

THE INTERNATIONAL JOURNAL OF BUSINESS & MANAGEMENT

Assessment of World Bank Assisted Fadama Agricultural Development Programme on Smallholder Rural Farmers in Edo State, Nigeria

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Abstract:

Since 1975, the World Bank has committed well over USD 1.2 billion for Agricultural Development Projects (ADPs) to increase farm production and welfare among smallholder farmers in Nigeria. Evidence of evaluation of these ADPs and recently FADAMA in Nigeria is limited. Thus, this study aimed at assessing the impact of World Bank assisted Fadama programme among smallholder rural farmers in Edo State, Nigeria. To achieve this objective, data were collected from 248 farmers who participated in the World Bank assisted Fadama programme randomly sampled from 52 Fadama User Groups (FUGs) in 18 communities, covering 6 LGAs from two senatorial districts. Primary data were obtained from the respondents by means of questionnaire and interview schedule, which were analysed using frequency distribution, mean, t-test and chi-square. An assessment of the poverty profile of the farmers revealed that the World Bank project was effective in enhancing farmers' livelihood. Regarding the effectiveness of the programme in poverty reduction among smallholder farmers, the study found that the proportion of farmers/respondents who were very poor reduced from 59.3% to 17.3% after participating in the programme, while the non-poor increased from 32.3% to 59.3% after joining in the programme. Based on some limitations identified in the study it was recommended among others that the government should increase its counterpart support to agriculture development projects and link farmers with sources of better agricultural inputs and market.

Keywords: Policymaking, World Bank, smallholder, Fadama, programme, poverty

1. Introduction

The World Bank promoted Agricultural Development Projects (ADPs) which is a derivative of its agricultural development policy designed to increase the assets of small-scale rural farmers were first launched as viable projects in 1972 only two years after the end of the civil war when Nigeria was facing its first food and fibre shock. It effectively commenced in 1975 in Northern Nigeria in the enclave (experiment) areas of Funtua in Funtua Local Government Area of Katsina State, Guzau in Guzau Local Government Area of Zamfara State and Gombe in Gombe Local Government Area of Gombe State (WBG, 2004). Since 1975, the World Bank has committed well over USD 1.2 billion for Agricultural Development Projects (ADPs) to increase farm production and welfare among smallholders' farmers in Nigeria (WB, 2012).

According to World Bank Independent Evaluation Group, the government's adoption of the ADP concept put the smallholder sector at the centre of the agricultural development strategy and marked a clear shift away from capital-intensive investment projects for selected areas of high agricultural potential (WB, 2012). The main and first feature of the ADP was its reliance on the small-scale farmers as the central focus for increased food production. The projects were to be funded under a tripartite agreement involving World Bank 66%, Federal government 20% and State government 14% in addition to payments of salaries of local staff.

In furtherance to the Bank's objectives, the International Fund for Agricultural Development (IFAD) also established a programme to help in improving cassava farming among rural farmers (Afolabi and Bandipo, 2004). What we have today as the multi-state ADP is the product of the joint effort of the World Bank and IFAD which culminated in the establishment of ADPs in Nigeria. Since then, the agricultural sector in Nigeria has relied heavily on World Bank assistance for its growth and survival. Recently, World Bank policy on Agriculture in Nigeria has been narrowed to focus on certain measurable deliverables targeted at increasing the assets of smallholder rural farmers in Nigeria in order to attain self-sufficiency in food production. The World Bank realised that production based only on rainfed agriculture may not be sustainable especially with increasing population pressure and the number that will be fed. The National Fadama Facility (NFF) was thus established under the World Bank assisted NFDP loan No. 3541 UNI to assist Fadama development in the states that met the pre-determined eligibility criteria (FACU, 1995).

Based on the success story recorded in Fadama I, Fadama II was subsequently inaugurated in 2002 of which some states including Edo State did not participate due to the inability of the government to pay counterpart contribution then.

However, as at the time of carrying out this research, Edo state was fully incorporated and participating in Fadama project which is currently being implemented in the 36 states of the federation and the Federal Capital Territory.

2. Statement of the Problem

Nigeria is greatly endowed with enormous agricultural resource, yet the population is facing food insecurity, which is graduating into hunger and poverty in the land. To address this problem, the World Bank developed and implemented a number of agricultural development policies and programme in Nigeria which include Agricultural Development Project (ADP) and Fadama programme. In a study by Ogboru (2002), it was opined that the poor situation of the agricultural sector raises questions as to the effectiveness of the World Bank assisted Agricultural Development and Fadama programmes which were established with the hope that such project could radically transform agriculture and increase the country's food and fibre needs of the rapidly increasing population.

In spite of the presence of ADP, food shortages have been getting worse from year to year. For instance, according to the Nigeria Bureau of Statistics (NBS, 2018), Nigeria's GDP at Constant Prices decreased to 16.2 NGN Billion in the first quarter of 2018 from 18.9 NGN Billion in the fourth quarter of 2017; agriculture contributed a total of 3.5 NGN Billion (21.5%) in the first quarter of 2018 from 4.9 NGN Billion (26%) in the fourth quarter of 2017 due to unsteady productivity of the agricultural sector. The question therefore is that is there something wrong with the World Bank assisted agricultural development policies and programmes such as the Fadama programme, its contents and implementation strategies to cause the agricultural sector to remain almost stagnant over the years of its operation?

The problem is much more confounding when one realizes that peasant farmers in most parts of Nigeria, especially Edo State still engage in 'primitive' and 'traditional' method of agricultural production. Eighteen years is long enough a time to justify a purposeful appraisal of the World Bank assisted Edo State Agricultural Development Programme (EADP) and its ancillary Fadama projects with a view to prefer solutions to the problems militating against the realisation of the World Bank assisted Agricultural Development Programme objectives in Nigeria. It is against this background, that this study tries to examine ways of improving the lots of rural dwellers in Edo State since no one known to the author has undertaken a study of this nature in Edo State. Evidence of evaluation of World Bank assisted agricultural development programme and recently FADAMA in Nigeria is limited. Though lots of independent studies have been done in the area of poverty, very little has been done to access the impact of the over USD1.2billion spent by the World Bank on agricultural development programme for the benefit of smallholder rural dwellers in Nigeria (ADP Implementation and Completion Report, 2009). This explains the researcher interest in Fadama programme.

The specific objectives of the study are to:

- Determine the poverty level of small-holder farmers in Edo state.
- Examine the effectiveness of the World Bank assisted Fadama programme in poverty reduction among small-holder rural dwellers in Edo State.
- Ascertain the constraints affecting the effectiveness of the World Bank sponsored Fadama programme as a vehicle for poverty reduction in Edo State.

This research thesis tested the following hypotheses:

- There is no significant difference in the poverty level of Fadama farmers in Edo State;
- The World Bank assisted Fadama programme has not significantly contributed to poverty reduction among small-holder farmers in Edo State.

3. Methodology

This study was conducted in Edo State, Multistage or simple random sampling. The researcher made use of primary and secondary data. The primary data were sourced directly from the 248 respondents out of a sample size of 262 through the use of questionnaire participants in the World Bank assisted Fadama programme in two senatorial districts (Edo Central Senatorial District and Edo South Senatorial District) including local governments and communities of Edo State. Secondary data were sourced from data generated by organizations such as Edo State Agricultural Development Project (EADP), Central Bank of Nigeria (CBN), National Bureau of Statistics (NBS), World Bank, Food and Agriculture Organisation (FAO), International Fund for Agricultural Development (IFAD), published articles, journals, Internet and other relevant publications. Data generated from the research instrument were analysed using descriptive Statistics (frequency, means) and inferential statistics (t-test, chi-square test of difference, and the Foster-Greer-Thorbecke (FGT) poverty indices). The level of poverty among respondents was determined using the relative poverty. This entailed using two third of the mean income of the sample units as the poverty line. The line represents a value above or below which respondents will be considered non-poor or poor respectively.

4. Results and Discussion

4.1. Demographic Characteristics of the Respondents

The demographic characteristics of the respondents are shown in Table 1. Males dominated the group (65.7%) while females formed the minority (34.3%). This infers that males are major participants of the project. This result suggests that either females are poorly receptive of the Fadama development programme or there is a deliberate targeting of men by the programme coordinators. Also, most (48%) of the respondents were 60 years and above. The average age of the participants was 56 years suggesting that the participants of the project were not young but little

advanced in age. It is expected that such people should possess the necessary maturity, experience and knowledgeable to function adequately in the project.

The educational distribution of the respondents as shown in Table 1, indicated that 37.1% and 36.7% of them attended secondary and primary schools respectively. On the other hand, 23% had no formal education while 3.2% had tertiary education. According to Dauda et al, having formal education enhances individual capacity to handle agricultural innovations/technologies. About 40% (i.e. 38.3%) of the respondents have a household size of 4 – 6 persons. About 33.1% has a household size of 7 – 9 persons, 9.7% and 19% respectively have 1 – 3 and 10 – 12 persons living with them. The average family size was 7. The findings indicated that the respondents have people depending on them and which they need to cater for. This itself can be an important motivation to participate in the programme since the need to cater for their families has been described as a strong motivation for individuals to seek for ways of improving their productivity and income. Crop farming was the primary occupation of most (86.3%) of the farmers. Having most of the respondents in crop farming could be attributed to the type of soil in the area and what they know how to do best. The findings suggest that participants in the programme were economically engaged. Their expectation from the programme was that it would enhance their livelihood.

Characteristics	Categories	Frequency	%
Sex	Male	163	65.7
	Female	85	34.3
	Total	248	100.0
Age	Less than 30	3	1.2
	30-39	11	4.4
	40-49	46	18.5
	50-59	69	27.8
	60 & above	119	48.0
	Total	248	100.0
Marital Status	Single	6	2.4
	Married	218	87.9
	Divorced	13	5.2
	Widow(er)	11	4.4
	Total	248	100.0
Education	No formal education	57	23.0
	Primary school	91	36.7
	Secondary school	92	37.1
	Tertiary	8	3.2
	Total	248	100.0
Household size (no.)	1-3	24	9.7
	4-6	95	38.3
	7-9	82	33.1
	10-12	47	19.0
	Total	248	100.0
Primary Occupation	Crop farming	214	86.3
	Livestock farming	1	0.4
	Fish farming	1	0.4
	Agric processing	2	0.8
	Others	30	12.1
	Total	248	100.0

Table 1: Demographic Characteristics of Respondents

Source: Field Survey, 2012

4.2. Objective One: Impact of the Assisted Projects on Livelihoods of the Rural Farmers?

Table 2 shows the income of the respondents before and after participation in the project. The mean income before and after the project were ₦87, 845.73 and ₦261, 393.71 respectively. The difference 197.6% in the result suggest that participation in the project had indeed enhanced the farmers' income. This finding indicates the positive role of agricultural development projects. Similar results have been reported by Ajayi and Nwalieji (2010) who noted that participant farmers in Fadama project recorded increased income.

Income	N	Minimum	Maximum	Mean	Std. Deviation
Before	248	0	960,000	87,845.73	129891.063
After	248	12000	2,160,000	261,393.71	253521.181

Table 2: Income of Respondents

Source: Field Survey, 2012

Based on the average income (N261,393.71) and poverty line (N174,262.47) the poverty level of the small-holder farmers was determined, and the results presented in Table 3. From the table, most (59.3%) of the farmers were non-poor, 23.4% were moderately poor while 17.3% were very poor. The result showed that about 40% of the farmers were living below the poverty line. The data used for computing the poverty status of the respondents was based on their income range since participating in the agriculture development project. The fact that the majority of project participants were non-poor probably suggests the positive role of the Fadama project in lifting farmers out of poverty.

Status	Frequency	%
Non-poor (mean income > N174,262.47)	147	59.3
Moderately poor (mean income: N87,131.24 - 174,262.47)	58	23.4
Very poor (mean income < N87,131.24)	43	17.3
Total	248	100.0

Table 3: Poverty Status of Respondents

*Mean Income = N261,393.71; Poverty Line: N174,262.47

Source: Computed from Field Survey Data, 2012

4.3. The Effectiveness of the World Bank Assisted Fadama Programme in Poverty Reduction among Small-Holder Rural Dwellers in Edo State

Table 4 revealed the poverty status of the respondents before and after enrolling in the FADAMA programme. The table shows that before they enrolled in the project, most (59.3%) of them were very poor, while 32.3% were non-poor. On the other hand, after enrolling in the project, most (59.3%) of the respondents became non-poor, while only 17.3% were very poor. From the table, it could be seen that the proportion of farmers/respondents who were very poor reduced from 59.3% to 17.3%. Similarly, the proportion of the non-poor increased from 32.3% to 59.3%. The transformation in the poverty status could be attributed to the benefits or gains achieved from participating in the programme. Similar results of the positive contribution of Fadama project to poverty reduction has been reported by Ajibefun and Abdulkadri (1999).

Status	Poverty Status (Before)		Poverty Status (After)	
	Frequency	%	Frequency	%
Very poor	147	59.3	43	17.3
Moderately poor	21	8.5	58	23.4
Non-poor	80	32.3	147	59.3
Total	248	100.0	248	100.0

Table 4: Poverty Status of Respondents Before and after Enrolling in Fadama Project

Source: Field Survey Data, 2012

4.4. Constraints of the World Bank Sponsored Fadama Programme

Several constraints were noted during the implementation of this programme in Edo State, and they were ranked or assessed on the bases of their influence on the implementation of the programme, and the subsequent effect on the farmers' well-being and income. The constraints were assessed based on ten perceived attributes that militated against the success of the programme (Table 5). The constraints with a mean of 3.00 and above were considered to be serious. From the table, limiting or insufficient government assistance (mean = 4.36), high dues and levies charged by Fadama Users Group (3.50), corrupt and dishonest leadership (3.25) and non-availability of inputs (3.11) were considered serious constraints affecting the effectiveness of the Fadama operations in the study area. Equally considered to be a serious limitation to the effectiveness of the project was insufficient capital given participants in the programme (mean = 3.40). Majority of the respondents consider the late provision of farming inputs and related as limiting their ability to fully harness the gains of their participation in the World Bank assisted Fadama agricultural development programme.

Constraints	Very Serious		Serious		Moderately Serious		Least Serious		Not Serious		Total	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Mean	SD
government assistance is limiting/insufficient	104	41.9	136	54.8	2	.8	5	2.0	1	.4	4.36*	.65
High dues and levies charged by Fadama users' group	?	?	199	80.2	10	4.0	2	.8	37	14.9	3.50*	1.08
Insufficient capital given by the Fadama programme	?	?	148	59.7	99	39.9	?	?	1	.4	3.40*	1.47
Corrupt and dishonest leadership			183	73.8	2	.8	4	1.6	59	23.8	3.25*	1.29
Non-availability of inputs	46	18.5	59	23.8	27	10.9	108	43.5	8	3.2	3.11*	1.24
Members refusal to repay loans			153	61.7			3	1.2	92	37.1	2.86	1.45
The high rate of illiteracy among members.			93	37.5	7	2.8	61	24.6	87	35.1	2.43	1.31
Low participation of members in group activities.			79	31.9	4	1.6	98	39.5	67	27.0	2.38	1.19
Poor organization of the group's activities			33	13.3	6	2.4	127	51.2	82	33.1	1.96	.94
Lack of cooperation among members			55	22.2	3	1.2	33	13.3	157	63.3	1.82	1.23

Table 5: Perceived Constraints Affecting the Effectiveness of Fadama Programme

*Serious (Mean > 3.00); SD = Standard Deviation, Freq=Frequency

4.5. Test of Hypotheses

4.5.1. Test of Difference in Poverty Status of Respondents (Chi-Square Test)

The hypothesis tested states thus:

- Hypothesis One: There is no significant difference in the poverty level of Fadama farmers in Edo State

Table 6 shows the test of difference in poverty status of the respondents using chi-square. From the result, about 59% of the respondents were non-poor while about 41% were poor, indicating that the proportion of the non-poor was more than the poor. The calculated chi-square (8.54), which is greater than the tabulated Chi-Square at the 5% (3.85), shows that the result or difference is significant. This suggests that the Fadama project has significantly reduced poverty among participants. Studies by Ilavbarhe confirm the positive role of Fadama project in enhancing farmers' poverty status.

Poverty Status	Observed N	Observed %	Expected N	Expected %
Non-poor (mean income>174,262.47)	147	59.3	124.0	50.0
Poor (mean income:<174,262.47)	101	40.7	124.0	50.0
Total	248	100.0		

Table 6: Test of Difference in Poverty Status of Respondents (Chi-Square Test)

*Difference is Significant (Calculated $X^2 = 8.54$; $Df = 1$; Tabulated $X^2 = 3.85$)

4.5.2. The Effectiveness of Fadama Project on Poverty Reduction among Farmers

The hypothesis tested states thus:

- Ho: The World Bank assisted Fadama project has not significantly contributed to poverty reduction among small-holder farmers in Edo State

The effectiveness of Fadama programme on poverty reduction among farmers is shown in Table7. The Table showed that the farmers mean income before and after participating in the programme was ₦87,845.73 and ₦261,393.71 respectively. T-test was used to assess if the difference (₦173547.98) in the income levels was significant. The findings, as shown in the table, revealed that a significant difference exists in the income of the farmers before and after participation

in the Fadama project since the calculated t value ($t = 9.815$) was greater than the critical t value at the 5% level (1.645). This means that the income of the farmers after joining in the programme was significantly higher than their income before joining. Thus, the World Bank assisted Fadama project has significantly contributed to poverty reduction among small-holder farmers in Edo State.

Income	Mean (N)	N	Std. Deviation	Difference	T-value	Decision
Before	87845.73	248	129891.063	-173547.98	9.815*	Significant
After	261393.71	248	253521.181			

Table 7: Effectiveness of Fadama Project on Poverty Reduction among Farmers (T-Test)

*Difference Is Significant at 5% (Tabulated T Value = 1.645)

5. Conclusion and Recommendations

The results of the study showed that the project has indeed contributed to improved welfare and income among participating farmers. However, its effectiveness was curtailed or limited by several factors. Also, the study further addressed the broader question of whether Nigeria is making progress by adopting the World Bank agriculture development policies. Based on the policy analysis and empirical relationship between WB policies and poverty attributes among the rural dwellers in Edo, we will conclude that the programme has not adequately addressed the poverty level of rural farmers in the State. This could be seen from the increased state of poverty among the rural dwellers who are the direct target of these agricultural development policies. Other causes of the state of poverty were traced to poor agricultural development policy implementation, inconsistent macroeconomic policies, weak diversification of the economic base, gross economic mismanagement, lack of effective skills training, weak inter-sectoral linkages, high import dependence and heavy reliance on crude oil exports, inadequate access to assets such as land and capital by the smallholder rural dwellers, inadequate access to the means of fostering rural development in rural communities, inadequate involvement of the poor in the design of this agricultural development policies, among others. The effectiveness of the World Bank agricultural development programme like any other organization hinges on three factors that are, adequate funding, competent and stable management and adequate staffing. Also, this research observed a very weak funding status for these programmes designed to achieve the desirable and laudable objective. The problem of funding has resulted in reduced extension activities, and that in turn has pushed some staff implementing these policies to voluntarily leave the system for greener pastures. If the World Bank want their policies well implemented to achieve its determined results, then they will have to channel more funds into the implementation of these policies and programme and equally develop means of compelling the federal and state government to contribute their counterpart funds for agricultural project implementation as and when due.

Based on these research findings, it is recommended that the government should meet its counterpart to support projects identified by project participants. Most complained that the government support was limiting which hindered them from accessing necessary inputs. Also, the FUGs levy should be reduced by increasing its counterpart funding. In addition, the World Bank and Nigeria Government can scale-up support for new technology generation, transfer and adoption, with more focus on research institution, approaches, including more support and partnership with international bodies.

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