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EFFECTS OF EMIGRATION ON THE POVERTY STATUS OF FARMING HOUSEHOLDS IN EDO STATE, NIGERIA

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Abstract

Emigration has become a significant issue that cannot be overlooked globally as it is germane in achieving the 2030 Sustainable Development Goal of ending poverty. This study assessed the effects of emigration on the poverty status of farming households in Edo State, Nigeria. A total of 297 farmers were selected randomly from four Local Government Areas across the state. Structured interview schedule was used to obtain primary data from the farmers. Data were analysed with descriptive statistics, Foster-Greer-Thorbecke (FGT) index and probit regression model. The poverty classification revealed that 35.23% of the farmers were poor and 64.77% were non-poor. The estimated FGT indices for poverty incidence, depth and severity were 0.3523, 0.2669 and 0.0713 respectively. Probit regression analysis showed that emigration status of the farmers at $p \leq 0.05$ level of probability had significant positive effect on their poverty status. Other covariates: remittance ($p \leq 0.01$), household size ($p \leq 0.01$), years of education ($p \leq 0.10$), farm income ($p \leq 0.01$) and off-farm income ($p \leq 0.01$) also had significant effects on the poverty status of the farming households. The study concluded that emigration possess the potential to enhance poverty alleviation among the farming households in the area. Nonetheless, poverty remains a major issue in the area that cannot be overlooked by the government.

Keywords: Emigration, Poverty, Farmers and Edo State.

Introduction

Emigration has become a reality that touches all spheres of man's life "due to increasingly inter-connected world" and the fact that mobility is inherent in human existence. Emigration itself is the act of departing or exiting from one country with a view of settling in another. The United Nations Department for Economic and Social Affairs (UNDESA, 2017) reported that the number of emigrants worldwide is increasing rapidly in recent years reaching 258 million in 2017 as against 220 million in 2010 and 173 million in 2000, though World Bank (2018) figure estimated is 266 million. Emigration among other factors poses a significant worry in achieving the 2030 Agenda for Sustainable Development Goals especially in the area of agricultural production which is a key component to ending global poverty and food insecurity.

In recent times, emigration has become an issue of major concern worldwide; in the countries of origin, emigration is associated with a search for better livelihood. According to the International Organisation for Migration (IOM, 2018), about 64% of the total number of emigrants globally is hosted by high-income countries. Also, between the year 2000 and 2017, the principal increase in the number of emigrants originated from Africa of which Nigeria was inclusive. As a matter of fact, the Food and Agricultural Organization (2013) reported that emigration brings about development and one way by which emigrants contribute to development is through remittances. These remittances from emigrants should have influence on farming households. It is instructive to note that any country that is not food secure is poor. Nigerian agriculture has failed to advance and has been on decline. In the third quarter of 2017, agriculture contributed 24.44% to nominal Gross Domestic Product (GDP). That explains why Nigeria ranks 103rd out of 119 countries on the Global Hunger Index with a score index of 31.1 in 2018 (Dominic, 2019).

UNDP (2016) emphasised that while poverty may seem to cause deprivation and hinder individual development, it is also the result of several social and national factors, such as poor governance and the exclusion of particular social groups. Therefore, household poverty in the framework of this study is a state in which an individual is incapable of providing basic needs for himself and his family basic daily needs. It is expected that emigration would contribute to reducing the incidence of poverty which is a leading factor to food insecurity in developing countries such as Nigeria. However, the National Bureau of Statistics (NBS) (2020), stated that 82.9 million of Nigerians live below the poverty line.

There is a relatively abundant body of literature on poverty and how intervention projects and farmers activities have contributed to poverty alleviation in Edo State. In fact, the studies of Ada-Okungbowa and Edemhanria (2016), Ahmadu and Edeoghon (2018) and Ogunyinka *et al.* (2019) among others in Edo State have shown how farmers' livelihood activities has enhanced poverty alleviation among them. Nonetheless, there is still a knowledge gap in literature to be filled as there is little, or no evidence of research efforts aimed to inquire into how emigration among households in Edo state has contributed to poverty alleviation among them.

Despite the research on emigration, little is known on effects of emigration on poverty status of farming households in Edo State Nigeria, therefore the reason for the research. Edo State presents a unique environment in Nigeria to study on international migration, remittances, and subsequent effect on poverty. The choice of the area is borne out of the fact that, the area has been noted as one of the states with high incidence of emigration. This is because, recently, more than 50% of the recent Libyan returnees were from this area (IOM, 2018). Again, Edoumiekumo *et al.* (2014) reported that the incidence of poverty in Edo State was 51.25% which is the highest in the Niger Delta region. The study, therefore, analysed the effect of emigration on the poverty status of farming households in the area. Specifically, it determined the poverty status of the farming households and how emigration status and other covariates influence their poverty. It is hoped that the outcome of the study will provides insights into the dynamics of emigration in the area and help the government and policy makers to develop and adopts strategies that could help alleviate poverty among the people especially the farming households.

Methodology

Area of Study:

The study was conducted in Edo State. The State is in South-South Nigeria within Latitudes 5° 44' N - 7° 34' N and Longitudes 5° 04' E to 6° 00' E of the equator. It is bounded in the South by Delta State, in the West by Ondo State, in the North by Kogi State and in the East by Kogi and Anambra States. It occupies a land area of about 17,802km². It has a humid tropical climate in the South and sub-humid tropical climate in the North with an average rainfall ranging from 1,500 mm in the extreme north of the state to 2,500 mm in the South. The temperature averages about 25 °C in the rainy season and about 28 °C in the dry season. According to the National Population Commission (NPC), (2006), Edo State has an estimated population of 3,218,332 million people. With a growth rate of 2.7% per annum according to Ada-Okungbowa and Edemhanria (2016) the projected population figure for 2019 was put at 4,550,369 as computed by the researchers. Edo State has a tropical climate characterised by two distinct seasons: the wet and dry seasons. The state is divided into three agricultural zones, namely, Edo Central, Edo North and Edo South zones. The main crops grown are rubber, oil palm, cocoa, yam, cassava, maize, plantain as well as green leafy vegetables which all grow abundantly in the state. Principal industrial raw materials for agro-industrial businesses are rubber, timber, maize, and cassava.

Type of Data Collected for the Study:

Primary data were used for this study. The cross-sectional data were collected from the respondents in the study area with the aid of a structured questionnaire and interview schedule. Properly trained enumerators under the supervision of the researchers were employed to assist during the period of data collection.

Sampling Procedure:

A multi-stage sampling procedure was employed for this study. All farm household heads registered with the Agricultural Development Project (ADP) in the Edo State were the population of the study. At the first stage, 20% of the Local Government Areas (LGAs) in the state was randomly sampled through balloting. This gave a total of 4 LGAs out of 20. A list of farming communities was obtained from the state ADP office out of which 10% of the communities were sampled from each of the selected LGAs in the second stage. This gave a total of 17 farming communities for the study. At the third stage, farm households were stratified into two strata; household with emigrants and those without emigrants as identified during the reconnaissance survey. At the fourth stage, the Yamane (1967) formula specified in equation (1) was used to determine the sample size of respondents that were randomly selected from the population of 1157 comprising of emigrants and non-emigrant farm households. This gave a total of 297 households comprising of 176 emigrants and 121 non-emigrant farm households.

$$n = \frac{N}{1 + N(e)^2} \quad (1)$$

Where:

n = Sample size

N = Total population of study

e = limit of tolerable error, for this study (0.05)

Analytical Techniques:

The data for this study were analysed with descriptive statistics, Foster-Greer-Thorbecke (FGT) model and probit regression model. Descriptive statistics involved the use of, frequency and percentages tables, as well as derivation of means.

Foster-Greer-Thorbecke (FGT) model:

The Foster-Greer-Thorbecke (FGT) model adopted from Sallawu *et al.* (2016) and Yisa *et al.* (2020) was used to determine the poverty status of the farming households. To this effect, the household monthly per capita expenditure approach was used. The FGT model is specified in equation (2).

$$P_a = \frac{1}{N} \sum_{i=1}^q \left(\frac{z-y_i}{z} \right)^a \quad (2)$$

For poverty incidence, gap, and severity the formula is specified in equations (3) to (5) respectively.

$$P_0 = \frac{1}{N} \sum_{i=1}^q \left(\frac{z-y_i}{z} \right)^0 \quad (3)$$

$$P_1 = \frac{1}{N} \sum_{i=1}^q \left(\frac{z-y_i}{z} \right)^1 \quad (4)$$

$$P_2 = \frac{1}{N} \sum_{i=1}^q \left(\frac{z-y_i}{z} \right)^2 \quad (5)$$

Where:

P_a = poverty profile of the respondents

Z = poverty line value (₦)

N = total population

q = the number of poor respondents (below the poverty line)

y_i = household monthly per capita expenditure of the respondents (₦)

a = is a parameter which measures the incidence, depth, and severity of poverty respectively, with the values of 0, 1 and 2 as indicators of the poverty status of respondents.

Probit regression model:

The probit model was adopted from Yisa *et al.* (2019) to determine the effect of emigration on poverty status of the farming households in Edo State. The implicit form of the model is as specified in equation (6).

$$F(X'\beta) = \Phi(X'\beta) = \int_{-\infty}^{X'\beta} \phi(z) dz \quad (6)$$

The explicit form of the model is specified in equation (7).

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \dots + \beta_{13} X_{13} + \mu \quad (7)$$

Where:

Y = Poverty status (poor = 1, non-poor = 0)

X_1 = Migration status of household (emigrant =1, otherwise =0),

X_2 = Remittances (₦),

X_3 = Household size (number of household members living together),

X_4 = Age of household head (years),

X_5 = Sex of household head (male=1, otherwise =0),

X_6 = Education (years of formal education),

X_7 = Farm income (₦),

X_8 = Off-farm income (₦),

X_9 = Volume of borrowed capital (₦),

X_{10} = Extension visits (number contact with extension agents),

X_{11} = Farm size (ha),

X_{12} = Farming experience (years),

X_{13} = Membership of farmers' association/cooperative (member =1, otherwise =0),

β_s = Coefficients of the explanatory variables to be estimated

μ = Random error term

Results and Discussions

Poverty Status of Farming Household in Edo State:

The poverty status of the farming households was analysed using FGT index and the results are presented in Figure 1. The poverty line was determined by computing 2/3 of mean monthly household per capita expenditure of the farmers. The estimated poverty line was ₦4,993.34 per month. Foster *et al.* (1984) asserted that the proportion of households with per capita expenditure/income less than the poverty line are categorised as poor and *vice versa*. This was used as the basis for categorising farm households into poor and non-poor. The result showed that 31.25% and 40.50% of the farming households with and without emigrants were poor. Also, the pooled result showed that only 35.23% of the farming households were poor. This implies that there is still the incidence of poverty among farming households with and without emigrants in the study area. This finding is relatively lower than the 70% reported by Ahmadu and Edeoghon (2018) for maize farmers and the 72% reported by Ogunyinka *et al.* (2019) for cocoyam farmers in Edo State. However, the result is similar to the poverty incidence of 31.56% reported by Mohammed *et al.* (2019) for farming households in Kaduna State, Nigeria.

Furthermore, the poverty head count or incidence (P_0), poverty gap or depth (P_1), and poverty severity (P_2) were also calculated, and the results are presented in Table 1. The poverty head count (P_0) for the entire farming households in the area was 0.3523. The poverty depth index (P_1) usually referred to as the gap of an average poor person from the poverty line was estimated to be 0.2669. This implies that 26.69% of the poverty line (₦4,993.34), that is, ₦1,332.72 per capita expenditure was required to bring an average poor person to the poverty line. This is the minimum cost of eliminating poverty (relative to the poverty line) and this shows the amount that could be transferred to the poor to bring their consumption up to the poverty line. The poverty severity (P_2) which measures the distance of each poor person to another was found to be 0.0713. This means that among the poor farming households in the area, 7.13% were severely poor. This

result is slightly lower than the 16% reported by Ahmadu and Edeoghon (2018) for maize farmers in Edo State. The estimate is also relatively lower than the 37% and 46.75% reported by Sallawu *et al.* (2016) and Yisa *et al.* (2018) for farming households surveyed in Niger State based on the income-poverty line measure.

Effect of Emigration on Poverty Status of Farmers in Edo State:

The estimated probit regression model of the effect of emigration on the poverty status of farming households in the study area is presented in Table 2. The regression analysis result shows that the LR-Chi-square value of 67.93 was significant at $p \leq 0.01$ probability level. This implies that the model is significantly fit to determine the effect of emigration and other covariates on the poverty status of the farming households. This also implies that there is a significant relationship between the dependent and independent variables in the model. The significant coefficient values that are positive indicate that a higher value of the variable will increase the likelihood of being poor, while the negative ones indicate that a higher value of the variable will decrease the probability of being poor.

The result revealed that the estimated coefficient of emigration status (-0.8961) was significant at $p \leq 0.05$ probability level. The implication of this is that the farming households recording zero or lower emigration are more likely to be poor while households with higher emigration are more likely to alleviate their poverty in the area. This further implies that emigration status of the farming households had significant effect on their poverty status. This finding is related to those of Chukwuone *et al.* (2007) and Yoshino *et al.* (2017) who reported that emigration had significant positive effect on poverty status of emigrant households. Similarly, the remittance income was negatively signed and significant at $p \leq 0.01$ probability level. This implies that more remittance income will likely lead to poverty alleviation among the farmers in Edo State. This gives credence to the report of Oseni and Winter (2009) and Yoshino *et al.* (2017) that remittance income has positive impact on the welfare and poverty status of rural households.

Furthermore, the result revealed that the coefficient of other variables; years of education ($p \leq 0.10$), farm income ($p \leq 0.01$) and off-farm income at $p \leq 0.01$ probability levels were negative and significant at influencing the poverty status of the farmers in the area. This implies that education, farm income and off-farm income had a positive and significant effect on the poverty reduction among the farmers. This further suggests that farming households that have higher level of education, farm and off-farm income are more likely to be non-poor and *vice versa*. This finding is similar to those of Awotide *et al.* (2010), Omotayo (2016) and Yisa *et al.* (2019) who reported that education, farm income and off-farm income had significant effect on poverty reduction among rural farm households in Nigeria. Also, household size at $p \leq 0.01$ probability level was positive and significant. This finding agrees with the findings of Omotayo (2016), who reported that household size is a significant factor influencing the poverty status of farming households in Ekiti State. In essence, emigration status, remittance income, household size, education, farm, and off-farm income were the significant variables influencing the poverty status of farming households in Edo State, Nigeria.

Marginal Effects and Partial Elasticities of Significant Factors Affecting Poverty Status of Farming Households in Edo State:

The result of the estimated marginal effects and the partial elasticities calculated for the significant of factors affecting poverty status of farming households in Edo State in the probit regression model is presented in

Table 3. For the marginal effects, the result shows the probability values by which poverty will increase by a unit increase in the values of the variables. For example, the probability that the poverty incidence will reduce among the farming households if they have an emigrant is 0.1539. More so, results show that the partial elasticities of all the variables, that is, emigration status, remittance, household size, education, farm income and off-farm income were inelastic since the values are less than one. This implies that a one percent change in these variables leads to a less than proportionate change in poverty incidence among the farming households. The inelasticity of the variables suggests that the likelihood of alleviating poverty incidence among the farming households is only relatively affected by marginal changes in the variables as a one percent change in the variables leads to a less than proportionate corresponding change in poverty incidence.

Conclusion and Recommendations

The study concluded based on the findings that emigration status of the farming households had positive and significant effect on poverty alleviation in the study area. Other variables that influence the poverty status of farming households in the area include remittance income, household size, education, farm income and off-farm income. The poverty incidence was higher among the farming households without emigrants (40.50%) compared with their counterpart households with emigrants (31.25%). However, poverty remains a major concern in the area and should not be overlooked. Therefore, efforts should be made by the government to ensure that farmers are well enlightened and encouraged through extension service delivery on how to diversify their livelihood, engage and invest their income in productive off-farm activities. The farmers should undertake off-farm enterprises and business investments that would enhance poverty alleviation among them.

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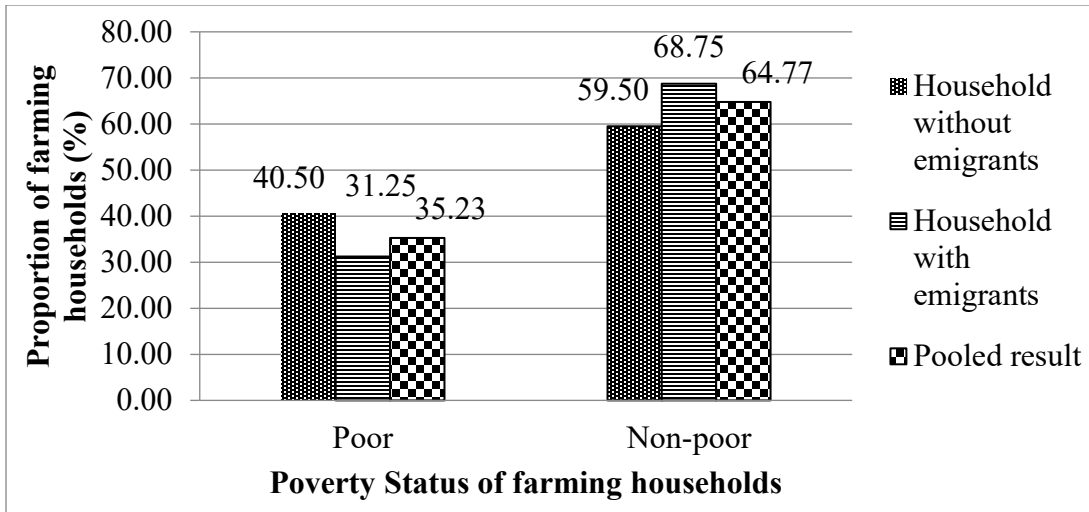


Figure 1: Distribution of farming households according to poverty status

Table 1: Estimated FGT indices

Poverty profile	FGT indices	Proportion (%)
Incidence	0.3523	35.23
Depth	0.2669	26.69
Severity	0.0713	7.13

*Poverty line = ₦4,993.34

Table 2: Probit regression estimates of factors affecting poverty status of farming households in Edo State

Variable	Coefficient	Standard error	z-value
Emigration status of household (emigrant =1, otherwise =0)	-0.8961**	0.3824	-2.34
Remittance (₦)	-4.96E-06***	1.49E-06	-3.32
Household size (number)	0.1905***	0.0539	3.53
Age of household head (years)	-0.0002	0.0136	-0.02
Sex of household head (male = 1, female = 0)	0.0369	0.2355	0.16
Education (years of schooling)	-0.0493*	0.0282	-1.75
Farm income (₦)	-3.03E-06***	7.98E-07	-3.80
Off-farm income (₦)	-1.59E-06***	4.67E-07	-3.41
Volume of borrowed capital (₦)	8.79E-07	1.19E-06	0.74
Extension visits (number)	0.109	0.1159	0.94
Farm size (ha)	-0.0156	0.1632	-0.10
Farming experience (years)	0.0024	0.0109	0.22
Cooperative membership (member =1, otherwise =0)	-0.0627	0.3792	-0.17
Constant	0.2995	0.7096	0.42
Diagnostics Statistics			
LR Chi-square	157.49***		
Log likelihood	-91.5223		

*, ** and *** implies significance at $p \leq 0.10$, $p \leq 0.05$ and $p \leq 0.01$ probability levels respectively

Source: Field Survey, 2019.

Table 3: Marginal effects and the partial elasticity estimates of significant variables

Variable	Marginal effect coefficient	Partial elasticity
Emigration status of household (emigrant =1, otherwise =0)	-0.1539	-0.0301
Remittance income (₦)	-8.54E-07	-0.0359
Household size (number)	0.0327	0.2620
Education (years of schooling)	-0.0085	-0.0652
Farm income (₦)	-5.21E-07	-0.1539
Off-farm income (₦)	-2.74E-07	-0.0794

Source: Field Survey, 2019.