

Research article

# EFFECT OF COMMUNITY--BASED PROGRAMME ON THE POVERTY PROFILES OF FARMERS IN CROSS RIVER STATE, NIGERIA

NWAOBIALA, C. U AND NWOSU, I.E

Department of Rural Sociology and Extension  
Michael Okpara University of Agriculture Umudike, Abia State, Nigeria

Corresponding Author's Email: [cunwaobiala@gmail.com](mailto:cunwaobiala@gmail.com) +2348061636932



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## ABSTRACT

This study analyzed effect of IFAD/FGN/NDDC/Community-Based Natural Resource Management Programme on the poverty profiles of participating and non participating farmers in Cross River State, Nigeria. Purposive and multistage random sampling techniques were used in the selection of Local Government Areas, participating communities, farmer groups and participating farmers. The sample size was 240 farmers (120 participating and 120 non participating IFAD farmers). Data were collected with two sets of structured questionnaire and analyzed with descriptive statistics, paired t-test and poverty gap analysis. The result indicates that mean ages of IFAD farmers was 37.80 years, while non IFAD farmers had 42.66 years. The mean farming experiences for both farmers were 14.40 years (IFAD farmers) and 15.65 years (non IFAD farmers), with farm sizes of 2.90 and 2.75 hectares for IFAD farmers and non IFAD farmers respectively. IFAD farmers had an annual farm income of ₦198, 650.00 (317.84 USD) as against ₦167, 762.00 (268.42USD) for non IFAD farmers. The results of the paired t-test analysis showed that farm size, variable inputs, farm output and farm income of IFAD participating farmers were significantly higher than the non-IFAD participating farmers at given levels of probability. The results of poverty gap analysis showed that 47.67% and 40.91% of IFAD and non IFAD farmers were poor respectively and will require 37.38% and 33.66% to get out of their poverty line to get out of poverty. Policies aimed at timely supply of farm inputs since farming is time bound, replication of the programme to other communities and prompt payment of counterpart funds by federal, state and local governments were advocated for sustainable poverty reduction in the rural areas. Copyright © WJABS, all rights reserved.

**Keywords:** Effect, IFAD, Poverty, Profiles, Farmers

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## INTRODUCTION

Poverty in Nigeria is pervasive although the country is rich in human and material resources that should translate into better living standards (Omonona, 2010). Widespread poverty with daily consumption expenditures of below the equivalent of USD 1 per day, illiteracy, diseases and human misery still remain conspicuous features of the rural areas (World Bank, 2013). Despite the various efforts of government to reduce the incidence of poverty through different poverty alleviation programmes and strategies and the quest to be one of the 20 largest economies by the year 2020, Nigeria continues to be one of the poorest countries in the world (Adepoju, 2012). Its incidence rose from 27.20% in 1980 to 42.7% in 1992 and 69% in 2010(NBS, 2012b). The UNDP Human Index Report presents a bleak profile of poverty situation in Nigeria with respect to two principal categories of poverty - human and income. Nigeria is ranked 15<sup>th</sup> out of 186 amongst countries with low development index, life expectancy placed at 52 years old , while adult literacy was 61.3% and 68% of Nigerians are stated to be having below \$1.25 daily (Channelstv, 2013). The key to alleviating poverty in many parts of the world is a more productive and profitable agricultural sector. This is because agriculture paves the way for economic growth in poorer nations, through income distribution and building of a sustained economic growth (Fritschel and Mohan, 2006; World Bank, 2012). A rising share of food expenditure reflects the hardship that poor families face when trying to maintain food consumption when either food prices rise or incomes fall, by sacrificing other household spending, whether for consumption or investment (FAO, 2012). According to Garba (2006), all the poverty alleviation initiatives in Nigeria since independence have yielded very little fruit. He claims that the programmes were mostly not designed to alleviate poverty because they lacked clearly defined policy frameworks with proper guidelines for poverty alleviation. In order to raise the standard of living of the people and in still in the poor people some sense of belonging, several Nigerian governments adopted and implemented various poverty alleviation programmes including International Fund for Agricultural Development in conjunction with Federal Government of Nigeria and Niger Delta Development Commission – Community Based Natural Resource Management Programme (IFAD/FGN/NDDC/CBNRMP). Most of these programmes centre on community development approach rather, neglecting and appraising the outcome of their mandate, which is centred on poverty reduction (Nwaobiala, 2013). In fact, it is widely believed that the successive failure of most rural development programmes in Nigeria, especially government sponsored programmes stem from the inability of stake holders (Federal, States and Local Government Areas) in paying counterpart funds as and when due to imposition of programmes on the people by faceless bureaucrats who in turn affect the beneficiaries' poverty status.

In order to reduce poverty in the rural areas the Federal Government of Nigeria and World Bank in conjunction Niger Delta Development Commission established – Community Based Natural Resource Management Programme (IFAD/FGN/NDDC/CBNRMP). The initiative was centred on transfer of agricultural technologies in the areas of crops, livestock, agro forestry (Non Timber Products) and fisheries to benefiting farmers, ensuring adoption of these technologies, formation of viable cooperative associations, disbursement of funds for community and rural development, meeting the changing needs of vulnerable groups including men and youths, involving communities in sustaining natural resources endowed in their areas and sensitization of all sectors of the community for development (CBNRMP, 2002). In view of the above stated facts, this study was designed to assess the effect of IFAD/FGN/NDDC/Community-Based Programme on the poverty profiles of participating and non participating farmers in Cross River State, Nigeria.

### The specific objectives were to;

1. describe selected socio-economic characteristics of participating farmers and non participating farmers in the study area.
2. determine effect of the programme on participating farmers farm size, variable inputs, farm output and farm income in the study area and;
3. determine the poverty levels of IFAD and Non IFAD farmers in the study area.

### Hypotheses

$H_01$ : There is no significant difference between farm size, variable inputs, farm output and farm income of IFAD and non IFAD farmers in the study area.

$H_02$ : There is no significant difference between poverty profiles of IFAD and non IFAD farmers in the study area.

## MATERIALS AND METHODS

The study was conducted in Cross River State, which is one of the beneficiary states of the programme. Cross River State lies between Latitude  $5^{\circ}5'1''$  and  $6^{\circ}40'1''$  North of the Equator and Longitude  $8^{\circ}10'1''$  and  $8^{\circ}5'1''$  East of the Greenwich Meridian. The State is bounded on the North by Benue State, on the South by Akwa Ibom State, on the East by Cameroon Republic and the West by Ebonyi State. The State is located within the forest belt of Nigeria and temperature ranges between  $20^{\circ}\text{C}$  and  $30^{\circ}\text{C}$  with relative humidity between 70% and 90%. Most people in the rural areas engage in artisanal fishing. The major farms crops grown include cassava, yam, maize, plantain, banana among others. The cash crops include oil palm and cocoa trees, livestock reared are sheep and goat, pigs, poultry birds among others (CRSPC, 2006). Multistage random sampling technique was used in the selection of local government areas (programme areas), participating communities, farmers groups and participating farmers. First, three (3) Local Government Areas (LGA's) were randomly selected from the State, namely Yala, Yakurr and Obubra. Second, two (2) participating communities each were randomly selected from the 3 LGA's to give a total of six (6) participating communities. Furthermore, from the selected participating communities, two (2) farmer groups each were randomly selected, which gave a total of twelve (12) farmer groups. Finally, ten (10) participating farmers each were randomly selected from the selected farmer groups to give a sample size of one hundred and twenty (120) participating farmers. Objective 1 was analyzed with descriptive statistics such as frequency distribution table, mean counts, percentages, while objective 2 and 3 were realized with paired "t" test and poverty gap analysis respectively.

## Model Specifications

- i. The paired treatment test was used to determine the impact (effect) of the programme on the beneficiary farmers was adopted by Ezeh and ewachukwu (2010)

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

$n_1 + n_2 - 2$  degrees of freedom

Where "t" = Student "t" statistic

$\bar{X}_1$  = sample mean for participating farmers

$\bar{X}_2$  = sample mean for non participating farmers

$s_1^2$  = sample variance for participating farmers

$s_2^2$  = sample variance for non participating farmers

$n_1$  = sample size for participating farmers

$n_2$  = sample size for non participating farmers

- ii. In estimating the levels of poverty among the participating farmers, the Poverty Gap model was used in accordance with Ezeh (2007) and Poverty Line.

$$H = q/n - - - - - \quad (i)$$

Where

H = head count ratio

q = number of poor participating farmers

n = total number of participating farmers

$$1 = [(z - y)/z] - - - - \quad (ii)$$

Where,

1 = poverty gap

Z = poverty line – estimated using the mean household expenditure

Y = average income of the poor participating farmers

## RESULTS AND DISCUSSION

The socio-economic characteristics of respondents are shown in Table 1. The result reveals that 64.17% and 63.25% of IFAD and non IFAD farmers were males respectively. This result agrees with the findings of Nwaobiala *et al.*, (2009) who identified women farmers as major producers of arable crops in Rivers State,

Nigeria. The table also shows that the mean age of IFAD farmers was 37.80 years while the non IFAD farmers had 42.66 years. This implies that the farmers are in their productive ages. The mean size of the respondents showed that IFAD farmers cultivated on 2.90 hectares and 2.75 for non IFAD farmers. The IFAD farmers acquired 11 years of farming experience while their counterpart had 13.10 years of farming experience. Farming experience has been shown to enhance participation and adoption of technologies by farmers especially in donor sponsored programmes in Nigeria (Nwaobiala *et al.*, 2012). Finally, the farmers realized a mean annual farm income of ₦198, 650.00 (317.84USD) (IFAD farmers) and ₦167, 762.00 (268.42USD) (non IFAD farmers).

**Table 1: Percentage and Mean Distribution of Selected Socio-economic Characteristics of IFAD and Non IFAD Farmers in Cross River State of Nigeria**

Variables	IFAD Participating Farmers	Non IFAD Participating Farmers
Gender		
Male (%)	64.17	63.25
Female (%)	35.83	36.75
Age (years)	37.80	42.66
Farm Size (hectares)	2.90	2.75
Farming Experience (years)	11.00	13.10
Annual Farm income (₦)	198,650.00 (317.84USD)	167,762.00 (268.42USD)

Source: Field Survey Data, 2012      1USD = 160 NGN (Nigerian Naira)

### **Effect of IFAD/FGN/NDDC/Community-Based Natural Resource Management on Beneficiaries in Cross River State, Nigeria**

The result of a difference in farm sizes, variable inputs, farm output and farm income of Cross River State IFAD and non IFAD farmers is presented in Table 2.

The farm size of Cross River State IFAD and non IFAD farmers shows that the mean farm size of participating farmers was 0.383 hectares, while the non-participating farmer was 0.286 hectares. The difference in mean between the two groups of farmers is 0.097 hectares while the mean standard deviation was 0.208549. The result indicated a calculated "t" of 2.32, which was greater than the tabulated "t" of 1.96 and was statistically significant at 5.0% level of probability. The result shows that the participating farmers engaged more in arable crop production and homestead fish farming rather than engaging in artisanal fishing, unlike their counter parts. This led to increased farm size.

The result of a difference in variable inputs used by IFAD and non- IFAD farmers revealed that the participating farmers used a mean variable input of 875.8667kg while the non-participating employed 457.8417kg of variable inputs in their production process. The difference in mean between the two groups of farmers was 418.025kg with a standard deviation of 926.1827. The result shows that the calculated "t" was 3.19, which is greater than the tabulated "t" of 2.58 and was statistically significant at 5.0% level of probability. This implies that the participating farmers used more quantities of variables inputs than the non-participating farmers which were attributable to their large farm size. Jayne (2004) affirmed that the size of a farm is a determinant to the actual quantities of inputs required by farmers in their production process.

The output levels of IFAD and non- IFAD farmers in Cross River State was statistically compared. The Table showed that the mean farm output of participating farmers was 50770.934kg, while the non-participating farmers recorded a mean farm output of 4529.768kg. The mean difference of the two farmer groups was 548.166kg with a mean standard deviation of 4706.243kg. The result shows that the calculated "t" is 3.86, which was greater than the tabulated "t" of 2.58 and is significant at 1.0% level of probability. The result shows that the participating farmers had more farm output than the non-participating farmers when statistically compared. Since there was a corresponding increase in the variable inputs used by IFAD farmers, the resultant effect will be increased farm output. This result is in conformity with the findings of Nwaobiala *et al.*, (2009) where they found that farm output of Agip Green River Project farmers (GRP) were significantly higher than the non- GRP farmers in Rivers state Nigeria.

The Annual farm income of Cross River State IFAD farmers and non IFAD farmers indicate that the mean annual farm income of participating farmers was ₦186, 675.00 (298.68USD), while the non-participating farmers had ₦157, 538.50 (252.06USD). The mean difference between the two groups of farmers was

N29.137.50 (46.61USD), while the standard deviation is ₦90,075.45 (14.41USD). The result shows that the calculated “t” is 2.12, which was greater than the tabulated “t” of 1.96 and is significant at 5.0% level of probability. The implication of this finding is that the participating farmers had more farm income than the non-participating farmers in the study area. This may be attributed to the variety of sales from arable crops and table fishes sold by IFAD farmers which are improved, thus resulting to increased output.

**Table 2: Result of Paired T-test for the Difference in Farm Size, Variable Input, Farm Output and Farm Income of IFAD Participating and Non-Participating Farmers in Cross River State, Nigeria**

Group Pairs	Group Mean	Standard Deviation	T-calculated	T-tabulated
<b>IFADPFS</b>	0.383	0.4012417		
<b>NIPADPFS</b>	0.286	0.1926958		
<b>Pair 1: IFADPFS – NAFADPFS</b>	0.097	0.2085459	2.32**	1.96
<b>IFADPFI</b>	875.8667	1337.755		
<b>NIFADPFI</b>	457.8417	411.3673		
<b>Pair 2: IFADPFI – NIFADPFI</b>	418.025	926.3877	3.19***	2.58
<b>IFADPFO</b>	5077.934	6395.875		
<b>NIFADPFO</b>	4529.768	1689.635		
<b>Pair 3: IFADPFO – NIFADPFO</b>	548.166	4706.243	3.86***	2.58
<b>IFADFIN</b>	186675	189964.4		
<b>NIFADPFIN</b>	157537.5	99888.95		
<b>Pair 4: IFADPFIN – NIFADPFIN</b>	291375	90075.45	2.12**	1.96

Source: Computed From Field Survey Data, 2012. 1USD = 160 NGN (Nigerian Naira)

\*, \*\*and \*\*\* is significant at 10%, 5% and 1% level of probability respectively.

Where,

IFADPFS	=	IFAD participating farmers farm size
NIFADPFS	=	Non-IFAD participating farm size
IFADPFI	=	IFAD participating farmers variable inputs
NIFADPFI	=	Non-IFAD participating farmers variable inputs.
IFADPFO	=	IFAD participating farmers output
NIFADPFO	=	Non-IFAD participating farmers output.
IFAD PFIN	=	IFAD participating farmers farm income.
NIFAD PFIN	=	Non-IFAD participating farmers farm income.

## Determination of Poverty Levels among IFAD and non IFAD Participating Farmers of in Cross River State, Nigeria

The poverty indicators of participating and non participating IFAD farmers in Cross River state is shown in Table 3. The result shows the poverty line (mean monthly household expenditure) of IFAD farmers was ₦185, 780.76 (297.24USD)per annum, with average annual income of ₦114,230.57(182.76.80USD), while the non IFAD farmers was ₦278,659.32 (445.85.44USD) with average income of ₦245,574.61(392.91.04USD). The result also indicated that, the incidence of poverty otherwise known as the head count ratio (Ezeh, 2007) was 0.4767% for Abia IFAD farmers and 0.4091for non IFAD farmers. This implies that 33.33 % and 45.21 % of IFAD and non IFAD farmers respectively were poor because their incomes fell short of the mean household expenditure used as the poverty line. The poverty gap also known as the income shortfall allows for the assessment of the depth of poverty among IFAD participating farmers, showed that the poverty gap of IFAD farmers was 0.37.38 percent and 0.33.66, meaning that IFAD and non IFAD farmers require 21.87% and 32.59% respectively of poverty lines to get out of poverty. This amounts to ₦ 210,750.12 (337.20USD) per annum for poor IFAD farmers and ₦985, 599.63(1576.95USD) for non IFAD farmers. Omonona (2010) obtained a similar result on household poverty of migrants in Nigeria.

**Table 3: Poverty Gap of IFAD and Non IFAD Farmers in Cross River State, Nigeria**

Items	IFAD Farmers	Non IFAD Farmers
Mean Household Expenditure (₦)	185,780.76	114,230.57
Average Income (₦)	278,659.32	245,574.61
Poverty Incidence (%)	47.67	40.91
Poverty Gap (%)	37.38	33.66
Poverty Line (₦)	116,337.36	985,599.63

**Source:** Field Survey Data, 2012    1USD = 160 NGN (Nigerian Naira)

## CONCLUSION AND RECOMMENDATIONS

The study has shown that the programme have impacted positively on the participating farmers in relation to their farm size, variable inputs, farm output and farm income than the non beneficiaries. It also reveals that the poverty levels of beneficiary farmers were relatively lower than the non participating farmers, indicating that the programme has an effect on their livelihoods.

The study therefore recommends that;

1. The programme needs to be sustained replicated to other communities since the poverty incidence was low.
2. Review of Land Use Act of 1990 of Nigeria is advocated so that landless peasant farmers will have access for increased agricultural production.
3. Timely supply farm inputs to farmers are advocated since farming is time bound.
4. Prompt payment of counterpart funds by federal, states and local governments is essential to sustain the programme.

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## REFERENCES

- [1] Adepoju, A.O.(2012). Poverty Transitions in Rural South West Nigeria. *Global Journal of Science Frontier Research*, 12(1): 19 – 29.
- [2] Channelstv (2013). Nigeria is not Improving its Human Development Index [channelstv.com/home](http://channelstv.com/home) 2913/03/19 Posted March, 2013.
- [3] Community-Based Natural Resources Management Programme (CBNRMP) (2002). *Programme Support Office Implementation Manual* Port-Harcourt, Nigeria. Vol. 1 Pp 2-5.
- [4] Cross River State Planning Commission (CRSPC) (2006). Cross River State Economic Empowerment Development Strategy Report. Cross River State Government Publication.
- [5] Ezeh, C. I. (2007). Poverty Profiles and Determinants of Expenditures of Rural Women Households in Nigeria. *The Nigerian Journal of Development Studies* 6 (1): 187–204.
- [6] Ezeh, C.I. and Nwachukwu, I. N. (2010). Micro level Impact of National Fadama II Project on Rural Poverty in Imo State, Nigeria. *African Journal of Food, Agriculture, Nutrition and Development*. Rural Outreach Programme. 10(9) Pp. 4016 – 4031.
- [7] Food and Agriculture Organization (FAO) (2012). The State of Food Insecurity in the World 2012. Economic Growth is Necessary but not Sufficient to Accelerate Reduction of Hunger and Malnutrition, Rome, FAO. pp 1 – 61.
- [8] Fritschel, H. and Mohan, U. (2006). ‘Pushing Back Poverty in India in Pinstrup – Anderson, P and Pandya – Lorch, R (eds). *The Unfinished Agenda*. Washington. International Food Policy Research Institute, Pp. 171 – 176.

- [9] Garba, A. (2006). Alleviating Poverty in Nigeria. Paper Presented at the Annual Convention of Zumunta Association, Minneapolis, MN, USA, July, 28 – 29.
- [10] Nwaobiala, C. U. (2013). Appraisal of Farmers' Participation in IFAD/FGN/NDDC/Community Based Natural Resource Management Programme in Abia and Cross River States Nigeria. A Ph.D Thesis Department of Agricultural Economics and Extension Abia State University Uturu.
- [11] Nwaobiala, C.U. (2010). Effects of Green River Project on Cassava Farmers Production in Ogbia/Egbema/Ndoni LGA of Rivers State, Nigeria. *Global Approaches to Extension Practice (GAEP) Journal* 6 (2): 18-23.
- [12] Nwaobiala, C.U., Akele, S.E, Onumadu, F.N. and Okoronkwo, M.O. (2009). Influence of Socio-Economic Factors on Crop Farmers Production in Ogbia/Egbema/Ndoni Local Government Area of Rivers State, Nigeria. *Global Approaches to Extension Practice (GAEP)*, *Journal* 5(1): 63 - 67.
- [13] Nwaobiala, C.U., Ezech, C.I. and Unamma, R.P.A. (2012). Farmers' Participation in IFAD/FGN/NDDC/Community-Based Natural Resource Management Programme Technologies in Abia State, Nigeria. *International Journal of Applied Research and Technology (IJRT)*, 1(6): 94 - 99. [www.esxpublishers.com](http://www.esxpublishers.com) (Online).
- [14] Omonona B.T. (2010) "Household Poverty and Inequality: The implication of Migrants Remittances in Nigeria" *Journal of Economic Policy Reform* Vol. 13 No 2 pp 191 -199.
- [15] World Bank (2012). Poverty in the Age of Globalization, Washington D.C.
- [16] World Bank (2013). Nigeria Poverty in the midst of Plenty - The Challenge of Growth. "With Inclusion in the World Bank Poverty Assessment". May 2013 No 14733 United Nations.