

Impact of Fadama III Development Programmes on the Income and Agricultural Outputs of Farmers in Benue State

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Abstract

In this study, the impact of Fadama III development programmes on the income and agricultural outputs of farmers in Benue State was examined. Two objectives and research questions were formulated to guide the study. Cohort survey design was used to select 400 participants of Fadama III programme from six Local Government Areas. Questionnaire, Focus Group Discussion, interviews and personal observation were the instrument used for data collection. Descriptive statistical tools such as tables, charts, pictures, frequency counts and simple percentages were used for data analyses. Findings revealed that participating farmers in the Fadama III programme achieved significant increase in their income and agricultural outputs. Specifically, the earnings of farmers doubled after participating in the programme. Based on these results, it was therefore recommended among others that Fadama Development Programme should focus more attention on promotion of agricultural production ventures like cassava, rice, chicken (poultry) and fish farming in Benue State since these ventures yielded high returns in the study area. Additionally, to curb poor saving habits among farmers, Fadama Development Programme should improve on the existing Fadama User Equity Fund Scheme (FUEFS) by implementing a Programme Development Contribution Scheme (PDCS) in each Local Government Area (LGA) with the Fadama facilitator as auditor that pools mandatory savings from members of the user groups using withholding approach.

Keywords: Fadama III, Development, Agricultural output, Income, Farmers

Introduction

Fadama is a Hausa name for irrigable land-usually low-lying and flood plains, underlain by shallow aquifers found along Nigeria's major river systems. According to Echeme and Nwachukwu (2010), *Fadama* is called *Jande* in Tiv Language and *Eji* in Idoma Language. Such lands are especially suitable for irrigated crop production and fishing and traditionally provide feed and water for livestock. Kudi et al. (2008) assert that *Fadama* refers to an age-old tradition in Hausa where land that floods on seasonal basis allows for the growth of a variety of crops under small-scale irrigation farming system.

The World Bank (2009) described *Fadama* Assisted Project as an agricultural diversification programme aimed at improving the income of the participating farmers on a sustainable basis. *Fadama*

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also 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 and streams. They encompass land and water resources that could easily be developed for irrigation agriculture (Brady and Weil, 2022). *Fadama* are typically waterlogged during the rainy season but retain moisture during the dry season. The areas are considered to have high potential for economic development through appropriate investments in infrastructure, household assets and technical assistance. When *Fadama* spread out over a large area, they are often called 'Wetlands' (Camillus et al., 2019).

In the northern Nigerian States, the *Fadamas* are mainly low-lying flood plains composed of fluvial deposits and containing extensive exploitable aquifers. *Fadamas* vary in width from a few hundred meters to 20km and encompass the land and water resources that could be developed for irrigated agriculture. *Fadamuni* is actually the plural of *Fadama*, but it is more common in literature to see '*Fadamas*'. In other parts of Africa, features similar to *Fadamas* are called *dambos* (Zambia); *vleis* (Zimbabwe and South Africa); *mbugas* (East Africa) and *bolis* (Sierra Leone). The term *Fadama* is now internationally adopted for use in describing projects used by the International Development Association (IDA) to reduce poverty among farmers and other users of *Fadama* resource (Iortyom et al., 2018).

The issue of poverty in Nigeria has been described by many scholars, economic managers, stakeholders and policy analysts as "widespread and severe". This is in spite of the country's vast resources. Conditions and social indices confirm Nigeria, a sub-Saharan African country, as underdeveloped and pauperized by abject poverty with over 70% of her population living below poverty line. Available statistics reveal that the poverty incidence in Nigeria has been on the increase since the 1980s. As reported by the United Nations Development Programme (2010), between 1980 and 1996, the percentage of the core poor rose from 6.2 per cent to 29.3 per cent, and declined to 22.0 per cent in 2004.

The concern about the threat posed by poverty has led the Nigerian government to devote considerable attention to alleviating its scourge through various aid programmes, some of the time in cooperation with the civil society and donor agencies. The agricultural sector is not only the most important non-oil economic activity in Nigeria; it is also the single largest employer of labour forces (70% according to NBS, 2019). Thus, the agricultural sector is often seen as important for reducing poverty. It is in the light of this that the World Bank came up with what it termed "National *Fadama* Development Programme" to overcome the persistent challenges of poverty in Nigeria.

According to Fatai (2016), *Fadama III* was designed to focus on increasing the incomes of rural poor, help reduce rural poverty, increase food security and contribute to the achievement of a key Millenium Development Goal (MDG). Consequently, because of the tremendous achievements recorded by the *Fadama III* Interventions, Additional Financing (AF) of the *Fadama III* was approved on 29th May, 2016 in Sokoto State with aims to scale up the impacts and development of effectiveness of a well-performing project by aligning it more closely with the new Agricultural Transformation Agenda that was adopted by the government of Nigeria in 2011. It supported cluster of farmers in selected States with comparative advantage and high potential to increase production and productivity of cassava, rice, sorghum and horticulture value chains and link them to better organized markets within the selected States. In view of these developmental objectives, the present study was embarked upon to assess the impact of *Fadama III* development programmes on the income and agricultural outputs of farmers in Benue State.

Research Question

The following questions guided the study:

1. What effect does *Fadama III* programme have on participants' agricultural output in Benue State?
2. How has *Fadama III* programme affected participants' income in Benue State?

Materials and Method

The study adopted a cohort survey research design in conducting the research. Cohort survey is conducted using field work whereby; the researcher collects data either through the administration of questionnaires, use of interviews, personal observations or Focused Group Discussions (FGDs) among others by presenting himself directly or by proxy to the respondents. The study sample comprised 400 respondents selected from six Local Government Areas (LGAs) in Benue State. In particular, two LGAs were selected from each of Zones A, B and C. It is believed that findings derived from this population can be applied to the entire Nigeria. A pre-survey study shows that there are 7,351 beneficiaries of *Fadama III* in the study area. This therefore constituted the population of the study.

Also, where necessary the questionnaire was complemented by oral interviews to help elicit relevant information from respondents which may not be captured in the questionnaire. Moreover, the study area comprised some illiterate individuals who were not be able to fill the questionnaires accurately, thereby, necessitating the use of interviews. Focus Group Discussions (FGDs) helped bring out more facts about the performance of *Fadama III* Project and its effect on the poverty level of beneficiaries in Benue State. Descriptive statistical tools such as tables, charts, pictures, frequency counts simple percentages were used to analyze the data.

Results and Discussion

Effect of Implementating Fadama III Programme on Participants' Agricultural Output

In this section, the effect of implementing Fadama III programme on the agricultural output of beneficiaries in Benue State is analyzed in line with Objective One.

Table 1. Average Output of Respondent before and after participating in *Fadama III* Programme

Asset	Average	Qty Per Head	Difference	
	Before <i>Fadama III</i>	After <i>Fadama III</i>	Change in Output	Percentage Change
Rice (Bag)	5	30	25	71.4
Cassava (Bundles)	15	50	35	53.8
Goats	7	10	3	17.6
Chickens	0	300	300	100
Catfish	0	3,500	3,500	100
Cows	2	6	4	66.9

Source: Field Survey, 2023

Result present in Table 1 shows that respondents got an average of five (5) bags of rice before participating in *Fadama III* programme but after their participation in the programme, they were able to get 30 bags of rice, representing 25 bags or 71.4 % value-addition to their rice production ventures. This means that participants gain profoundly in rice production after participating in *Fadama III* programme in Benue State.

Table 1 indicates that respondents got an average of fifteen (15) bundles of cassava before participating in *Fadama III* programme but after their participation in the programme, they were able to get 50 bags of rice, representing 35 bundles or 53.8 % value-addition to their cassava production. Thus, participants of *Fadama III* gain significantly from *Fadama III* in the area of cassava production. As shown

in the table, respondents reared seven herd of (7) goat before their participation in *Fadama III* programme but after their participation in the programme, the number of goats increased to 10, which represents three (3) or 17.6 marginal change. This means that *Fadama III* participant did not gain much in goat production in Benue State. In fact, the three goat added could be as a result of reproduction by the initial stock respondents owned before their participation in *Fadama III* and not necessarily due to the impact of the programme.

Also, the table reveals that the respondents did not have the breeds of chickens and catfish they produced but after their participation in *Fadama III* programme, the stock of chickens and catfish stood at the average of 300 and 3,500, respectively. This means the impact of the programme on respondents in the chickens and catfish ventures was high. The table shows that prior to their participation in *Fadama III* programme, respondents reared a herd of two (2) cows on the average but after their participation in the programme, the number increase to six (6), representing additional four (4) herd of cows.

Effect of Implementing Fadama III Programme on Participants' Income

In this section, the effect of *Fadama III* Programme on participants' income in Benue State will be analyzed in line with Objective Two.

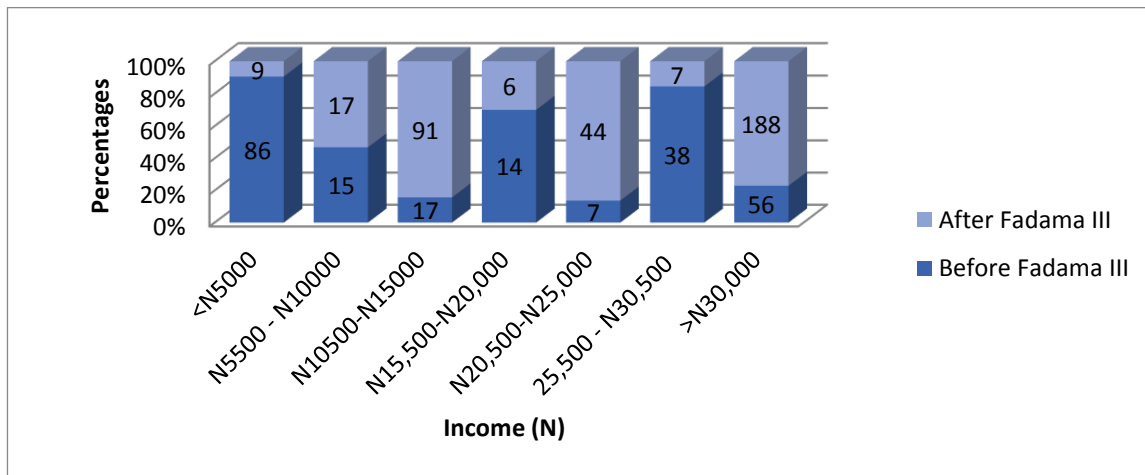


Figure 1. Bar-chart showing Respondents' Income before and after participating in *Fadama III* Programme

Figure 1` indicates that majority of the respondents earned less than N5000 per month before participating in *Fadama III* Development Programme, on the otherhand, majority of the respondents earned above N30, 000 after participating in the programme. This suggests than the programme impacted positively on respondents' poverty.

Table 2. Respondents' Savings before and after participating in *Fadama III* Programme

Savings per Month	Before <i>Fadama III</i>		After <i>Fadama III</i>	
	Frequency	%	Frequency	%
<N5000	76	20.9	74	20.4
N 5,100 -N 10,000	41	11.3	67	18.5
N10,100- N 15,000	96	26.5	36	9.84

N15,100- N 20,000	14	3.90	13	3.59
N20,100- N 25,000	16	4.41	53	14.6
N25,100-N 30,000	11	3.04	62	17.1
> N 30,000	98	27.1	57	15.7
Total	362	100	362	100

Source: Field Survey, 2023

Result present in Table 2 shows that about 58% of the respondents in total saved at most, an average amount of N20, 000 per month before participating in *Fadama III* programme but after their participation in the programme, this percentage dropped to about 48%. This suggests respondents' participation in *Fadama III* programme reduced their poverty levels. However, the amount of money given to participants may have been too meager to achieve the desired result since only 15% of those participating in *Fadama III* programme could save above N30, 000 per month.

Table 3. Respondents' Assets Worth before and after participating in *Fadama III* Programme

Assets Worth	Before <i>Fadama III</i>		After <i>Fadama III</i>	
	Frequency	%	Frequency	%
<N5000	38	10.5	83	22.9
N 5100 – N 10,000	33	9.11	19	5.20
N10,100 - N 15,000	108	29.8	14	3.87
N 15,100 - N 20,000	4	1.10	58	16.0
N 20,100 - N 25,000	36	9.91	15	4.14
N 25,100 – N 30,000	10	2.79	12	1.66
> N 30,000	133	36.7	161	44.5
Total	362	100	362	100

Source: Field Survey, 2023

As shown in Table 3, only 36% of the respondents in total had portfolio of assets that were worth more than N30, 000 before participating in *Fadama III* programme but after their participation in the programme, this percentage increased to about 44.5%. This suggests respondents' participation in *Fadama III* programme reduced their poverty levels.

Answering the Research Questions

What effect does *Fadama III* programme have on participants' agricultural output in Benue State?

Fadama III programme has positive effect on participants' agricultural output in Benue State particularly in the areas of cassava, rice, chickens and catfish production. However, the effect on cattle and goat production was low.

How has *Fadama III* programme affected participants' income in Benue State?

Fadama III programme has no sustainable effect on participants' income in Benue State. Although the participants got higher returns from their investment after participating in the programme, the mobilization of funds for savings was poorly conducted. Hence, the earnings from acquired assets and financial credits could not reduce their poverty.

Discussion of Findings

Study finding revealed that respondents got higher returns on assets from their participation in *Fadama* programme compared to their assets prior to participating in the programme. Specifically, respondents achieved high returns in cassava and rice production. They also recorded high returns in chickens and catfish production, while the performance in cattle and goat production was low. This implies that despite their poor socio-economic conditions of participants, there are high returns from their participation in livestock and crop production ventures supported by *Fadama III* programme. This finding is supported by the interview with FCA officials and Focus Group Discussions with members of FUGs as evidenced in Mbayoo FCA of Kwande Local Government Area of Kwande LGA where participants were given blending engines for groundnuts, garri and soybeans. Also, out of N84, 000 given to Mbatserku FCA in Kwande LGA for maize production, members were given N5000 each after the harvest was sold. In Kyonov FCA of Gwer LGA, evidence presented by the Treasurer showed that fertilizers were bought and each member was given a bag to improve vegetable production while in Liev FCA, each member was given six bags of fertilizer. The evidence presented by the Chairman, Turan FCA of Logo LGA revealed that the following items were provided to the rice farming user group: rice seeds (6 bags of 50kg), fertilizer (12 bags of NPK and bags and 6 bags of urea), herbicides (24litres) and 8 bottles of herbicides. This impacted positively on members as the Chairman of the FCA was able to realize 47 bags of rice a season.

Majority of them earned above N30, 000 per month after participating in *Fadama III* programme as against the below minimum wage of N18, 000 they earned before joining the programme. However, the amount of money given to participants may have been too meager to achieve the desired result since only 15% of those participating in *Fadama III* programme could save above N30, 000 per month. Thus, their socioeconomic conditions remain low. Results of interviews with FCA officials and Focus Group Discussions with members of FUGs show that evidences in revealed participating in *Fadama III* programme impacted on beneficiaries' poverty in different the FCAs studied. In Mbayoo FCA, the poultry produced by Mbasev poultry user group were sold and each member was given the sum of N10, 0000 while members of the piggery user group in Mbatyough FCA of Buruku LGA were given two piglets each to enhance reproduction and ensure the sustainability of the venture. Moreover, the lock-up shops (mostly five-room blocks) in Oju, Kyogen, Buruku, Otukpa, Aliade, Ugba and adikpo, and warehouses in Oju and Otukpa built by FCAs generated revenues that were sources of income to members that are capable of reducing their poverty levels. These findings are in concord with those obtained from the study Olaolu et al. (2017) which revealed that *Fadama III* had an appreciable impact on poverty reduction of the farmers by a change in the poverty incidence by 66.8% and 96.0% change in the poverty depth. Ike's (2012) analyses of the impact of *Fadama III* project and poverty alleviation in Delta State, Nigeria also revealed that the real income of *Fadama III* beneficiaries by about 36.6% (from N62, 480 to N85, 391.52) as a result of their participation in the programme.

The findings were consistent with those of a similar study conducted on the performance of *Fadama III* User Group crop farmers at Mid-term in South-East Nigeria which found that cassava earned farmers the highest income of N23, 500, 424.5 before and N70, 541,582 after joining the project. However, findings from Ja'afar-Furo et al. (2015) revealed that 44% of *Fadama III* beneficiaries in Adamawa State saved less than N10, 000. These findings are consistent with the present study finding that, although *Fadama III* earned higher after participating in *Fadama III*, they have low savings which could impact negatively on their poverty levels in the long-run.

Conclusion

Impact of *Fadama III* development programmes on the income and agricultural outputs of farmers in Benue State is presented. Results of the study revealed that the income and agricultural outputs of farmers who participated in the *Fadama III* programme increased significantly. Specifically, farmers achieved high

returns in cassava and rice production. They also recorded high returns in chickens and catfish production and other livestock. Findings further showed that the income of farmers increased as most of the participating farmers earned over N30, 000 per month after participating in *Fadama III* programme as against the below minimum wage of N18, 000 they earned before joining the programme. In essence, *Fadama III* Development Programme impacted positively on participants' income and assets. Hence, it can be concluded that:

- i. The respondents got higher returns from their participation in *Fadama* programme compared to their asset holdings prior to participating in the programme, particularly those involved in catfish, chicken, rice and cassava production.
- ii. *Fadama III* programme has significant positive impact on its participants' income and asset holdings in Benue State. The prevailing low socioeconomic conditions stem from low savings among the participants.

Based on these findings, it was therefore recommended that *Fadama* Development Programme should focus more attention on promotion of agricultural production ventures like cassava, rice, chicken (poultry) and fish farming in Benue State. This is because these are the ventures that have yielded high returns in the study area. Moreover, since *Fadama* Development Programme did not impact sustainably on participants' income as a result of ineffective and ineffective saving structure, *Fadama* Development Programme should improve on the existing *Fadama* User Equity Fund Scheme (FUEFS) by implementing a Programme Development Contribution Scheme (PDCS) in each Local Government Area (LGA) with the *Fadama* facilitator as auditor that pools mandatory savings from members of the user groups using withholding approach. The structure of the PDCS should comprise Community Development Contribution Scheme (CDCS) and the Group Development Contribution Scheme (GDCS) for the FCAs and FUGs, respectively. The GDCSs should mobilize savings from members and remit to the CDCSs which should also remit same to the PDCS for safe keeping. Business development strategies should be designed for each user by GDCS and implemented by the CDCS for each user under the supervision of the PDCS. These schemes should be responsible for giving out loans to members at low interest rates to help improve the socio-economic conditions of members on a sustainable level.

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