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Review Article

Factors Influencing Youths' Participation in Agricultural Activities of the National Poverty Eradication Programme in Anambra State, Nigeria

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Abstract: This study examined the determinants of youths' participation in agricultural activities of the National Poverty Eradication Programme (NAPEP) in Anambra State, Nigeria. One hundred respondents were selected by means of purposive and random sampling techniques. Primary data were collected using pre-tested questionnaire administered by personal interview. Descriptive statistics and Ordinary Least Squares regression were adopted for data analysis. Level of participation in agricultural activities of NAPEP was highest (56%) and lowest (2%) with poultry and goat enterprises respectively. Socio-economic factors of age of the youths, household size, gender, farm size and amount of credit accessed significantly determined level of participation. Serious constraints to youths' participation in the programme were scarcity of farm land, followed by inadequate credit facilities, lack of relevant modern technologies, poor remuneration of agricultural activities and inadequate extension services. Embracing the current agricultural extension transformation agenda of government will provide adequate agricultural extension services that could mitigate the

problems, ensure programme sustainability, entrepreneurship development and reduction in unemployment.

Keywords: Determinants, Youths' participation, Agriculture, NAPEP, Anambra State

INTRODUCTION

Agriculture plays a vital role in the economies of most countries of the world especially the developing economies such as Nigeria. In Nigeria it provides about 40% of the Gross Domestic Product (GDP) as well as employment and income to 70% of the rural population¹. Specifically, agriculture provides food for the people, raw materials for the industries and foreign exchange for the country. The subsistence and smallholder nature of Nigerian agriculture has made the realization of these goals very difficult, leading to high dependence of the country on food and raw materials' imports to respectively feed her citizens and industries. The reasons adduced for non-realization of food sufficiency include ageing of the farmers², small size of farm lands and use of traditional techniques³. Therefore, getting youths to take up farming and the provision of modern farming technologies seem to be possible solutions to the problems. It is expected that with higher level of education, innovation proneness, greater physical strength and less conservativeness, Nigerian youths' involvement in agriculture would ensure adequate food production⁴.

Youths represent the most active segment of the population and the engine that perform most productive works of the society. They have also been identified as constituting the major resource base for any country which wants to embark on any meaningful agricultural and rural development projects².

Adebayo *et al.*⁵ noted that despite youths' rich rural life and farming background, they are yet to actively and productively participate in development of the nation's agricultural sector. This development may be due to the death of viable institutional framework for mobilizing, developing and channeling the unique abilities, experiences and aspirations of rural youths towards agriculture. It probably necessitated the initiation of programmes such as the National Directorate of Employment (NDE) in 1986, the National Poverty Eradication Programme (NAPEP) in 2001, among others by the Federal Government of Nigeria.

The programmes are aimed at encouraging youths' participation in agricultural activities with the objective of getting them meaningfully engaged and tapping into their rich potentials to develop agriculture and other sectors of the economy. The agricultural components of these programmes have been constrained by insufficient credit facilities, lack of modern technologies and lack of interest in agricultural activities, poor communication methods, non-involvement of youths in agricultural planning, weak extension system, and lack of access to land among others⁶. In Anambra State, the NAPEP programme is functional and has empowered many youths through various agricultural packages.

The performance of similar programmes and determinants of youths' participation in agricultural activities of the programmes have been evaluated by studies outside Anambra State. For instance, Jibowo and Sotomi⁷, Ugwokeet *al.*⁸, and Adebayo *et al.*⁵ studied the performances of youths' programmes for sustainable rural development in Odeda LGA of Ogun State; youths' participation in farming activities in rural areas of Imo State; and secondary school agricultural education programme in the rural areas of Imo State respectively, using descriptive statistics in data analysis. This study, however, examined the determinants of youths' participation in agricultural activities of the NAPEP by using descriptive

statistical tools to analyze data on level of participation and constraints to participation, and parametric statistics to ascertain the determinants of level of participation.

MATERIALS AND METHODS

The study was carried out in Anambra State of Nigeria with a population of about 4.2million (National Population Commission (NPC) ⁸ Anambra State is located at longitude 7°00'00" East and latitude 6°20'00" North. It occupies an area of 4,416 square kilometers. There are 21 Local Government Areas in the State and 177 autonomous communities; 3 senatorial and 4 Agricultural zones. The climate is humid with substantial rainfall and mean temperature of 87⁰F (ASADEP) ⁹ Agriculture is the predominant occupation in rural areas engaging more than 70% of the rural population. The major crops cultivated in the state are cassava, yam, rice, maize, cocoyam, oil palm, plantain/banana, beans and leafy vegetables. The compound farms integrate not only arable crops and tree crops, but also livestock and at times fisheries¹⁰. The National Poverty Eradication Programme (NAPEP) was purposively selected for the study because of available evidence of agricultural packages shown by preliminary survey of the programmers activities. A total of 105 beneficiaries were selected by random sampling of five beneficiaries from each of the 21 LGAs of the State. This selection was facilitated by the list of beneficiaries of agricultural facilities obtained from the State office of NAPEP. Primary data were collected by means of well-structured questionnaire administered by personal interview. At last 100useful interview instruments were used to collate data for analysis. Data collected on level of participation and constraints to participation were analyzed using descriptive statistic such as means, frequency distributions and percentages while data on determinants of level of participation were analyzed by means of multiple regression technique. The multiple regression (Ordinary Least Squares) model used to determine the influence of socio-economic factors of the respondents on level of participation is implicitly given as:

$LEP = f(AGE, EDU, EXP, HHS, GEN, FAS, AOC, EMP; e_i)$. Four functional forms of the regression model (linear, exponential, semi-log and double-log) were tried with the data and the form that produced the best result in terms of economic, statistical and econometric a priori criteria was adopted as the lead equation. Explicit version of the regression model showing the functional forms are given as:

Linear: $LEP = \beta_0 + \beta_1 AGE + \beta_2 EDU + \beta_3 EXP + \beta_4 HHS + \beta_5 GEN + \beta_6 FAS + \beta_7 AOC + \beta_8 EMP + e_i$

Exponential: $\ln LEP = \beta_0 + \beta_1 AGE + \beta_2 EDU + \beta_3 EXP + \beta_4 HHS + \beta_5 GEN + \beta_6 FAS + \beta_7 AOC + \beta_8 EMP + e_i$

Semi-log: $LEP = \beta_0 + \beta_1 \ln AGE + \beta_2 \ln EDU + \beta_3 \ln EXP + \beta_4 \ln HHS + \beta_5 \ln GEN + \beta_6 \ln FAS + \beta_7 \ln AOC + \beta_8 \ln EMP + e_i$

Double-log: $LEP = \beta_0 + \beta_1 \ln AGE + \beta_2 \ln EDU + \beta_3 \ln EXP + \beta_4 \ln HHS + \beta_5 \ln GEN + \beta_6 \ln FAS + \beta_7 \ln AOC + \beta_8 \ln EMP + e_i$

Where:

LEP = Level of participation proxied by annual income of the youth (₦)

AGE = Age of the youth (years)

EDU = Educational attainment (years)

EXP	=	Farming experience (years)
HHS	=	Household size (number of persons in the household)
GEN	=	Gender of the respondent (dummy: male = 1; female = 2)
FAS	=	Farm size (stock size for livestock; hectare for crop)
AOC	=	Credit facilities obtained (₦)
EMP	=	Employment status (dummy: employed = 1; unemployed = 2)
β_0	=	Constant in each case
$\beta_1 - \beta_8$	=	Parameters to be estimated
e_i	=	Stochastic error term.

RESULTS AND DISCUSSION

Level of participation in the agricultural activities: Distribution of the beneficiaries according to level of participation in the agricultural activities of NAPEP is shown in **Table 1**. The result indicated that majority (56%) of the beneficiaries engaged in broiler poultry production. This was followed by 52% who took to fish farming; 43% who farmed yam and maize; 41% who invested in yam-maize-cassava mixed cropping; 40% who combined broiler and layer poultry production; 35% who provided labour services; 20% who went into cassava and maize production; 15% who farmed vegetables; 5% who kept goats and sheep; and 2% who kept goats only. The implication of this result is that the beneficiaries invested more in early maturing enterprises that probably enabled them earn enough incomes to repay the loans. Some of the beneficiaries engaged in multiple enterprises and the provision of labor services in quest to earn additional incomes for prompt and easier repayment of the loans. Ugwumba *et al.*¹² studied integrated farming system and its effect on farm cash income and highlighted the advantage of multiple enterprises in boosting farm income and acting as insurance against failure of one out of two or more enterprises.

Table 1: Distribution of the youths according to the agricultural activities of NAPEP

Agricultural activity	Frequency	Percentage
Yam & maize production	43	42
Cassava & maize farming	20	20
Yam, cassava & maize farming	41	41
Goat & sheep rearing	5	5
Goats rearing only	2	2
Sheep rearing only	-	-
Fish culture	52	52
Broiler poultry production	56	56
Broiler & layer poultry farming	40	40
Layer poultry production	-	-
Labour services	35	35
Vegetable production	15	15

Source: Computed from field survey data, 2012. Note: Multiple responses recorded

Determinants of level of participation: The relationship between socio-economic characteristics of the youths and level of participation in agricultural activities (proxied by annual income of the youths) was examined using multiple regression analysis. The eight predictors included in the model were age of the respondent represented by AGE, educational level (EDU), farming experience (EXP), household size (HHS), gender (GEN), farm size (FAS), amount of credit accessed (AOC), and employment status (EMP). Data collected on the predictors were fitted to four functional forms (linear, exponential, semi-log and double-log) of the regression model and ran using MINITAB statistical package. Results of the analysis are shown in **Table 2**. It could be seen from the outputs that the double-log regression gave the best fit in terms of number, size and signs of significant parameter estimates and was chosen as the lead equation. The equation is stated as: $LEP = 2.6450 + 1.4031AGE + 0.05460EDU - 0.0183EXP + 0.1438HHS + 0.6118GEN + 0.7235FAS + 0.5633AOC + 0.0349EMP$.

Table 2: Determinants of level of participation of the youths in the agricultural activities

Predictor	Linear	Exponential	Semi-log	Double-log
Constant	-107977 (-2.75)	3.6688 (15.30)	-19012 (-1.85)	2.6450 (4.51)
AGE	1681.8 2 (1.73)**	0.01476 (2.48)**	151629 (2.21)**	1.4031 (3.59)**
EDU	1957 (1.53)	0.01764 (2.26)**	5570 (1.19)	0.05460 (3.59)**
EXP	-369.21 (-0.37)	0.000792 (0.13)	-11893 (-0.45)	-0.0183 (-0.12)
HHS	6578 (2.08)**	0.00672 (0.35)	92594 (2.01)**	0.1438 (0.55)
GEN	31608 (3.08)**	0.16910 (2.27)**	15134 (3.64)**	0.6118 (4.69)**
FAS	37645 (3.60)**	0.20955 (3.91)**	86753 (3.79)**	0.7235 (5.37)**
AOC	21223 (2.74)**	0.02887 (2.34)**	56474 (2.56)**	0.5633 (3.27)**
EMP	1283 (1.24)	0.00345 (1.15)	4765 (1.34)	0.0349 (0.68)
R ²	67.5%	70.4%	72.4%	78.6%
R ² (adjusted)	62.8%	68.3%	69.1%	74.6%
F-statistic	5.92	6.12	6.35	9.45
Durbin-Watson statistic	1.78	1.94	2.01	1.87

Source: Computed from field survey data, 2012. Notes: ** = Significant at 5% level. Figures in parenthesis are t-statistic values. AGE, EDU, EXP, HHS, GEN, FAS, AOC, and EMP are as earlier defined.

Out of the eight predictors included in the model, five namely age, household size, gender, farm size and amount of credit accessed were statistically significant at 5% alpha level while the rest three (educational level, farming experience and employment status) were not statistically significant. The coefficient of age was positive and statistically significant at 5% level. This implied that the older youths had acquired more experience, knowledge and skills that enabled them produce more and realize more income than the younger ones. This result is at variance with Ugwumba¹³ which posited that age was no barrier to the productivity and income of catfish farmers in Anambra State, Nigeria. The coefficient of household size was positive and statistically significant at 5% level. High household size could mean high number of

youths seeking for employment opportunities which the NAPEP agricultural packages were there to provide. This would consequently have led to increased participation of the youths in agricultural activities of the programme and higher income for them. Gender variable had positive and significant relationship with level of participation of the youths in agricultural activities of NAPEP at 5% level. Many agricultural activities require dissipation of a lot of energy which men are naturally endowed with more than women. The implication of this result was that male youths involved in the agricultural activities of NAPEP utilized their energy reserve for higher productivity and income. They could have provided labor services to their female counterparts at a price to also boost their income/level of participation. The coefficient of farm size and amount of credit obtained through the programme had a positive and statistically significant relationship with level of participation of the youths in the agricultural activities of NAPEP at 5% probability level ($t_{cal} 5.37 > t_{tab} 2.10$ for farm size and $t_{cal} 3.27 > t_{tab} 2.10$ for credit accessed). By implication, the youths who had access to large farm size and amount of credit properly utilized the inputs to achieve higher productivity, income and wellbeing. Large farm size and adequate funds and skills have been proven to drive enhanced productivity and income by Chukwuji and Ugwumba¹⁴.

Further result of the regression analysis gave the coefficient of multiple determination (R^2) value of 0.786, implying that 78.6% variation in level of participation (annual income) of the youths in NAPEP's agricultural activities was due to variations in the predictors while the remaining 21.4% was as a result of error. Again, the significant F-statistic value of 9.45 implied that, overall the predictors significantly determined level of participation of the youths in agricultural activities of National Poverty Eradication Programmed (NAPEP) in Anambra State.

Constraints to youths' participation in the agricultural activities: Youths' participating in the agricultural activities of NAPEP was confronted with challenges such as inadequate credit facilities, lack of social infrastructural facilities, non-involvement of the youths in programmer planning, poor remuneration of agricultural activities, inadequate extension services, scarcity of farm land, lack of relevant modern technologies, and poor attitude of extension agents. **Table 3** shows distribution of the respondents according to the challenges. Scarcity of farm land was the most serious of the challenges as indicated by majority (70%) of the youths. This was followed by inadequate credit facilities with 65% responses, lack of relevant modern technologies with 60% responses, poor remuneration of agricultural activities (50%), inadequate extension services (40%), lack of social infrastructural facilities (20%), poor attitude of extension agents (18%), and finally non-involvement of the youths in programmed planning (15%).

Table 3: Problems militating against level of participation of youths in the agricultural activities of NAPEP

Constraint	Frequency	Percentage
Lack of infrastructural facilities	20	20
Youths not involved in programme planning	15	15
Inadequate credit facilities	65	65
Poor remuneration of agricultural activities	50	50
Inadequate extension services	40	40
Lack of modern technologies	60	60

Poor attitude of extension agents	18	18
Scarcity of farm land	70	70

Source: Computed from field survey data, 2012.

CONCLUSION

Youths of Anambra State participated in agricultural activities of the National Poverty Eradication Programme (NAPEP) in attempts to gain employment, empower themselves and become entrepreneurs. This effort of government to create employment opportunities and curb youth restiveness and crime will be more fruitful and sustainable if the challenges identified by this study to militate against youths' participation in the agricultural activities are addressed. Embracing the current agricultural extension transformation agenda of government will provide adequate agricultural extension services that could mitigate the problems and ensure more programme successes.

REFERENCES

1. Central Bank of Nigeria (C.B.N); Central Bank of Nigeria, *Annual Report and Statement of Account*. Abuja, Nigeria: CBN publication, 2011.
2. J.C.Nwachukwu, and G.C.Onuekwusi, *Agricultural extension and rural sociology*. Enugu, Nigeria: SNAAP Press Ltd, 2005.
3. C.O.A.Ugwumba, Adoption of oil palm production technologies in Aguata Local Government Area of Anambra State, Nigeria. *Journal of Environmental Science, Computer Science and Engineering & Technology (JECET)*, 2013, 2(1), 145-150.
4. A.A.Jibowo, and A.O.Sotomi, The youths in sustainable rural development: A study of youths' programmes in Odeda L.G.A. of Ogun State. In A.A. Ladele et al (Eds.), Policy Advocacy Role in Agricultural and Rural Transformation in Nigeria, *Proceedings of the 17th Annual Conference of the Nigerian Rural Sociological Association (NRSA)*, NRCRI, Umudike, 19-22 August, 1996 (pp. 54-57).
5. K.Adebayo, M.Awotunde, P.A.Okuneye, and U.Okonkwo, Assessment of secondary school agricultural education programme in the rural areas of Imo State, Nigeria. *Nigerian Journal of Rural Sociology*, 2006, 16(1&2), 13-22.
6. M.G.Nenna, M.O.Ugbaja, and C.O.A. Ugwumba, Encouraging farmers' full participation in policy implementation for sustainable agriculture and rural development in Anambra State, Nigeria. *International Journal of Applied Research and Technology*, 2012 (6), 35-42.
7. C.O.A.Ugwumba, Economics of homestead concrete fish pond in Anambra State, Nigeria. *African Journal of Fisheries and Aquaculture*, 2005, 4, 28-32.
8. National Population Commission of Nigeria (NPCN). *Nigeria census figures*, Abuja, Nigeria. NPCN Publication, 2006.
9. Anambra State Agricultural Development Programme (ASADEP) Anambra State Agricultural Development Programme. *Extension Services Survey Report*, 2003.

10. F.O.Ugwuoke, O.M.Adesope, and F.C.Ibe, Youths participation in farming activities in rural areas of Imo State, Nigeria: Implications for extension. *Journal of Agricultural Extension*, 8, 2005, 134-141.
11. C.O.A.Ugwumba, R.N. Okoh, P.C. Ike, E.L.C. Nnabuiife & E.C.Orji, Integrated farming system and its effect on farm cash income in Awka South Agricultural Zone of Anambra State, Nigeria. *American-Eurasian Journal of Agricultural and Environmental Sciences (AEJAES)*, 8(1), 2009, 01-06.
12. C.O.A.Ugwumba, Technical efficiency and profitability of catfish production in Anambra State, Nigeria. *Ph.D Dissertation*, Department of Agricultural Economics and Extension, Delta State University, Abraka, Nigeria, 2011.
13. C.O.Chukwuji, Factor productivity and technical efficiency in cassava-based food crop production systems in Delta State, Nigeria. *Ph.D. Dissertation*. Delta State University, Asaba, Nigeria 2006.

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