieties	0.19	0.08
Inorganic fertilizers	Dummy=1 if respondents used inorganic fertilizer	0.58	0.13
Labour demand	Total labour days allocated farm	888.91	858.55
Crop yield	Crop yield in kg/ha	8037.6	15529.7

Farm income	Farm income in Naira	145924.8	225054.1
Total income	Total household income in Naira	395287.6	772564.7

SD= Standard deviation

4.2 Youth participation in Agriculture

This paper defines the youth as an individual between 18-35 years of age. Using a descriptive approach, the study provides insights into extent of the youth involvement in agriculture as well as the major constraints that they encountered. Only 9.69% of the respondents are classified as youth. This shows low engagement of Nigerian youths in agricultural production. None of the respondents classified as youth participated in agricultural wage employment. This agrees with Gutu (2016) that on-farm participation of youth is declining across time irrespective of gender. All the youthful farmers are males and operated small scale farming with average farm size of 1.49 hectares. Lack of credit access, low adoption of improved seeds and poor extension services are key constraints faced by youths. The results show that Majority (84.11%) of the youthful farmers had no access to credit while only 12.15% and 22.43% had access to extension services and adopted improved varieties respectively. Farm income was ₦148867.9 while their labour demand was 716.79 man-days.

Factors influencing youth participation in agriculture

The results of the binary Logistic regression model on the factors affecting youth participation in agriculture as shown in Table 2. The Log likelihood of -203.24 and significance level of 1% indicated that the model has a good fit to the data. The results showed that access to credit, farm size and household size statistically influenced youth participation in agriculture. Access to credit has a positive and significant ($p<0.05$) influence on youth participation in agriculture. Ahaibwe, Mbowa and Lwarga, (2013) pointed to the fact that the youth are less likely

to access credit. From the findings, access to credit facilities will increase the likelihood of participation by 0.4519. This is attributed to the fact that credit increases the farmers' economy to purchase improved seed, fertilizer and other inputs. Household size significantly ($p<0.01$) but negatively influenced youth participation in agriculture. A unit increase in the household size will reduce the likelihood of youth participation by 0.1397. Furthermore, an increase in farm size will increase the likelihood of participating in agriculture significantly at 1%. Land tenure issues impeded many youths from engaging in agriculture, with the majority of youth using land without exclusive ownership rights (Ahaibwe, Mbowa and Lwarga, 2013).

Table 2: Estimates of Logit Regression for the Determinants of youth participation in Agriculture

Variables	**Coefficients**	**Standard Error**	**P-value**
Household size	-0.1397	0.0259	0.000
Education	0.0026	0.0055	0.640
Credit access	0.4579	0.1591	0.005
Farm size	0.1264	0.0395	0.001
Improved varieties	0.1101	0.3203	0.731
Extension agent contact	0.1272	0.2270	0.575
Self-employment	0.1469	0.2682	0.584
Wage employment	0.2742	0.3902	0.482
Farm income	3.06 e-07	6.79e-07	0.653
Constant	0.1668	0.2302	0.469
Log likelihood	-203.24		

Prob >chi^2= 0.0000 Pseudo R^2= 0.5176			

Determinants of Agricultural Labour Demand

The result of the determinants of labour demand by maize-based farming households in Nigeria is shown in Table 3. The log likelihood is 5262.35 and significant at 1% level of significance. This indicates that the model has a good fit to the data. The result shows that out of the 11 explanatory variables included in the model, only five variables were found to significantly influence labour demand. These are age, household size, farm income, land area cultivated and use of inorganic fertilizer. A positive sign on a parameter indicates that the variable is labour enhancing while a negative sign implies the variable is labour displacing.

The estimated coefficient of cultivation of improved seed is negative though not statistically significant. This implies that planting of improved varieties has the tendency to displace labour. The use of inorganic fertilizer positively and significantly ($p<0.05$) enhance labour demand by 135.33 points. Age of the respondents is significant ($p<0.1$) and has a positive sign, implying that older farmers are more likely to employ more labour than their younger counterparts. From the result, a unit increase in age will enhance labour by 4.73. This is understandable as younger once are more energetic than the aged farmers. In the same vein, farm income is labour enhancing, the higher the income realized from the farm the more the labour demand. Increase in income improves farmers' economy to engage more labour in their agricultural activities. The result revealed that a unit increase in farm income will increase labour used by 0.0085 points.

Furthermore, the coefficient of land cultivated is positive and significant ($p<0.01$). From the result of this study, a unit increase in land cultivated will enhance labour by 200 points. Land is perhaps the single most important resource, as it is a base for any economic activity, especially in rural and agricultural sector. This is consistent with expectation as farmers cultivating larger farm land will require more labour compared with those with small farmland.

Table 3: Estimates of the Tobit regression model of labour demand

Variables	Coefficients	Standard error	T-value

Age	4.73*	2.59	1.83
Extension agent	-83.68	103.51	-0.81
Education	-1.95	2.53	0.77
Household size	22.33**	10.58	2.11
Sex	-43.50	128.16	-0.34
Credit	-49.61	70.01	-0.71
Farm income	0.01***	0.002	5.00
Inorganic fertilizer	135.33**	60.96	2.22
Improved seed	-49.19	82.86	-0.59
Yield	0.001	0.002	0.69
Farm size	200.81***	28.21	7.12
Constant	215.26	71.66	3.00
/sigma	812.74	22.58	
Log likelihood	-5262.35		
Log chi²	133.18		
Prob>chi²(11)	0.0000		

*,**,*** represent significant at 10%, 5%, 1%

Summary, Conclusion and Policy Recommendation

This study employed the 2015/16 LSMS-ISA data to investigate the determinants of youth participation and labour demand in agricultural production in rural Nigeria using maize farming as a case study. Descriptive statistics, logistic and Tobit regression analysis were employed in the study. The results revealed that majority of the farmers are not in their economically active age, cultivating an average of 0.97ha. There is low engagement in agricultural production among Nigeria youth as less than 10% of the respondents are classified as youth that is between ages 18 and 35 years. The empirical model of the Logistic regression revealed access to credit, farm size and household size statistically influenced youth participation in agriculture. The results of the Tobit regression model show that five out of the eleven variables included in the model statistically influenced labour demand in agriculture. The cultivation of improved seeds (though not

significant) tend to be labour displacing while use of inorganic fertilizer, age of the farmer, farm income, household size and cultivated farm size are labour enhancing. In conclusion, Nigerian youth participation in agricultural production is low. Hence, in order to encourage youth participation in agriculture, reduce youth unemployment and shape future work in agriculture, access to land and provision of credit facilities should be included in agricultural and rural development programmes.

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