Effect of International Fund for Agricultural Development (IFAD) Programmes on Poverty Reduction in Ogbia Local Government Area of Bayelsa State, Nigeria

Accessible at: https://jccr.sccdr.org.ng/index.php/jccr/issue/view/1

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ABSTRACT

The study evaluated International Fund for Agricultural Development (IFAD) programme on poverty reduction among community members in Bayelsa State. Purposive and multi-stage random sampling techniques were used in the selection of one hundred and twenty (120) community members. Data were collected using structured questionnaire and analyzed with descriptive statistics, ordinary least square and analysis of variance (ANOVA). The result showed that community members identified construction of radio house (=3.1), establishment of cassava processing mill (=3.3), establishment of cassava farm (=3.2), establishment of poultry farm (=2.7) and establishment of plantain farm (=3.3) as the various IFAD programmes provided to reduce poverty. Community members participated in construction of landing jetty (=3.2), establishment of cassava processing mill (=3.1) and construction of cluster fish pond (=3.2). IFAD was effective in monitoring of our programmes (=2.5), supervision of our programmes (=2.5) and field workshop (=2.3). The result of the ordinary least square multiple regression showed that establishment of poultry farm was significant at 5% level. The ANOVA result showed a significant difference on the level of participation of the community member's in IFAD programme. The study concluded that IFAD programmes were effective in reducing poverty among community members. Hence, the study recommended that the community members should be encouraged to participate more in IFAD programmes since the programme increase their income

Keywords: IFAD, Poverty Reduction and community members

INTRODUCTION

Nigeria has been described by the United Nations (UN) as the country with the highest population of the poor in the World with over 80 million of her populace living below poverty line of US$1.25 a day (Opejobi, 2016). According to the report, Nigeria with a population of about 175 million is the most populous nation in Africa and the seventh most populous country in the World. According to Ojo (2016), Nigeria is a naturally blessed country, but with a larger part of the citizenry ravaged by poverty. Despite Nigeria's surplus human and natural resources that should have translated into better living standard of it's citizen, poverty is widespread in the country and has increased since the late 1990s (Nwachukwu, 2014, Nwaobiala and Nwosu 2015). In order to raise the standard of living of the people and instill in them a sense of belonging, several Nigerian governments adopted and implemented various poverty alleviation programmes including the International Fund for Agricultural Development (IFAD) in collaboration with Federal Government of Nigeria, Niger Delta Development Commission and Community Based Natural Resource Management Programme (IFAD/FGN/NDDC/CBNRMP). IFAD in it's recent effort towards reduction of poverty and improvement in the livelihood of community members has implemented a Community Based Agricultural and Rural Development Program based on established indices of endemic poverty in some local government areas in Bayelsa state with fragile ecosystem. (Manga *et al.* 2014).

Despite the abundant deposition of crude oil and the presence of Government programmes, poverty is still severe in rural Bayelsa communities with up to 80% of the population living below the poverty line with limited social services and infrastructure. About 90% of food in the state is produced by small scale farmers who cultivate small plots of land and depend on rainfall rather than irrigation systems (Nwachukwu, 2014). The rural populace play a major role in the production, processing and marketing of food crops, but their productivity is hindered by ill health, particularly diarrhea and malaria (IFAD, 2012 cited in Nwachukwu, 2014, Nwachukwu, 2012). Rural infrastructure in Bayelsa has long been neglected. Investments in health, education and water supply have been focused largely in the cities. As a result, the rural dwellers has extremely limited access to services as landing jetty, schools, teachers quarters, agro processing mills, fish and livestock farms and about half of the population lacks access to safe drinking water (Nwachukwu, 2014).

The neglect of rural infrastructure affects the profitability of agriculture production.
In-spite of the laudable programs embarked upon to combat the effect of poverty, and the huge scarce of resource devoted to poverty alleviation by the previous Nigeria Governments, Modupe (2008) noted that the level of unemployment especially among community members continued to rise while poverty conditions worsen. The community members still suffer social problems like poverty and ignorance. With the interventions of development agencies like the World Bank, United Nations Development Programme (UNDP) and International Fund for Agricultural Development (IFAD) with an unbiased view and more informed knowledge of the rural people and their communities, the problems and needs of rural communities would be appreciated and assisted to improve their socio-economic conditions (Nwachukwu, 2003).

According to (Manga *et al.* 2014), the knowledge that could enable the community members to produce more farm products and get more benefits for their efforts is available, but inaccessible. This may be because the programmes have not yielded the desired result in alleviating the poverty situation of community members. It is imperative therefore, to examine the effect of International Fund for Agricultural Development

(IFAD) Programmes on poverty reduction among community members in Bayelsa State, Nigeria.

The Specific objectives were to:
1) identify the various IFAD programmes,
2) ascertain the level of participation of the farmers in IFAD programmes, and
3) ascertain the effectiveness of IFAD programme on poverty reduction in the study area

It was hypothesized that IFAD programmes did not significantly influence participants' income after the programmes; there was no significant difference on the level of participation of the community members in IFAD   programme in the study area

METHODOLOGY
Bayelsa State comprises eight Local Government Areas, namely: Yenagoa, Kolokuma/Opukuma, Nembe, Sagbama, Southern Ijaw, Brass, Ogbia and Ekeremor. The State is geographically located within latitude 04° 15' North, 05° 22' West and 06° 45 East. The major occupation of the people is fishing. It shares boundaries with Delta State on the North, Rivers State on the East and the Atlantic Ocean on the West and South. The major occupation of the fishing but also engage in arable farming, palm oil milling and lumbering. The population of the study comprised all community members in Bayelsa State. A purposive sampling technique was used to select Ogbia Local Government area. Simple random sampling technique was used to select 20 community member's each from six communities: Oloibiri, Oruma, Kolo-town, Imiringi, Otusega and Elebele which gave us a sample size of 120 community members. Data for the study were collected through the use of a questionnaire. The data were analyzed using mean scores, OLS and ANOVA
Decision rule: A 4-point rating scale of 4+3+2+1 = 10/4 = 2.5. Hence, the cut-off point is 2.55 as the upper limit

Model specifications
Ordinary lease square (OLS):
$$Y_1 = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + b_7x_7 + e \qquad (1.0)$$

Where,
Y = participant income (Naira equivalent after the programme proxy for poverty reduction)
X_1 = Establishment of goat farm (mean response of the respondent on a 4-point rating scale)
X_2 = Establishment of cassava farm (mean response of the respondent on a 4-point rating scale)
X_3 = Establishment of plantain farm (mean response of the respondent on a 4-point rating scale)
X_4 = Establishment of poultry farm (mean response of the respondent on a 4-point rating scale)
X_5 = Establishment of cassava processing mill (mean response of the respondent on a 4-point rating scale)
X_6 = Construction of cluster fish pond (mean response of the respondent on a 4-point rating scale)
X_7 = Training community members on tailoring/provision of starter pack (mean response of the respondent on a 4-point rating scale)

e = error term.

Analysis of variance (ANOVA)
The study used ANOVA to determine differences between distributions mean among host communities under investigation. ANOVA as used by Okringbo *et al.* (2019) is given by the formula:

$$(2)$$

This hypothesis was tested using One-way Analysis of Variance (ANOVA). The One-way ANOVA F-test is specified as:

$$F - statistic = \frac{Between\ groups\ mean\ square(BGMS)}{Within\ groups\ mean\ square(WGMS)} \qquad (3)$$

Decision Rule: If the computed value of F-test (ANOVA) is greater than the tabulated F- value of at 5% level of significance

RESULTS AND DISCUSSION
The various IFAD programmes
Result in Table 1 shows the various (IFAD) programmes. The mean rating on a 4-point scale shows that construction of radio house ($\bar{x}$ =3.1), establishment of cassava processing mills ($\bar{x}$=3.3), training community members on tailoring/provision of starter pack ($\bar{x}$ =3.1), construction of fish ponds ($\bar{X}$=3.3), establishment of cassava farm ($\bar{x}$ =3.2), establishment of poultry farm ($\bar{X}$=2.7), establishment of goat farm($\bar{x}$ =2.5), establishment of plantain farm ($\bar{x}$ =3.3) and construction of teachers quarters' ($\bar{x}$ =2.3). The result shows that IFAD programmes impacted positively on the lives of benefiting community members. These IFAD programme would be veritable tool for fighting poverty and achieving economic prosperity at the grassroots level. Obviously, development irrespective of its aspect can be internally and externally driven, and could be led by an individual, community members and or corporate organisation. These findings is in line with (Manga et al. 2014) who noted that rural women who participated in IFAD/CBARDP skill acquisition programme such as fish farming, bead making, vegetable production, oil extraction, soap making and snacks making in Kebbi State benefited from skills acquisition provided by the programme.

Table 1: Distribution according to various IFAD programmes in Study area

	Scores (120)	Mean

IFAD Programmes	SA	A	D	SD	∑FX̄	
Construction of radio house	50(200)	36(108)	24(48)	10(10)	366	3.1
Establishment cassava processing mill	60(240)	40(120)	16(32)	4(4)	396	3.3
Training farmer on tailoring/ provision of starter pack	54(216)	26(78)	32(64)	8(8)	366	3.1
Construction of fish pond	70 (210)	30(90)	6(12)	4(4)	316	3.3
Establishment of cassava farm	58(232)	38(114)	18(36)	6(6)	388	3.2
Establishment of poultry farm	34(136)	38(114)	30(60)	18(18)	328	2.7
Establishment of goat farm	20(80)	40(120)	38(76)	22(22)	298	2.5
Establishment of plantain farm	60(240)	40(120)	16(32)	4(4)	396	3.3
Construction of teachers quarters'	30(120)	20(60)	34(68)	36(36)	284	2.3
Grand mean						**2.9**

Source: Field survey, 2017. Note: Note: SA= strongly agree, A = agree, D = disagree and SD = strongly disagree. Decision mean cut-off point (2.5)

The level of participation of the community members in IFAD programmes

The result in Table 2 shows level of participation of community members in the activities of IFAD programme. The mean rating on a 4-point scale shows that construction of landing jetty ($\bar{x}$=3.2), establishment of goat farm ($\bar{x}$=3.4), establishment of cassava farm ($\bar{x}$=3.2), establishment of plantain farm ($\bar{x}$=3.5), establishment of poultry farm ($\bar{x}$=3.1), establishment of cassava processing mills ($\bar{x}$=3.1), construction of cluster fish ponds ($\bar{X}$=3.2), training of community members on tailoring/provision of starter pack ($\bar{x}$=3.0), construction of radio house ($\bar{x}$=2.8) and construction of teachers quarters ($\bar{x}$=2.9). This implies that the level of participation of community members in the IFAD agricultural programmes were high since the mean cut-off point was lower the individual mean scores. This is in line with the findings of (Nwaobiala et al 2014) who reported that majority of farmer in Abia and Cross Rivers always participated in crop technologies with IFAD Community-Based programme.

Table 2: the level of participation of community members in the activities of IFAD programme

Activities Available for Participation in IFAD Programme	Scores (n =120)				∑FX̄	Mean
	AL	OCC	RA	NE		
Construction of landing jetty	62(248)	30(90)	18(36)	10(10)	384	3.2
Establishment of goat farm	76(304)	20(60)	14(28)	10(10)	402	3.4
Establishment of cassava farm	68(272)	26(78)	12(24)	14(14)	388	3.2
Establishment of plantain farm	84(336)	20(60)	8(16)	8(8)	420	3.5
Establishment of poultry farm	48(192)	50(150)	10(20)	12(12)	374	3.1
Establishment of cassava processing mill	58(232)	34(102)	18(36)	12(12)	382	3.1
Construction of cluster fish pond	64(256)	30(90)	16(32)	10(10)	388	3.2
Training community members on tailoring/ provision of starter pack	50(200)	30(90)	34(68)	6(6)	364	3.0
Construction of radio house	44(176)	20(60)	40(80)	16(16)	332	2.8
Construction of teachers quarters	44(176)	42(126)	20(40)	14(14)	356	2.9
Grand mean						**3.1**

Source: Field survey, 2017. Note: AL= Always; OCC=Occasionally, RA= Rarely, NE= Never Decision mean cut-off point (2.5)

The effectiveness of IFAD programme on poverty reduction in the study area

The result in Table 3 shows the effectiveness of IFAD programme on poverty reduction. IFAD was very effective in the seven programme with the following means; staff visit conducted by IFAD ($\bar{x}$=2.4), field meetings IFAD ($\bar{x}$=2.5), number of meetings scheduled that held ($\bar{x}$=2.5), monitoring of progammes by IFAD ($\bar{x}$=2.5), supervision of programmes by IFAD ($\bar{x}$=2.5), number of trainings ($\bar{x}$=2.4) and field workshop ($\bar{x}$=2.3). This is in line with the findings of Akatuagba et al. (2017) who reported that IFAD programmes and activities in Nigeria were effective and targeted at alleviating poverty, improving standard of living, life expectancy and mortality rate, socio-economic and basic infrastructure. They further noted that aid assistant and well managed intervention programme will exert a real positive effect on the average productivity or physical capital in less developed countries.

Table 3: Distribution of respondents according to the effectiveness of IFAD programme on poverty reduction

Effectiveness of IFAD programme	Scores (n=120)			$\sum F\bar{X}$	$\bar{X}$
	Monthly	Quarterly	Annually		
Staff visits conducted by IFAD	70(210)	30(60)	20(20)	290	2.4
Field meetings by IFAD	75(225)	25(50)	20(20)	295	2.5
Number of meetings scheduled that held	80(240)	25(50)	15(15)	305	2.5
Monitoring of programmes by IFAD	70(210)	40(80)	10(10)	300	2.5
Supervision of programmes by IFAD	80(240)	25(50)	15(15)	305	2.5
Number of trainings	60(180)	50(100)	10(10)	290	2.4
Field workshop	50(150)	60(120)	10(10)	280	2.3
Grand mean					**2.4**

Source: Field survey, 2017. Decision mean cut-off point (2.0)

The result in Table 4. The linear functional form was chosen as the lead model because it had the highest value of the coefficient of multiple determination (R^2), F-statistics, number of significant variables and the signs on the variables which conform to the priori expectations. The model showed that the independent variables included in the model explained about 90.8 percent of the observed variation in the income status of the respondents in the study area. The F- statistic of (76.92) was significant at 5% level and confirms the significance of the entire model.

The International Fund for Agricultural Development (IFAD) programmes; establishment of goat farm, establishment of cassava farm, establishment of plantain farm, establishment poultry farm, establishment of cassava processing mill, construction of cluster fish pond and training community members on tailoring/provision of starter pack were the significant variables that influenced participants' income after the programme. This study is in corroboration with the findings of Onowu, *et al.* (2015) who noted that Community Based Natural Resource Management Programme (CBNRMP) programmes had impact on the lives of the beneficiaries who participated in the programme, but more needed to be done in the areas of capacity building, provision of storage of facilities, linkage to source of credit, adequate provision of farm input, reduction in cost of input and mainstreaming of the target audience in intervention programme.

The coefficient of establishment of goat farm was positively signed and significant at 5% level. This implies a direct relationship exists between establishment of goat farm and the level of income of the respondents. Thus, increase participation in the establishment of

goat farm would lead to a corresponding increase in level of income of the respondents. The coefficient of establishment of poultry farm was positively signed and significant at 5% level. This implies a direct relationship exists between establishment of poultry farm and participants' income after the programme. This is in line with Onowu, *et al.* (2015) who noted that to bring poverty down to its barest minimum requires strengthening of the capacity of the rural poor and that of their institutions and improvement to their access to and/ or effective management of land, water, and common property resource on sustainable basis

Table 4: Ordinary least square multiple regression results on IFAD programme does not significantly influence participants' income after the programme in the study area

Variable	Linear	Exponential	Double-log+	Semi-log
Constant	2920581 (7.13 -1.2)***	3.216 (4.016)***	-4.179 (7.286)***	37237492-10 (-5.58-1.2)***
Establishment of goat farm	-7442.395 (-1.383)	-9.975 (1.406)*	-8.113 (2.26)**	-3510237 (-1.472)
Establishment of cassava farm	-1835.552 (-0.489)	-9.877 (-1.058)*	-9.926 (0.404)	-311.364 (-0.022)
Establishment of plantain farm	1249.529 (0.974)	-9.67 (-0.393)	-9.317 (1.353)*	74070.011 (-0.235)
Establishment of poultry farm	-1933.689 (-1.104)	-9.424 (-1.166)*	-8.723 (3.123)***	41914.303 (0.781)
Establishment of cassava processing mill	185.024 (1.218)	-9.87 (0.053)	-8.971 (1.871)*	-50.350.812 (-1.991)*
Construction of cluster fish pond	1912.581 (1.125)	-9.498 (-1.811)*	-8.358 (1.356)*	714653 (-0.304)
Training community members on tailoring/ provision of starter pack	-222.98 (-0.924)	-9.594 (-0.231)	8.807 (1.193)*	99044.184 (2.555)**
R²	2.684	2.71	2.778	2.654
Adj. R²	2.66	2.696	2.752	2.636
F-statistic	65.129***	68.082***	76.92***	60.815***

Source: Field survey, 2017. Ho₁ reject at 5% level

Table 4 shows the ANOVA result of the test of significant difference on the level of participation of the community members in IFAD programme in the study area. From the Table, the calculated F-value of 1.722 which was not significant at $P < 0.05$ and less than the tabulated F-value of 3.04 at 5% level. The null hypothesis which states that there is no significant difference on the level of participation of the community members in IFAD programme in the study area was accepted. This implies that there is equal level of participation among in the IFAD programme in the study area.

Table 4: Result of ANOVA for test significant difference on the level of participation of the community member's in IFAD programme in the study area

	Sum of Squares	Df	Mean Square	F_{cal}	F_{tab}
Between Groups	124.889	29	4.307	1.722	3.04
Within Groups	225.111	90	2.501		
Total	350.000	119			

** = Significant at 5%. *Ho₁ accepted at 0.05 level*

CONCLUSION

Agricultural development programmes executed by IFAD was aimed at poverty reduction through income generation via participation of community members in the programme. From the study therefore, IFAD succeeded for a short term to implement these programmes effectively, they impacted on the benefiting community members to improve their standard of living.

RECOMMENDATIONS
i. The various IFAD programmes should be sustained through regular monitoring and supervision.
ii. Community members should be encouraged to participate more in IFAD programmes since the programme increase their income.
iii. Government should provide more policies aimed at sustaining community development programmes i.e. construction of rural infrastructures and establishment of more agricultural programmes

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