



THE EFFECTS OF EMIGRATION AND REMITTANCE ON FOOD SECURITY STATUS OF FARMING HOUSEHOLDS IN EDO STATE, NIGERIA

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ABSTRACT

The study determined the effects of emigration and remittance on the food security status of farming households in Edo State, Nigeria. From four (4) Local Government Areas across the State, 297 farming households were sampled randomly for the study. Structured questionnaire and interview schedule were used to obtain primary data from the farmers. Data were analyzed with descriptive statistics, food security index (FSI) and a probit regression model. The FSI classification revealed 78.41% of the households with emigrants, 64.75% without emigrants and 72.82% of the pooled results were food secure. Probit regression analysis showed that emigration status at $P \leq 0.01$ and remittance income at $P \leq 0.10$ probability levels had significant positive effect on the food security status of the farming households. Household size, farm income and access to credit each at $P \leq 0.01$, off-farm income at $P \leq 0.05$ and farming experience at $P \leq 0.10$ probability levels had significant influence on the farmers' food security status. It was concluded that emigration status and remittance had significant positive effect on the food security status of the farming households in Edo State. Nonetheless, food insecurity still remains a major issue among the farming households in the area that cannot be overlooked by the government. It was therefore, recommended that efforts should be made to ensure that farmers are well enlightened and encouraged through extension service delivery to diversify their livelihood, engage and invest their income in productive farm and off-farm activities towards improved standard of living.

Keywords: Edo State, Emigration, Farming Households, Food Security, Remittance.

INTRODUCTION

The term food security, first originated at the World Food Conference in 1974. Food security exists when all people at all relevant times, have the economic wherewithal and unimpeded access to adequate, safe and nourishing food that meet their nutritional requirements and food preferences for a vibrant and healthy life. World Bank (2018) had brought to fore three major factors which influence food security, that is, availability, accessibility and utilization of food. Notably, Nigeria ranks 103rd out of 119 countries on the Global Hunger Index with a score index of 31.1 in 2018. Therefore, among the several coping mechanisms adopted by Nigerians include emigration.

In Nigeria, emigration is to great extent associated with a search for better livelihood. In fact, it has been reported that emigration brings about development and one way by which emigrants contribute to development is through remittances (Food and Agriculture Organization [FAO], 2013). Emigration as a lifestyle coping strategy, to say the least, could be a major catalyst in boosting agricultural production through remittances. The United Nations Department for Economic and Social Affairs (UNDESA, 2017) reported that the number of emigrants worldwide is witnessing rapid increase in recent years. In fact, emigration is a significant concern in carrying out the 2030 Agenda for Sustainable Development Goal



especially as it relates to agricultural production which is a key component to ending poverty and food insecurity.

Orozco (2006) reported that Nigerian emigrants have strong family ties and as such emigration is seen as a means to better-off family and not just individual life, therefore remittances is a logical follow up to emigration. Emigration is a common phenomenon among the people of Edo State (International Organization for Migration [IOM], 2018). In spite of the high rate of emigration, little is known on the consequences of emigration on the level of food security of farming households in Edo. Despite several researches on emigration, the effect of emigration on food security is not known in Edo state as the global information and early warning system from FAO (2018) show Nigeria among countries that need external support for food aid. It is instructive to note that any country that is not food secure is poor. Studying emigration and remittances in relation to food security is important in providing useful information about the performances of farming households by taking into account the total outputs and interactions of all the inputs from remittances deployed.

MATERIALS AND METHODS

The Study Area

The study was conducted in Edo State. The State is located in South-South Nigeria within Latitudes 5°44'N to 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 and the projected population figure for 2017 was put at 4,360,689. Edo State has a tropical climate which support agricultural activities such as the cultivation of rubber, oil palm, cocoa, yam, cassava, maize, plantain as well as green leafy vegetables which all grow abundantly in the State.

Sampling Procedure

A multi-stage and stratified sampling procedure was employed for the 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. Thereafter, a list of communities was obtained from which 10% of farming communities were sampled from each of the selected LGAs. At the third stage, farm households were stratified into two (2) strata; household with emigrant and those without emigrants. At the fourth stage, the Yamane formula in equation 1 was used to determine the sample size of respondents that were randomly selected from the population of migrant and non-migrant farm households. This gave a total of 297 households consisting of 121 households without emigrants and 176 households with emigrants. The sampling design is presented in Table 1.

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

where;

n = Sample size

N = Total population of study

1 = Constant

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



Table 1: Sampling Design for the Study

LGA	Community	Farmers without emigrants		Farmers with emigrants	
		Sample frame	Sample size	Sample frame	Sample size
Esan Central	Ewu	88	9	19	5
	Ugbegun	70	7	14	4
	Irrua	95	9	27	7
	Ipoji	62	6	13	3
Etsako West	Afanshio	89	9	30	8
	Jattu	73	7	26	7
	Ugieda	44	4	41	10
	Ogbida	40	4	22	6
	Iyerekhu	57	6	37	9
IkpobaOkha	Agbede	87	9	30	8
	Utesì	62	6	66	17
	Obagie	74	7	80	20
	Iyanomo	69	7	58	15
Orhiomwon	Ologbo	90	9	76	19
	Orogbo	85	8	51	13
	Urhonigbe	91	9	62	16
	Umoghun	47	5	36	9
Total		1,223	121	688	176

Method of Data Collection

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

Analytical Techniques

Data were analysed with descriptive statistics, per capita household expenditure food security formula and a probit regression model. Descriptive statistics involved the use of tables, frequency distribution, percentages and means.

To determine the food security status of the households, the household per capita food expenditure approach was adopted from Durba *et al.* (2019) and Yisa *et al.* (2020). The formula is expressed in equation 2:

$$F_i = \frac{\text{per capita food expenditure of } i\text{th household}}{\frac{2}{3} \text{mean per capita food expenditure of all household}} \dots (2)$$

where;

F_i = food security index

$F_i \geq 1$ = food secure household

$F_i < 1$ = food insecure household

To determine the effect of emigration and remittance on the food security status of the farming households in Edo State, probit model was adopted from Yisa *et al.* (2019). The model is as specified in equation 3:

$$y_1^* = \beta_1'X_1 + \varepsilon_1, y_1 = 1(y_1^* > 0); 0(y_1^* \leq 0) \dots (3)$$

where;

y_1 = Household food security status (food secure = 1, food insecure = 0)

- X_1 = Migration status of household (emigrant =1, otherwise =0),
- X_2 = Remittances income (₦),
- X_3 = Household size (number),
- X_4 = Age of household head (years),
- X_5 = Sex of household head (male=1, otherwise =0),
- X_6 = Education (years),
- X_7 = Farm income (₦),
- X_8 = Off-farm income (₦),
- X_9 = Access to credit (₦),
- X_{10} = Extension visits (number),
- X_{11} = Farm size (ha),
- X_{12} = Farming experience (years), and
- X_{13} = Membership of farmers association/cooperative (member =1, otherwise =0),
- βs = Coefficients of the explanatory variables to be estimated

RESULTS AND DISCUSSION

Food Security Status of Farming Household

The result of the analysis on the food security status of the farming households in Edo State is presented in Figure 1. Farm households were categorized into food secure and food insecure. The result showed that 78.41%, 64.75% and 72.82% of the households with emigrants, households without emigrants and pooled result, respectively, were food secure. These represent the majority in each category of respondent farmers and this implies that most of the farming households in the study area are food secure. This finding is similar to those Jabo *et al.* (2014) and Yisa *et al.* (2020) who also report that most farm households in Nigeria are food secure. A keen look at the result revealed that the proportion of the households with emigrants representing 78.41% is relatively higher than that of the households without emigrants (64.75%). Thus, it could be said that the households with emigrants were more food secured than their counterpart households without emigrants in the study area.

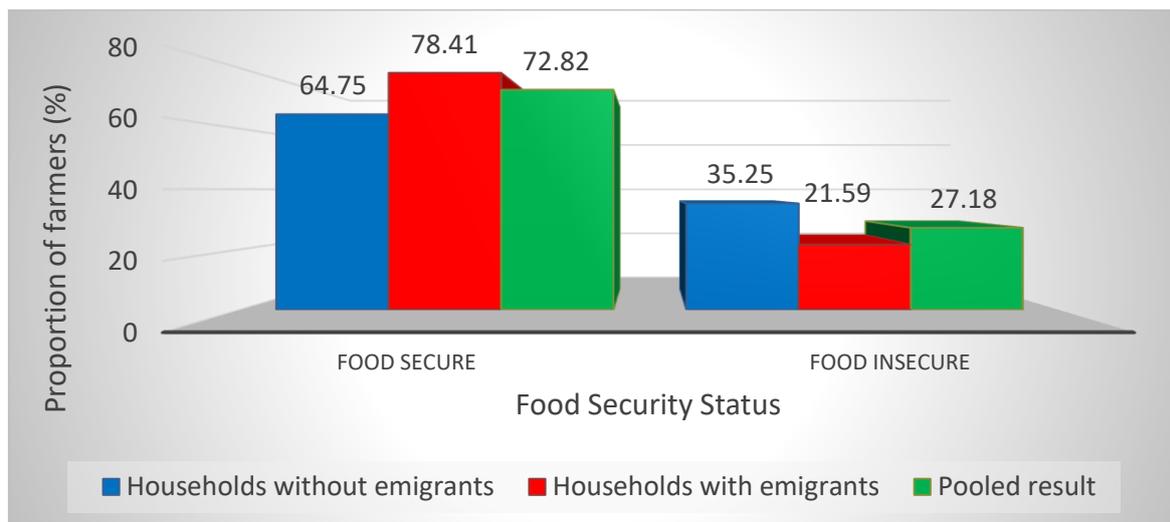


Figure 1: Food security status of farming household in Edo State

More so, the result showed that 21.59%, 35.25% and 27.18% of the farming households with emigrants, households without emigrants and pooled result, respectively, were food insecure. This implies that there is still the incidence of food insecurity among farming



households in the study area. This is still in line with the argument of Nord *et al.* (2005) that almost one out of ten households are still unable to secure its food despite the considerable efforts put forward by both public and private sectors to support poor households in getting their food needs.

Effects of Emigration and Remittance Income on the Respondent's Food Security

The result of the estimated probit regression model for the effects of emigration and remittance income on the food security status of farming households in Edo State is presented in Table 2. It revealed that the LR-Chi-square value of 207.18 was statistically significant at $P \leq 0.01$ probability level which implies that the model is significantly fit to determine the effects of emigration and remittance income on the food security status of the farmers. The positive and significant coefficient values indicate that a higher value of the variable will increase the likelihood of a farm household in Edo to be food secure while the significant negative values decrease the probability of being food secure.

The result shows that the estimated coefficient of emigration status was positive and significant at $P \leq 0.01$ probability level. The implication of this is that the likelihood of being food secure among the farmers in the area is significantly higher with emigrant households. This further implies that emigration status of the farmers had significant effect on their food security status. This finding is similar to those of Chukwuone *et al.* (2007) and Babatunde and Martinelti (2010) who reported that emigration had significant positive effect on food security status of emigrant households.

Similarly, the remittance income was positively signed and significant at $P \leq 0.10$ probability level. This implies that increase remittance income will likely lead to improve the food security among the farmers in Edo State. This gives credence to the reports of Oseni and Winter (2009) and Babatunde and Martinelti (2010) that remittance income has had positive impact on the welfare of households in Nigeria. Taylor *et al.* (2003), Jimenez (2009) and Gupta *et al.* (2009) have also presented similar reports that remittance income has had significant positive impact on the standard of living of many receiving households in other countries of the world.

The result also revealed that the coefficient of other variables; farm income at $P \leq 0.01$, off-farm income at $P \leq 0.05$, access to credit at $P \leq 0.01$ and farming experience at $P \leq 0.10$ probability levels, respectively, were positively signed and significant at influencing the food security status of the farmers in the area. This implies that farm income, off-farm income, access to credit and farming experience all had a positive and significant effect on the food security among the farmers. This is similar to previous findings reported by Awotide *et al.* (2010), Omotayo (2016), Yisa *et al.* (2019) and Yisa *et al.* (2020) that farm income, off-farm income, access to credit and farming experience had significant effect on food security among rural farm households in Nigeria.

The household size at $P \leq 0.01$ probability level was negatively and significant. This implies the farm households with larger members will find it less likely to be food secure compared to households with small members. This finding is in agreement with the findings of Omotayo (2016) and Yisa *et al.* (2020) who reported that household size is a significant factor influencing the welfare status of farming households in Ekiti and Niger States, respectively. In essence, emigration status, remittance income, household size, farm income, off-farm income, access to credit and farming experience were the significant variables affecting the food security status of farming households in Edo State, Nigeria.



Table 2: Estimates of Factors affecting Food Security Status of Farming Households

Variable	Coefficient	z-value
Constant	-0.8729	-1.17
Emigration status of household (emigrant =1, otherwise =0)	1.6785	4.31***
Remittance income (₦)	9.51E-07	1.89*
Household size (number)	-0.1307	-2.68***
Age of household head (years)	-0.0013	-0.09
Sex of household head (male = 1, female = 0)	-0.0594	-0.25
Education (years of schooling)	-0.0094	-0.33
Farm income (₦)	4.95E-06	4.74***
Off-farm income (₦)	6.21E-07	2.03**
Access to credit (₦)	6.38E-06	2.60***
Extension visits (number)	0.1629	1.33
Farm size (ha)	0.2968	1.56
Farming experience (years)	0.0225	1.81*
Cooperative membership (member =1, otherwise =0)	-0.1245	-0.25
Diagnostics Statistics		
LR Chi-square	207.18***	
Log likelihood	-81.3926	

*, ** and *** significance at $P \leq 0.10$, $P \leq 0.05$ and $P \leq 0.01$ probability levels, respectively.

Source: Field Survey, 2019

CONCLUSION AND RECOMMENDATIONS

The study concluded that emigration status and remittance income obtained by the farming households has significant effect on their food security status in the study area. Other variables that influence the food security status of farming households in the area include household size, farm income, off-farm income, access to credit and farming experience. Even though, majority of the farming households were food secure, food insecurity still remained a major issue of concern in the area which should not be overlooked. The following recommendations were made:

1. Since income from farm and off-farm sources were instrumental to attaining food security in addition to emigration status and remittance income, efforts should be made to ensure that farmers are well enlightened and encouraged through extension service delivery to diversify their livelihood, engage and invest their income in productive farm and off-farm activities towards improved standard of living.
2. The government should provide effective and stable enabling environment where business investments and other off-farm enterprises can be undertaken by the rural poor and thrive.

REFERENCES

- Awotide, O. D., Kehinde, A. L. and Agboola, P. O. (2010). Poverty and Rural Livelihood Diversification among Farming Household in South- West Nigeria. *Journal of Food, Agriculture and Environment*, 8(1): 367-371.
- Babatunde, R. O. and Martinetti, E. C. (2010). *Impact of remittances on food security and nutrition in rural Nigeria*. Department of Public Economics, University of Parvia, Italy. 7(1), 40-54.



- Chukwuone, N., Amaechina, E., Iyoko-Enebelizor, S. E. and Okpukpara, B. (2007). *Analysis of Impact of Remittance on Poverty and Inequality in Nigeria*. Research Paper presented at 6 Poverty Economic Policy (PEP), Research Network General Meeting, PMMA Network.
- Durba, A. M., Adewumi, A., Mohammed, U. S. and Adebayo, C. O. (2019). Effects of SG-2000 Improved Maize Production Technology on Farmers' Productivity and Food Security Status in Kaduna State, Nigeria. *FUDMA Journal of Agriculture and Agricultural Technology*, **5**(1): 197 – 202.
- Food and Agriculture Organization [FAO] (2018). *The State of Food and Agriculture 2018*. Food and Agriculture Organization of the United Nations: FAO Publications CATALOGUE 2018.
- Food and Agriculture Organization [FAO] (2013). *The State of Food Insecurity in the World 2013*. The Multiple dimensions of Food Security. Rome, FAO.
- Gupta, S., Pattillo, C. A. and Wagh, S. (2009). Effects of remittances on poverty and financial development in sub-Saharan Africa. *World Development*, **37**(10): 104-115.
- International Organization for Migration [IOM] (2018). *World migration Report 2018*. "Global Compact for migration", ninth in the series.
- Jabo, M. S. M., Abdullah, M. N. and Maikasuwa, A. M. (2014). Examining the incidence, depth and severity of food insecurity among rural household in Nigeria. *Journal of Economics and Sustainable Development*, **5**(26): 32-41.
- Jimenez, M. A. C. (2009). Household development in Tlapanana: A comparative study between households receiving remittances and households not receiving remittances. *Journal of Poverty*, **13**(3): 331–349.
- National Population Commission [NPC] (2006). *Provisional Census Figure: Census 1991*. Abuja: National Population Commission (NPC)/Federal Government of Nigeria (FGN).
- Nord, M., Andrews, M. and Cadson, S. (2005). *Household Food Security in the United States, 2004*. USDA-ERS Economic Research Report (11).
- Omotayo, O. A. (2016). Economic synergy between rural off-farm income and households' poverty in Ekiti State, Nigeria. *Journal of Human Ecology*, **56**(1, 2): 99-106. DOI: <https://doi.org/10.1080/09709274.2016.11907043>.
- Orozco, M. (2006). "Sending Money Home: can Remittances Reduce Poverty?" 1 & 21 insight No. 60.
- Oseni, G. and Winker, P. (2009). Rural nonfarm activities and agricultural crop production in Nigeria. *Agricultural Economics*, **40**(2): 189-201.
- Taylor, J. E., Rozelle, S. and de Brauw, A. (2003). Migration and incomes in source communities: A new economics of migration perspective from China, *Economic Development and Cultural Change*, **52**: 75–101.
- United Nation Department of Economic and Social Affairs [UNDESA] (2017). *International Migration Report Highlights*. (ST/ESA/SER.A/404)
- World Bank (2018). *The Migration and Development Brief and The Latest Migration and remittances*. Data 29 IBRD. IDA.
- Yisa, E. S., Adewumi, A., Adebayo, C. O. and Opuama, I. I. (2020). Effects of Off-farm Income on Poverty and Food Security Status of Farmers in Paikoro Area of Niger State, Nigeria. *Asian Journal of Economics, Business and Accounting*, **15**(4): 56 – 65.
- Yisa, E. S., Coker, A. A. A., Etonihu, K. I. and Adewumi, A. (2019). *Effects of Conflicts on Food Security and Poverty Status of Irish Potato Farmers in Plateau State, Nigeria*. Proceedings of the ECONAGRO 3rd International Conference on Food and Agricultural Economics held at Alanya Alaaddin Keykubat University, Alanya/Antalya, Turkey, 25th – 26th April, 2019. Pp.311 – 320.