



POST FADAMA III PERFORMANCE EVALUATION OF BENEFICIARIES IN NIGER DELTA AREA SINCE THE WITHDRAWAL OF WORLD BANK'S ASSISTANCE TO NIGERIA



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Abstract: The study concentrated on evaluation of the performance of Fadama III agricultural project in the Niger Delta Area of Nigeria. The study was carried out in Akwa Ibom, Bayelsa and Delta States of the Niger Delta, Nigeria. It surveys the level of changes in property acquisition before and during Fadama III contacts with farmers and determines the level of performance in agricultural project by individual states in the Niger Delta. A multistage sampling procedure was used adopted to illicit responses from a sample size of 180 respondents. A detailed questionnaire was used to obtain information from respondents. Data collected were subjected to the use of descriptive and Wilcoxon Test statistics. Results reveals that for the three states, significant differences exist in property acquisition comparing pre and post Fadama III implementation with better performances observed during Fadama III era. For Akwa Ibom State, the absolute sum of negative ranks, $T = 338.5$ with a Wilcoxon value for $Z_{cal} = 4.51$; Bayelsa State, $T = 382.0$ and $Z_{cal} = 4.63$; and Delta State, $T = 386.0$ and $Z_{cal} = 4.73$, having the same critical value for Z_{tab} at $p < 0.05 = 1.65$. The study concluded that there was high performance among respondents with increase in household equipment, farm assets and inputs acquired, farm yield, amongst others. It is therefore recommended that more training efforts should be geared towards maintaining best practices in ensuring continuous high standards in project performances.

Keywords: Fadama, farmers, agriculture, performance, project

Introduction

Fadama (a local Hausa word) refers to a seasonally flooded area used for farming during the dry season. It is defined as alluvial, lowland formed by erosion and depositional actions of the rivers wetlands and streams. The soils are notable for optimal agricultural development in the coastal regions (Nkonya *et al.*, 2008). They include land and water capitals that could simply be established for irrigation agriculture (World Bank, 1994).

In the context of World Bank assisted project, the word *Fadama* is now being used as Fadama I, II and III like an agricultural diversification programme in succession. The World Bank has adopted the word 'Fadama' as a concept for agricultural project interventions in rural communities. The Fadama project is in three phases using the non-oil sector of the economy. The National Fadama Development Project is a development intervention programme designed primarily to supply the small scale farmers with those inputs, assets and rural infrastructures needed to boost food production with the overall purpose of enhancing rural livelihood.

The Fadama phases in Nigeria were Fadama I (1992 - 1999) was essentially a donor support project for short season crop production in the flood plains and dry season periods using surface and underground water sources. It covered seven states: (Bauchi, Gombe, Jigawa, Kano, Kebbi, Sokoto, and Zamfara. Fadama II (2003 -2008) became expanded in scope to include non-crop sectors such as animal husbandry. It covered 12 states: Adamawa, Bauchi, Gombe, Imo, Kaduna, Kebbi, Lagos, Niger, Ogun, Oyo, and Taraba plus the federal capital city. Fadama III (2008 - 2014) was to replicate the Fadama II concept in the remaining states of the Federation. It is covering 36 states and the Federal Capital Territory, Abuja (World Bank, 2016).

Fadama III agricultural project covered many sectors amongst which were crop productions, livestock, fisheries, agro-forestry, processing, market stalls establishment and infrastructure provision. Prominent to be considered in the Niger Delta area are the cassava, poultry and fisheries (aquaculture) enterprises.

Fadama III extension activities are mostly carried out by local

facilitators (LF) and service providers (SP). Their activities included special communication strategies in crop production, livestock management, fisheries technology, use of organic and inorganic fertilizers, agricultural products processing/storage, use of indigenous technology, market strategies, business management, human resources management, infrastructure/amenities maintenance, linkage to sources of credit facilities and partnership systems with external stakeholders (NFDP, 2009a).

Performance in agricultural projects is critical to improvement of farm outcome and standard of living. High performance of agricultural projects could invariably lead to poverty reduction and *vice versa*. "Though the country is rich in human and material resources, yet poverty is pervasive". Poverty is partly a state of existence and a process with many magnitudes and intricacies (Khan, 2000). According to a survey conducted in 2004 by National Living Standards Survey, reported by the National Bureau of Statistics (NBS) (2007), about 69 million people were living in poverty, which represents 54.4 percent of the Nigerian population

Project Evaluation in Agriculture: Ordinarily, the term Evaluation can be expressed as to examine or judge something in order to know the value, quality, importance, extent, or condition; also means to assess, estimate, appraise; put value on something; to estimate the monetary value of something (Encarta, 2009). Evaluation is the methodical review, appraisal and assessment of the benefits, quality and value of a programme or activity (Ajayi, 2005). Scriven (1996) stated that, evaluation is about determining the value or worth of object being evaluated. The object can be a programme, a project, a product, a policy or mission. Evaluation in terms of extension can be defined as a methodical application of scientific approaches to assess the design, package, implementation, improvement or outcomes of an educational programme. Petheram (1998) viewed evaluation of agricultural extension programmes as the systematic collection of information on activities, characteristics, and outcomes of a programme to make critical judgments about the programme, improve its effectiveness, and/or take decisions about future programming.

The Determinants of Evaluation in Agriculture: Determinants otherwise known as indicators are signs, markers, pointers and gauges showing the directions of purpose(s). Several authors and researchers focused on different types of project. World Bank (2013); Bharat (2010); UNICEF (2004); UNGA (2005), Gertler *et al.* (2011) applied relevance, effectiveness, efficiency, impact and sustainability as determinants/indicators for evaluating various projects which are also applicable to Agriculture.

Farming problems according to Ugboma (2009) are further compounded by the short fall of agricultural extension officers who would serve as interpreters and conveyor of agricultural research and technological information, aimed at improving and sustaining output in this sub-sector of the national economy.

Although Fadama intervention since 1993 till date had contributed to farmers' livelihoods improvement, it is still characterized by deficiencies in human, material and environmental resources management. Limitations exist in agri-business relationship of internal and external stakeholders in meeting desired objectives, positive harnessing of available material inputs for prime production outputs and sustenance of the natural resources for future investment, National Fadama Development Office (NFDO, 2007). Other problems affecting agricultural development include poor monitoring and evaluation of agricultural development intervention programme. Inadequate extension services and illiteracy of the farmers have also constituted some hindrances to the expansion and modernization of agriculture (Olaolu, 2011). The World Bank designed Fadama projects to reduce poverty status of Nigerians.

Ovharhe (2014) expressed beneficiaries' dissatisfaction in routine visit of local facilitators, untimely supply of planting materials and other farm inputs, absence of storage facilities and poor monitoring of projects. In order to analytically examine the expressed fears on Fadama III, this study sort to evaluate the performance of Fadama III in light of its impact on beneficiaries.

The major purpose of the study was to evaluate the performance of Fadama III agricultural project performance in the Niger Delta area of Nigeria. Specifically, the objectives of the study were to: (i) examine the level of changes in property acquisition before and during Fadama III contacts with farmers, and (ii) determine the level of performance in agricultural project by individual states in the Niger Delta.

Hypothesis Ho: *There is no significant difference in property acquisition before and during Fadama III.*

Materials and Methods

The study was conducted in three of the nine states of the Niger Delta: Akwa Ibom, Bayelsa and Delta States. These three states are agrarian in nature and support crop, livestock and fisheries production. Akwa Ibom State co-ordinates are latitudes 4°32'N and 5°33'N North, and longitudes 7°25' and 8°25' East has a population of 3,178,950. While, Bayelsa States are latitudes 4°45'N 6°05'E and longitudes 4.75°N 6.083°E; has a population of 1,707,515 and Delta State are latitudes 5°30'N 6°00'E and longitudes 5°30' 6°00'E with a population of Delta State has a population of 4,112,455 (C-GIDD, 2008; NPC, 2006).

Sampling procedure

A multistage sampling procedure was used to illicit information from a sample size of 180 respondents. The population of the study comprised all Fadama III farmers involved in cassava, poultry and fisheries production in Akwa Ibom, Bayelsa and Delta states of Nigeria. The lists of cassava, poultry and fisheries groups were obtained from the state Fadama Coordinating Offices (SFCOs) offices of the

three states. From the list of farmers registered with the three states Fadama Coordinating Offices (SFCOs), one LGA from each state and four Fadama Users Group (FUGs) were selected from each LGA resulting in 12 FUGs across the three States. From each group, two cassavas, one poultry and one aquaculture FUGs were randomly selected. Out of the four FUGs, 30 cassava farmers, 15 poultry farmers and 15 aquaculture farmers were randomly selected from each FUG in each state resulting subsample size of 60 farmers per state. On the whole, a total 180 farmers were used as sample size (Table 1).

Table 1: Distribution of sample size by stages of sampling

| S/N | State | LGAs | FUGs | Farmers/ | Total |
|--------------|--------------|----------|-----------|-------------|--------------|
| | Stage 1 | Stage 2 | Stage 3 | Group | |
| A | Akwa Ibom | 1 | 2C 1P 1F | 30C 15P 15F | 60 |
| B | Bayelsa | 1 | 2C 1P 1F | 30C 15P 15F | 60 |
| C | Delta | 1 | 2C 1P 1F | 30C 15P 15F | 60 |
| Grand | | | | | |
| Total | 3 | 3 | 12 | 180 | 180 R |

C = Cassava; P= Poultry; F= Fisheries enterprises; **180 R** = Respondents

Method of data collection

A structured questionnaire which comprised of 27-item was used to collect primary data. Secondary information was obtained from Fadama III offices in the various states. The questionnaire was administered using four trained enumerators to cover each LGA. On completion of distribution of questionnaire to respondents in one LGA, the enumerators proceed to another location within a particular state with the aid of interpreters as necessary. A total of 180 questionnaires were found useful for the study per state.

Measurement of variables

Differences in performance before and during Fadama III intervention

The changes in performance indicators before and during Fadama III intervention were measured by obtaining values on a number of assets, farm inputs utilized, yield obtained and financial disposition. These productive inputs/assets are identified as indicators and disaggregated on basis of specific enterprise groups

Wilcoxon test

Wilcoxon Test was used to test hypothesis three as Agbamou and Okagbare (2005) did. They related how assets, farm inputs utilized, yield obtained and financial disposition of Agricultural Development Project farmers relate to the Wilcoxon Test model by comparing farmers past possessions before encounter with World Bank and after the exit of World Bank. The application of Wilcoxon text model involved computing the differences (d) in property acquisition between before and after project phases; **where** 'd' is a positive or negative value. In Wilcoxon test, Z-calculated value is compared with Z-table value so as to accept or reject the null hypothesis with conclusive statement.

Ho: There is no significant difference in property acquisition before and during Fadama III agricultural project by participants.

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This was analyzed using Wilcoxon Test as stated below and laid out in Table 2 on results presentation basis. Thus, Wilcoxon Test is;

$$Z = \frac{T - \frac{N(N+1)}{4}}{\sqrt{\frac{N(N+1)(2N+1)}{24}}}$$

Where: T = Absolute (total) sum of the negative ranks (d). (Note: T value mathematically refers to the magnitude of the ranked numbers without regard to signs); N = Number of performance indicators (as illustrated in Table 2).

24 = Constant value in Wilcoxon computation

Z = Total value calculated compared with the tabulated value of Z (z ratio)

Decision rule: Where $Z_{cal} > Z_{tab}$, the null hypothesis is rejected and the alternative accepted.

Example:

To calculate Z ratio using Table 2

Where T = 377, N = 27.

Z numerator = $377 - \frac{27(28)}{4} = 188$

Z denominator = $\sqrt{\frac{27(28)(55)}{24}} = 41.62$

Z ratio = numerator/denominator: $188/41.62 = 4.51$

$Z_{cal} = 4.51$

Results and Discussion

Fadama III agricultural project performance

The Niger Delta Fadama III performance based on changes in property acquisition was assessed before the project inception (2004 to 2007) and during the project occurrence (2010 to 2013). Duration of four years was used for the analytical

comparison of the following possessions or assets used as performance indicators: household equipment purchased, mobility purchased, farm assets acquired, farm inputs acquired, farm yield, financial capital and real capital possessions. In ascertaining whether significant difference existed in property acquisition before and during Fadama III agricultural project, the performance evaluation computation was done using the Wilcoxon Test (Z) as stated in the methodology.

Changes in property acquisition before and during Fadama III agricultural project in each State

The various performance indicators and computations of differences between before and during Fadama III agricultural project in three states are shown in Tables 2, 3 and 4. The differences (d) as indicators in property acquisition before (2004 - 2007) and during (2010 - 2013) Fadama III were negative in value. This implies increase in the project performance. The parameters engaged were household equipment purchased, mobility items purchased, farm asset/inputs acquired, farm yield, financial and real capital. These increased upon the intervention of Fadama III project within the period under study. Furthermore, this good performance confirmed the study of Ovwigho and Idoge (2006) on sustainability of the Fadama Farming System in Delta State that the individual farmers made gains because the costs of fixed assets and inputs were not totally borne by them.

Table 2: Changes in property acquisition before and during Fadama III project in Akwa Ibom State (n = 180)

| Indicators | | Before Fadama III (2004 to 2007) | During Fadama III (2010 to 2013) | Difference (d) | Rank of d | Absolute Sum of Negative Ranks (T) |
|------------|---|---|---|-------------------|--------------|---|
| A | Household equipment purchased (item count) | | | | | |
| 1 | Number of houses | 31 | 49 | -18 | -10.0 | 10.0 |
| 2 | Number of ceiling or standing fans | 325 | 380 | -55 | -15.0 | 15.0 |
| 3 | Number of television sets | 147 | 151 | -4 | -2.5 | 2.5 |
| 4 | Number of computers | 0 | 3 | -3 | -1.0 | 1.0 |
| 5 | Number of telephones (mobile) | 157 | 161 | -4 | -2.5 | 2.5 |
| B | Mobility items purchased (item count) | | | | | |
| 6 | Number of bicycles | 0 | 12 | -12 | -5.5 | 5.5 |
| 7 | Number of tricycles | 0 | 10 | -10 | -4.0 | 4.0 |
| 8 | Number of motorcycles | 0 | 22 | -22 | -12 | 12 |
| 9 | Number of cars | 10 | 12 | -12 | -5.5 | 5.5 |
| 10 | Number of engine boats | 0 | 17 | -17 | -7.5 | 7.5 |
| 11 | Number of canoes | 0 | 17 | -17 | -7.5 | 7.5 |
| C | Farm assets acquired (item count) | | | | | |
| 12 | Number of wheel barrows | 120 | 188 | -68 | -18.0 | 18.0 |
| 13 | Number of cutlasses | 813 | 1148 | -335 | -22.0 | 22.0 |
| 14 | Number of spades | 396 | 445 | -49 | -15.0 | 15.0 |
| 15 | Number of axes | 120 | 177 | -57 | -17.0 | 17.0 |
| 16 | Number of rakes | 120 | 224 | -104 | -20.0 | 20.0 |
| 17 | Number of knapsack sprayers | 30 | 57 | -27 | -13.0 | 13.0 |
| 18 | Number of head pans | 76 | 166 | -90 | -19.0 | 19.0 |
| 19 | Number of pumping machines | 17 | 35 | -18 | -10.0 | 10.0 |
| D | Farm inputs acquired | | | | | |
| 20 | Total bags of fertilizer | 376 | 543 | -167 | -21.0 | 21.0 |
| 21 | Total bags of feeds | 1980 | 3300 | -1320 | -24.0 | 24.0 |
| 22 | Total farm size (in hectare) per cassava/ poultry/fish farmer | 160.5 | 208.4 | -47.9 | -14.0 | 14.0 |
| E | Farm yield | | | | | |
| 23 | Total quantity of cassava tubers produced(kg) | 1280 | 1887 | -607 | -23.0 | 23.0 |
| 24 | Total poultry herd (number) per poultry farmer | 5900 | 10260 | -4360 | -25.0 | 25.0 |
| 25 | Total fish population per fish farmer | 19200 | 35100 | -15900 | -26.0 | 26.0 |
| F | Financial Capital | | | | | |
| 26 | Average income per annum (₦) | 15115000 | 23081000 | -7966000 | -27.0 | 27.0 |
| G | Real Capital | | | | | |
| 27 | Land purchased (in hectare) | 31 | 49 | -18 | -10.0 | 10.0 |

T = 377.0

Using Wilcoxon Test, $Z_{cal} = 4.51$, $Z_{tab} @ 0.05 = 1.65$

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Table 3: Changes in property acquisition before and during Fadama III project in Bayelsa State (n = 180)

| Performance Indicators | | Before Fadama III (2004 to 2007) | During Fadama III (2010 to 2013) | Difference (d) | Rank of d | Absolute Sum of Negative Ranks (T) |
|------------------------|--|-------------------------------------|-------------------------------------|-------------------|--------------|---------------------------------------|
| A | Household equipment purchased (item count) | | | | | |
| 1 | Number of houses | 7 | 10 | -3 | -1.5 | 1.5 |
| 2 | Number of ceiling or standing fans | 265 | 308 | -43 | -15.0 | 15.0 |
| 3 | Number of television sets | 120 | 134 | -14 | -11.0 | 11.0 |
| 4 | Number of computers | 0 | 6 | -6 | -8.0 | 8.0 |
| 5 | Number of telephones (mobile) | 120 | 130 | -10 | -10.0 | 10.0 |
| B | Mobility items purchased (item count) | | | | | |
| 6 | Number of bicycles | 2 | 5 | -3 | -1.5 | 1.5 |
| 7 | Number of tricycles | 0 | 6 | -6 | -8.0 | 8.0 |
| 8 | Number of motorcycles | 3 | 8 | -5 | -5.0 | 5.0 |
| 9 | Number of cars | 9 | 16 | -7 | -9.0 | 9.0 |
| 10 | Number of engine boats | 1 | 7 | -6 | -8.0 | 8.0 |
| 11 | Number of canoes | 8 | 34 | -26 | -13.0 | 13.0 |
| C | Farm assets acquired (item count) | | | | | |
| 12 | Number of wheel barrows | 17 | 105 | -88 | -17.0 | 17.0 |
| 13 | Number of cutlasses | 730 | 1164 | -434 | -22.0 | 22.0 |
| 14 | Number of spades | 403 | 898 | -495 | -24.0 | 24.0 |
| 15 | Number of axes | 107 | 136 | -29 | -14.0 | 14.0 |
| 16 | Number of rakes | 87 | 180 | -93 | -18.0 | 18.0 |
| 17 | Number of knapsack sprayers | 80 | 106 | -26 | -12.0 | 12.0 |
| 18 | Number of head pans | 71 | 260 | -189 | -19.0 | 19.0 |
| 19 | Number of pumping machines | 10 | 15 | -5 | -5.0 | 5.0 |
| D | Farm inputs acquired | | | | | |
| 20 | Total bags of fertilizer | 316 | 727 | -411 | -21.0 | 21.0 |
| 21 | Total bags of feeds | 1,541 | 1,980 | -439 | -23.0 | 23.0 |
| 22 | Total farm size (in hectare) per cassava/poultry/fish farmer | 81.7 | 134 | -52.3 | -16.0 | 16.0 |
| E | Farm yield | | | | | |
| 23 | Total quantity of cassava tubers produced(kg) | 893 | 1,222 | -329 | -20.0 | 20.0 |
| 24 | Total poultry herd (number) per poultry farmer | 4,070 | 5,900 | -1830 | -25.0 | 25.0 |
| 25 | Total fish population per fish farmer | 35,100 | 53,200 | -18100 | -26.0 | 26.0 |
| F | Financial Capital | | | | | |
| 26 | Average income per annum (₦) | 10,154,000 | 16,486,000 | -6332000 | -27.0 | 27.0 |
| G | Real Capital | | | | | |
| 27 | Land purchased (in hectare) | 7 | 11 | -4 | -3.0 | 3.0 |
| | | | | | | T = 382.0 |

Table 4: Analysis of changes in property acquisition before and during Fadama III project in Delta State (n = 180)

| Performance Indicators | | Before Fadama III (2004 to 2007) | During Fadama III (2010 to 2013) | Difference (d) | Rank of d | Absolute Sum of Negative Ranks (T) |
|------------------------|--|-------------------------------------|-------------------------------------|-------------------|--------------|---------------------------------------|
| A | Household equipment purchased (item count) | | | | | |
| 1 | Number of houses | 30 | 44 | -14 | -10.0 | 10.0 |
| 2 | Number of ceiling or standing fans | 391 | 409 | -18 | -11.5 | 11.5 |
| 3 | Number of television sets | 150 | 154 | -4 | -3.5 | 3.5 |
| 4 | Number of computers | 5 | 11 | -6 | -5.0 | 5.0 |
| 5 | Number of telephones (mobile) | 139 | 147 | -8 | -8.0 | 8.0 |
| B | Mobility items purchased (item count) | | | | | |
| 6 | Number of bicycles | 2 | 30 | -28 | -13.0 | 13.0 |
| 7 | Number of tricycles | 0 | 20 | -20 | -12.0 | 12.0 |
| 8 | Number of motorcycles | 4 | 33 | -29 | -14.0 | 14.0 |
| 9 | Number of cars | 9 | 27 | -18 | -11.5 | 11.5 |
| 10 | Number of engine boats | 0 | 2 | -2 | -1.0 | 1.0 |
| 11 | Number of canoes | 2 | 5 | -3 | -2.0 | 2.0 |
| C | Farm assets acquired (item count) | | | | | |
| 12 | Number of wheel barrows | 71 | 192 | -121 | -19.0 | 19.0 |
| 13 | Number of cutlasses | 616 | 916 | -300 | -21.0 | 21.0 |
| 14 | Number of spades | 363 | 655 | -292 | -20.0 | 20.0 |
| 15 | Number of axes | 19 | 35 | -16 | -9.0 | 9.0 |
| 16 | Number of rakes | 78 | 149 | -71 | -17.0 | 17.0 |
| 17 | Number of knapsack sprayers | 46 | 92 | -46 | -16.0 | 16.0 |
| 18 | Number of head pans | 87 | 184 | -97 | -18.0 | 18.0 |
| 19 | Number of pumping machines | 5 | 9 | -4 | -3.5 | 3.50 |
| D | Farm inputs acquired | | | | | |
| 20 | Total bags of fertilizer | 587 | 992 | -405 | -24.0 | 24.0 |
| 21 | Total bags of feeds | 1,111 | 1,508 | -397 | -23.0 | 23.0 |
| 22 | Total farm size (in hectare) per cassava/poultry/fish farmer | 196.8 | 239.4 | -42.6 | -15.0 | 15.0 |
| E | Farm yield | | | | | |
| 23 | Total quantity of cassava tubers produced(kg) | 982 | 1,356 | -374 | -22.0 | 22.0 |
| 24 | Total poultry herd (number) per poultry farmer | 4010 | 6,000 | -1990 | -25.0 | 25.0 |
| 25 | Total fish population per fish farmer | 35,700 | 65,000 | -29300 | -26.0 | 26.0 |
| F | Financial Capital | | | | | |
| 26 | Average income per annum (₦) | 13,620,000 | 20,413,000 | -6793000 | -27.0 | 27.0 |
| G | Real Capital | | | | | |
| 27 | Land purchased (in hectare) | 32 | 44 | -12 | -9.0 | 9.0 |
| | | | | | | T = 386.0 |

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Using Wilcoxon Test, $Z_{cal} = 4.73$, $Z_{tab @ 0.05} = 1.65$

Results for Akwa Ibom State in Table 2 showed that the absolute sum of negative ranks, $T = 338.5$. The T value was substituted in the Wilcoxon formula to obtain a value for $Z_{cal} = 4.51$. The critical value for Z_{tab} at $p < 0.05$ is 1.65; thus rejecting the null hypothesis and conclude that significant difference exists in property acquisition before and during Fadama III implementation with better performance observed during Fadama III era. This result agrees with the findings of Agbamu and Okagbare (2005) that there were enough provision of motorcycles and other farm utilities for agricultural extension work during the World Bank funding of Ogun State Agricultural Development Programme, hence better performance occurred during World Bank assistance era.

Results for Bayelsa State in Table 3 showed that the absolute sum of negative ranks, $T = 382.0$. The $Z_{cal} = 4.63$, while Z_{tab} at $p < 0.05$ is 1.65; thus rejecting the null hypothesis and

concluded that significant difference exists in property acquisition before and during Fadama III implementation with better performance observed during Fadama III era.

Results for Delta State, in Table 4 showed that the absolute sum of negative ranks, $T = 386.0$. The $Z_{cal} = 4.73$, while Z_{tab} at $p < 0.05$ is 1.65; thus rejecting the null hypothesis and conclude that significant difference exists in property acquisition before and during Fadama III implementation with better performance observed during Fadama III in Delta State. The project performance indicators in the Niger Delta between before and during Fadama III are shown on Table 4 in respect of discussion on the null hypothesis (H_0).

H_0 : *There is no significant difference in property acquisition before and during Fadama III.*

Table 5: Summary of changes in property acquisition before and during Fadama III project in Niger Delta ($n = 540$)

| Performance Indicators | Before Fadama III (2004 to 2007) | During Fadama III (2010 to 2013) | Difference (d) | Rank of d | Absolute Sum of Negative Ranks (T) |
|---|----------------------------------|----------------------------------|----------------|-----------|------------------------------------|
| A Household equipment purchased (item count) | | | | | |
| 1 Number of houses | 68 | 103 | -35 | -7.0 | 7.0 |
| 2 Number of ceiling or standing fans | 981 | 1097 | -116 | -15.0 | 15.0 |
| 3 Number of television sets | 417 | 439 | -22 | -2.5 | 2.5 |
| 4 Number of computers | 5 | 20 | -15 | -1.0 | 1.0 |
| 5 Number of telephones (mobile) | 416 | 438 | -22 | -2.5 | 2.5 |
| B Mobility items purchased (item count) | | | | | |
| 6 Number of bicycles | 4 | 47 | -43 | -10.0 | 10.0 |
| 7 Number of tricycles | 0 | 36 | -36 | -8.0 | 8.0 |
| 8 Number of motorcycles | 7 | 63 | -56 | -12.0 | 12.0 |
| 9 Number of cars | 28 | 55 | -37 | -9.0 | 9.0 |
| 10 Number of engine boats | 1 | 26 | -26 | -4.0 | 4.0 |
| 11 Number of canoes | 10 | 56 | -46 | -11.0 | 11.0 |
| C Farm assets acquired (item count) | | | | | |
| 12 Number of wheel barrows | 208 | 485 | -227 | -17.0 | 17.0 |
| 13 Number of cutlasses | 2159 | 3228 | -1069 | -21.0 | 21.0 |
| 14 Number of spades | 1162 | 1998 | -836 | -18.0 | 18.0 |
| 15 Number of axes | 246 | 348 | -102 | -14.0 | 14.0 |
| 16 Number of rakes | 285 | 553 | -268 | -18.0 | 18.0 |
| 17 Number of knapsack sprayers | 156 | 255 | -99 | -13.0 | 13.0 |
| 18 Number of head pans | 234 | 610 | -376 | -19.0 | 19.0 |
| 19 Number of pumping machines | 32 | 59 | -27 | -5.0 | 5.0 |
| D Farm inputs acquired | | | | | |
| 20 Total bags of fertilizer | 1,279 | 2,262 | -983 | -20.0 | 20.0 |
| 21 Total bags of feeds | 4,632 | 6,788 | -2,156 | -25.0 | 25.0 |
| 22 Total farm size (in hectare) per cassava/poultry/fish farmer | 439.0 | 581.8 | -142.8 | -16.0 | 16.0 |
| E Farm yield | | | | | |
| 23 Total quantity of cassava tubers produced(kg) | 3,155 | 4,465 | -1,310 | -23.0 | 23.0 |
| 24 Total poultry herd (number) per poultry farmer | 13,980 | 21,160 | -8,180 | -24.0 | 24.0 |
| 25 Total fish population per fish farmer | 90,000 | 153,300 | -63,300 | -26.0 | 26.0 |
| F Financial Capital | | | | | |
| 26 Average income per annum (₦) | 38,889,000 | 59,980,000 | -21,091,000 | -27.0 | 27.0 |
| G Real Capital | | | | | |
| 27 Land purchased (in hectare) | 70 | 104 | -34 | -6.0 | 6.0 |
| | | | | | T = 374.0 |

Using Wilcoxon Test, $Z_{cal} = 4.44$, $Z_{tab @ 0.05} = 1.65$

This results in Table 5 showed that from the Wilcoxon test used to analyze 27 indicators for Fadama III project, Z_{cal} is 4.44, while Z_{tab} at $p = 0.05$ is 1.65; thus rejecting the null hypothesis. This implies that significant difference exists in property acquisition before and during Fadama III project implementation with better performance observed during Fadama III era across the three States. Contrary to this, the

findings of Agbamu and Okagbare (2005) revealed that there were decreases in some performance indicators upon the withdrawal of World Bank as an external donor support to ADP farmers in Ogun State. Again, Agbamu (2015) found that there was better performance recorded in Kogi State Agricultural Development Programme (KADP) during World Bank involvement because of better funding and good

technical staff support, with poor performance after cessation of World Bank's assistance.

Conclusion

There was high performance among respondents with increase in household equipment, mobility items purchased, farm assets and inputs acquired, farm yield, financial capital and land possession. This was expected because of the current funding, supervision, monitoring and evaluation of beneficiaries' project by Fadama III local facilitators during the period under review: before Fadama III inception (2004 to 2007) and during Fadama III Implementation (2010 to 2013). However, a follow-up study might be "performance evaluation of Fadama III projects since the withdrawal World Bank's assistance to Niger Delta States 2014 till date".

Recommendations

Based on the findings from this study, the following recommendations are evident:

- i. More training efforts should be geared towards maintaining best practices in ensuring continuous high standards in project performances.

Conflict of Interest

Author declares that there is no conflict of interest related to this study.

References

- Agbamu JU 2015. Performance Evaluation of Kogi State Agricultural Development Programme since the Withdrawal of World Bank's Assistance to Nigeria. *J. Agric. Sci.*, 60(1): 77 - 87. University of Belgrade, Serbia.
- Agbamu JU & Okagbare GO 2005. Institutional Strengthening of Ogun State *Agricultural Development Programme upon Expiration of World Bank Assistance*. Proceedings of the 39th Annual Conference of the Agricultural Society of Nigeria held from 9th to 13th October, 2005 at the University of Benin, Benin City, pp. 322 - 325.
- Ajayi OC 2005. Users Costs, Biological and the Productivity of Pesticides in Sub-Saharan Africa. *Int. J. Agric. Sustainability*, 3(3): 154 - 166.
- Bharat B 2010. *Project Efficiency and Effectiveness*. Project Management -IT Project Management Solutions -IT Project Management Tools @ <http://ezinearticles.com/?Project-Efficiency-and-Effectiveness:-The-IT-Project->
- C-GIDD 2008. Canback Global Income Distribution Database, <https://www.cgidd.com>
- Encanta Dictionary 2010. Microsoft Version. Copyright 2010.
- Gertler M, Premand R & Vermeersch N 2011. *Impact Evaluation in Practice*, Washington, DC: The World Bank.
- Khan MH 2000 *Rural Poverty in Developing Countries*. Finance and Development December 2000, Washington DC.: International Monetary Fund.
- National Population Commission 2006. Estimated Population Figures. Abuja: National Population Commission of Nigeria.
- National Bureau of Statistics NBS 2007. *Nigeria Poverty Assessment (harmonized)*. Abuja: National Bureau of Statistics.
- National Fadama Development Office (NFDO) 2007. Fadama 11 - Poverty Reduction through Empowerment. A Publication of PCU - NFDO, Abuja, 2007 www.NationalFadamaDevelopmentProject/currentFadamaupdate.pdf
- Nkonya E, Philip D, Mogues T, Pander J, Yahaya MK, Adebowale G & Kato E 2008. Impacts of a Pro - Poor Community — Driven Development Project in Nigeria. IFPRI discussion Paper 00756, IFPRI Washington.
- Olaolu MO 2011. Impact of the National Fadama Development Project Phase II on Poverty Reduction and Food Security among Rice Farmers Beneficiaries in Kogi State, Nigeria. *M. Sc Thesis*, University of Nigeria, Nsukka, Enugu State, Nigeria.
- Ovharhe OJ 2014. Fadama III Beneficiaries Agronomic Production Survey (FBAPS), Delta State. Proceedings of the 28th Annual Conference of the Farm Management Association of Nigeria held from 15th to 18th November, 2014 at the Delta State University Abraka, pp. 44-51.
- Ovwigho BO & Idoge DE 2006. The Sustainability of the *Fadama Farming System in Anwai, Asaba, Delta State. J. Sustainable Agric. and Envnt.*, 8(2): 176-183.
- Pethram RJ 1998. Review of Evaluation in Agricultural Extension. Human Capital, Communication and Information System Research and Development. London: RIRDC Publication/No.98/136.
- Scriven M 1996. The theory behind practical evaluation. *Evaluation*, 2(4): 393 – 404.
- Ugboma MU 2009. Access to Agricultural Information by Fish Farmers in Niger Delta Region of Nigeria. *A Ph..D Thesis*, Library and Information Science, Faculty of Social Sciences, Delta State University, Abraka, Nigeria.
- United Nations Children Education Fund 2004. UNICEF Evaluation Report Standard. New York: Evaluation Office, UNICEF, NYHQ.
- United Nations General Assembly 2005. Report of the World Commission on Environment and Development: Our Common Future. Transmitted to the General Assembly as an Annex to document A/42/427 - Development and International Co-operation: Environment. Retrieved on: 2009-02-15. <http://www.un-documents.net/ocf-02.htm>
- World Bank 1994. A Review of World Bank Experience in Irrigation. (Report No. 13676) Washington, DC: World Bank, Operations Evaluation Department.
- World Bank 2013. Knowledge-Based Country Programs: An Evaluation of the World Bank Group Experience. Washington DC: World Bank Group.
- World Bank 2016. Implementation, Completion and Reports. Third National Fadama Development (Fadama III) Project. Washington DC: World Bank Group.