

# The Socio-Economic Impact of Fadama III Project in Taraba State: A Case Study of Jalingo Local Government Area

Danjuma I. A.<sup>1</sup>, Oruonye, E.D.<sup>2</sup>, Ahmed, Y.M<sup>3</sup>

Department of Geography, Taraba State University, P.M.B. 1167, Jalingo, Taraba State Nigeria.

**Abstract**— *The National Fadama Development Project III is a five years action program (2008 - 2013), which is aimed at increasing the income of fadama land and water resource users to reduce rural poverty and increase food security in the community. After five years of its operation in the state, there is need to examine the socio-economic impact of the project so as to appreciate its effectiveness or otherwise towards achieving its set objectives. To achieve this, questionnaires were administered to some of the beneficiary groups to appraise the impact of the project on their annual farm output and farm income. Student t-test was used to test the difference on beneficiaries' mean farm output and income before and during Fadama III project participation. Findings of this study show that Fadama III project in Jalingo LGA is dominated by male (88.04%) and most of the beneficiaries are middle aged people (31-45 years). The beneficiary' groups are dominated by married persons (88.04%), most of whom are farmers (93.48%). Greater proportion of the beneficiaries attended one form of formal education or the other, though, only few (19.57%) attained tertiary education level. The mean annual farm output and annual farm income of the project beneficiaries increased by 35.32% (from 63.34 bags to 85.71 bags) and 45.79% (from ₦261,880 to ₦381,790) respectively per annum. Furthermore, test of difference on the average annual farm output and farm income of beneficiaries before and during participation in the project in the study area shows a significant increase in their mean annual output and income. However, the project suffered numerous challenges both from service provider and community officers. These challenges range from inadequate capital, untimely disbursement of inputs, and procurement of substandard materials among others.*

**Keywords**— *Fadama, Impact, Jalingo, Project and Socioeconomic.*

## I. INTRODUCTION

Fadama is a Hausa name for flood plains and shallow aquifers found along Nigerian major river systems. The National Fadama Development Project (NFDPI) is a Community Driven Development (CDD) project of the Federal Ministry of Agriculture and Rural Development. It is jointly funded by the Federal Government of Nigeria and the World Bank with counterpart funding by states and local governments. The project is agricultural based that aim at increasing the income of fadama lands and water resource users to reduce rural poverty, increase food security and empower rural communities through Fadama Community Associations (FCAs) and Fadama User Groups (FUGs). The first phase of the project is popularly known as the National Fadama Development Project I (NFDPI I). It was executed between the years 1993 and 1999, and focused mainly on the promotion of simple low-cost irrigation technologies in the bid to increase food production but largely neglected the down-stream activities such as; processing, preservation, conservation, and rural infrastructure meant to ensure efficient evacuation of farm produce to the markets. Also, the project did not take into consideration the farmers involved in other areas of agriculture like; livestock and fisheries. This resulted in not only perpetual conflict between users, but restricted benefits to only those who were involved in crops production (NFDPI 2007). At the completion of the project phase in 2001, the Nigerian Government adopted new rural development strategies, which was in line with African Development Bank's strategic plan that had as its focus a number of approaches to development. The plan stressed the need for consistency, sustainability and greater equity in the access to benefits of the land resources in fadama areas of the country. Consequently, the Bank deemed it necessary to agree to Nigerian Government's request for funding phase II of the project not only as a follow-up of the phase I, but also to expand its scope (NFDPI Appraisal Report 2003).

The design of phase two of the project, that is National Fadama Development Project II (NFDPI II) which operated between 2004 and 2009, therefore incorporated a Community Driven Development (CDD) approach in which various fadama users (crop farmers, hunters, pastoralists, women, youths, vulnerable groups and so on) operating through their respective fadama community associations, oversees the design and implementation of the project and are empowered through skills and capacity buildings to improve their livelihoods by increasing income generation activities.

The National Fadama Development Project II, had six (6) main components, which are;

- Capacity building, local government and communication
- Small community owned infrastructure
- Advisory services and input support development
- Support to Agricultural Development Programs (ADPs), sponsor Researches and on-farm demonstration
- Asset acquisition for individual fadama user group/Economic interest group
- Project management, monitoring and evaluation.

In general, the midterm review (MTR) report 2007 indicated quite positive accomplishment of the fadama II project in all the components of the project. In this regard, the World Bank's Board of Director in July 2008, approved the implementation of the third phase of the project as a follow-up to the relatively successfully implemented fadama II project. This is both in scope and implementation approach.

National Fadama Development Project III (NFDP III) is a comprehensive five years action program, commencing from the year 2008. It sought to increase income of 70% of her participants by at least 40% before completion in the year 2013. It seeks to reduce rural poverty and increase food security in the State. After five years of its operation in the State, there is need to examine the socio-economic impact of the project so as to appreciate its effectiveness or otherwise towards achieving its set objectives. Thus, the aim of this study is to examine the socio-economic impact of Fadama III project in Jalingo LGA. This was achieved through the following specific objectives;

1. To examine the socio-economic characteristics of the project participants.
2. To examine the impact of the project on participants' farm output and income level.
3. To examine the level of involvement of participants in the design and implementation of the project in their community.
4. To identify the problems militating against effective implementation of the NFDP III in Jalingo.

To achieve the above objectives, the study hypothesis is stated as follows;

1. Ho1: There is no significant difference between annual farm outputs of Fadama III participants before and during the project lifespan.
2. Ho2: there is no significant difference between annual farm income of Fadama III participants before and during the project lifespan.

## **II. MATERIAL AND METHODS**

Data used in this study was generated with the aid of structured questionnaire, scale rating, field survey and oral interviews. The structured questionnaire and oral interview was administered to beneficiaries of Fadama III project in Jalingo LGA, who were into the cultivation of grains. Such beneficiaries were only found in the following wards; Kachalla Sembe, Kona, and Yelwa. As such, the wards were purposively selected for this study. 40, 45 and 35 questionnaires were administered to the targeted population in Kachallabsembe, Kona, and Yelwa wards respectively. This gave a total of 120 respondents. The data was analyzed using descriptive and inferential statistics. The descriptive statistics involved the use of frequency, mean, and percentage, while the inferential statistical involved the use of student t-test. The t-test was used to test for the significance in the mean difference between farm output and farm income before and during the life span of Fadama III project in the study area. SPSS version 16 statistical package was used for the t-test analysis.

## **III. RESULTS AND DISCUSSION**

A total of one hundred and twenty (120) questionnaires were administered to the beneficiaries of Fadama III project involved in grains cultivation in the study area. At the completion of the exercise, only ninety-two (92) questionnaires were filled and returned as some of the respondents were not available for the questionnaires to be retrieved (Table 1).

**TABLE 1**  
**NUMBER OF QUESTIONNAIRE ADMINISTERED AND RETRIEVED**

S/No	Sampled Wards	No. of Questionnaire administered	No. of Questionnaire retrieved
1	Kachalla Sembe	40	34
2	Kona	45	30
3	Yelwa	35	28
4	Total	120	92

Source: Field survey, 2013

#### IV. DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

The demographic characteristics of the respondents are presented in Table 2. The Table revealed that 88.04% of the respondents were males, while 11.96% were females. The implication is that though both sexes were engaged in the Fadama III project, but males predominated. The results shows that greater proportion (70.65%) of the farmers were within the age of 31-45 years, 20.65% were within the ages of 46-60 years and 8.70% were 30 years and below. This implies that most of the respondents, mainly middle aged people were in their active years, and as such, it is of great advantage for the programme since majority of the farmers would be physically and mentally alert in learning new ideas and technologies aimed at improving their productivity. The Table also indicates that greater proportion (88.04%) of the respondents were married, 10.87% were single while 1.09% were widow. The Table revealed that greater percentage (66.31%) of the respondents had one form of formal education or another. Specifically, 25% attained primary school education level, 21.74% attained secondary school education level, and 19.57% attained tertiary education level while 33.69% had no formal education. This implies that greater proportion of the respondents are literate farmers and are in better position to understand and adopt any modern agricultural techniques aimed at enhancing their capacity and productivity. However, considerable proportion of the respondents that are illiterate perceived the project as mere paper work. Occupationally, the Table shows that a greater percentage of the respondents (93.48%) were farmers, while 4.35% were civil servants and 2.17% are petty traders. This by implication shows that the project which is agriculturally based is actually reaching out to the targeted groups (farmers).

**TABLE 2**  
**DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS**

GENDER		
Gender	Frequency	Percentage (%)
Male	81	88.04
Female	11	11.96
Total	92	100
AGE		
Below 30yrs	08	8.04
31 – 45yrs	65	70.65
46 – 60yrs	19	20.65
Total	92	100
MARITAL STATUS		
Married	81	88.04
Single	10	10.87
Widow	01	1.09
Total	92	100
Education		
No formal education	31	33.69
Primary education	23	25.0
Secondary education	20	21.74
Tertiary education	18	19.57
<b>Total</b>	92	100
Occupation		
Farmer	86	93.48
Civil servant	4	4.35
Petty traders	2	2.17
<b>Total</b>	92	100

Source: Fieldwork, 2013.

The findings of this study shows that women were under represented in Fadama III programme in the study area. The under representation was attributed to the inability of the women to pay their counterpart fund for participation in the project. Some of the women in the study area deliberately avoided some agricultural activities because they regarded it as been too stressful and time demanding. This under representation of women in project of this nature has been reported by Ike (2012) for Fadama III programme in Delta state, Nigeria. Most of the beneficiaries are middle aged people who were in their active years, as such it is of great advantage for the programme since majority of beneficiaries (farmers) would be physically and mentally alert in learning new ideas and technologies aimed at improving their productivity. The domination of middle aged people in the programme is in accord with the work of Agwu and Edun (2007) in Ilaro Agricultural zone of Ogun state, Nigeria. Married people predominates the programme just as the case reported by Ike (2012) concerning Fadama III beneficiaries in Delta state, Nigeria. These are people with family responsibilities and are also depended upon by the weak and less privilege family member or close relation. In the area of educational attainment, majority of the beneficiaries are literate and as such, they are in better position to understand and adopt any modern agricultural techniques aimed at enhancing their capacity and productivity. However, the considerable proportion of the illiterate counterpart perceived the project as being more of an embodiment of paper work. The economic activity of concern in this study is farming.

#### V. NFP III PROJECT IMPACT ON PARTICIPANTS FARM OUTPUT AND INCOME LEVEL

The result of the study shows that the average annual farm output of the participant increased by 35.32%, that is, from 63.34 bags to 85.71 bags while their annual farm income increased by 45.79%, that is, from ₦261,880 to ₦381,790 as a result of participation in the fadama III project. This implies that the project has impacted positively on the annual output as well as income of the participants. Also, the participants were involved in the design and implementation. 58.70% of the respondents had their income increased beyond 40% at against 70% that the project sought to achieve in its implementation manual volume one.

Findings from the study revealed that that the average annual farm output of the respondent before participation in the project was 63.66 bags while the average annual income was ₦261,875 per annum. However, following their participation during the project lifespan, the average annual farm output of the respondent increased by 35.32%, that is from 63.34 bags to 85.71 bags while their annual farm income increased by 45.79% that is, from ₦261,88 to ₦381,79 per annum. This implies that the project has impacted positively on the annual income as well as annual outputs of the participants.

**TABLE 3**  
**NFP III PROJECT IMPACT ON PARTICIPANTS FARM OUTPUT AND INCOME LEVEL (N=92)**

Variable	Summation ( $\Sigma$ )		Mean		% change
	Before (X)	During (Y)	$\bar{Y}$	X	
Annual output (bags)	5,827	7,885	63.34	85.71	35.32
Annual Income (₦)	24,092,960	35,124,680	261,880	381.79	45.79

Field Survey, 2013

#### VI. PARTICIPANTS INVOLVEMENT IN PROJECT IMPLEMENTATION

Findings of the study (Table 4) shows that greater proportion of the respondents (67.39%) of the farmers (local beneficiaries) claimed they were involved in the design and implementation of the Fadama project in their communities while 32.61% claimed that they were not involved. Out of the 67.39% of the beneficiaries involved in the project implementation, 17.7% claimed they were strongly involved in the implementation while, 82.30% claimed that they were partially involved in the implementation of the project (Table 5). This implies that the project actually incorporated Community Driven Development (CDD) approach as contained in its implementation manual volume one (Vol. I).

**TABLE 4**  
**BENEFICIARY'S INVOLVEMENT IN THE DESIGN AND IMPLEMENTATION OF THE PROJECT**

Response	Frequency	Percentage
Involved	62	67.39
Not involved	30	32.61
Total	92	100

Field Survey, 2013

**TABLE 5**  
**BENEFICIARY'S LEVEL OF INVOLVEMENT IN THE PROJECT IMPLEMENTATION**

Response	Frequency	Percentage
Strongly Involved	62	67.39
Partially Involved	30	32.61
Total	92	100

**Field Survey, 2013**

Table 6 shows the distribution of respondents based on the types of grain(s) they cultivate. The Table revealed that some of the respondent could cultivate more than one type of grain.

**TABLE 6**  
**TYPES OF GRAIN CULTIVATED BY NFP III PARTICIPANTS IN THE STUDY AREA**

Cultivated	Frequency	Percentage (%)	(%) from	(%) from	(%) from	Total
Beans	6	6.52	0.00	83.33	16.67	100
G/nut	28	30.43	28.57	50.00	21.43	100
Guinea corn	15	16.30	20.00	20.00	60.00	100
Maize	80	86.96	38.75	32.50	28.75	100
Millet	4	4.35	50.00	25.00	25.00	100
Rice	77	83.70	38.96	25.97	35.07	100
Soya Beans	4	4.35	0.00	75.00	25.00	100

**Field Survey, 2013**

## VII. PROBLEMS/CHALLENGES FACING THE PROJECT BENEFICIARIES

The programme was designed to achieve increase crop productivity and income as well as reduce rural poverty and enhancement of welfare of the rural dwellers. After 5 years of the implementation of the project, some of the challenges observed include;

1. Inadequate capital; farmers in the study area has the potentials to improve their productivity but they lack the capital necessary to finance their farming activities. They neither have the necessary collateral for loans nor can afford the high interest rate charge by financial institution and money lenders. The farmers required sufficient capital to purchase inputs as well as to procure farm machines to ease their farming activities but are constrained by lack of finance.
2. Inadequate input support; Inputs such as; fertilizer, chemicals, improved seeds supplied by service provider are inadequate to meet the expanding needs of the farmers.
3. Untimely distribution of inputs like improved seeds, fertilizer, herbicide/insecticide etc; late distribution of inputs is one of the problems confronting the farmers in the study areas. They need early supply of inputs at the commencement of the farming season.
4. Insufficient farm machines/high cost of hiring such machines e.g. Tractor, Irrigation machine etc
5. Poor road network with particular reference to Yelwa ward; bad roads affect the farmers in diverse ways some of which are; high cost of bringing the farm products to urban centres or markets, increases the activities of middlemen in the movement of agricultural products from the farms to markets or urban centres where they are consumed, increases perishability of farm crops among others.
6. Poor storage facilities; storage facilities such as; silo, rhombus etc are inadequate thus leading to: perishability of crops, wasting of farm products, reduction in quality of farm products, attack by pest and diseases etc.

### VIII. VERIFICATION OF HYPOTHESIS

1. Ho1: There is no significant difference between annual farm outputs of fadama III participants before and during participation.

**TABLE 7**  
**TEST OF OUTPUT DIFFERENCE BEFORE AND DURING PARTICIPATION (P = 0.05)**

Variables	N	Mean	DF	Sig. (2-tailed)
Output before	92	63.3370	182	0.015
Output during project lifespan	92	85.7065		

From the analysis of the difference between participants' mean annual farm output before and during participation in the project, the result of the t-test shows that the value of sig. (2 Tailed) of 0.15 is less than the 'p' value (0.05) as a result of this, the hypothesis which was earlier stated in negative form is hereby rejected and the alternative accepted. The alternative which is a positive hypothesis implies that Fadama III project in the area has had a significant impact on the participants' mean farm output.

2. Ho2: there is no significant difference between annual farm income of fadama III participants before and during participation.

**TABLE 7**  
**TEST OF INCOME DIFFERENCE BEFORE AND DURING PARTICIPATION (P = 0.05)**

Variables	N	Mean	DF	Sig. (2-tailed)
Income before	92	63.3370	182	0.015
Income during project lifespan	92	85.7065		

From the result of the t-test analysis in Table 8 above, the sig. (2-tailed) value is 0.000 which is less than the 'p' value (0.05) it therefore means that the hypothesis (2) of this research which was earlier stated in negative form is hereby rejected, and the alternative accepted. The alternative which is a positive hypothesis implies that Fadama III project in the area has had a significant impact on the participants' mean annual farm income.

### IX. PROBLEMS AND CHALLENGES MILITATING AGAINST SUCCESSFUL IMPLEMENTATION OF FADAMA III PROJECT IN JALINGO LGA.

The successful implementation of the Fadama III programme in Jalingo LGA is being deviled by the following problems and challenges;

1. Inadequate finance: the high level of awareness created at the commencement of the programme attracted many people and resulted in the formation of many cooperative groups. These groups registered in anticipation of support from fadama III project. However, not all the registered groups were disbursed money due to the low financial resources allocated to the State.
2. The communities were slow in articulating and imbibing the policies of the project meant to improve their incomes.
3. Lack of saving culture among the residents in the area was a problem to some extent. The income generated from the community's assisted subprojects was not properly saved in order to sustain such activities.
4. Lack of proper understanding of the subject matter by community officers. These officers connive with supplier (service providers) to cheat the benefitting communities by procuring substandard materials for them.

### X. CONCLUSION

In view of the findings of this study on the socio-economic impact of Fadama III project in Jalingo, it can be deduced that even though the project suffered numerous challenges as a result of poor finance coupled with mismanagement of fund from unfaithful service providers as well as selfish community leaders which consequently retarded the project's impact, it still has a positive impact on participants' farm output as well as farm income in the study area. The project incorporated community driven development approach and reached out specifically to the targeted population (farmers) as it sought to in its implementation manual.

### RECOMMENDATION

Since agriculture is the mainstay of Taraba state's economy, it is imperative that any improvement in income and food supply in state should be on agricultural development. Such intervention should be directed at increase production and income level of the farmers. Base on the study findings, the following recommendations are made:

1. The Federal Government should continue with the Fadama project even if the World Bank withdraws from the programme.
2. The project should develop proper measures towards ensuring that service providers execute projects according to specifications. Of particular note are the service providers who procure substandard materials for the beneficiaries.
3. Government should device a means of giving soft loans to the farmers. And such loans should be tailored to smallholder farmers with high potentials for diversification and quality improvement of productivity.
4. There should be expansion of rural infrastructures such as; roads, market, peasants' health and veterinary facilities.
5. The African Development Bank (ADB) should ensure prompt disbursement of funds (resource materials and services) to further strengthen the existing positive attitude of the farmers towards the Fadama project.
6. There is great need to re-visit the issue of farmers' participation in the fadama programme in order to create an atmosphere for knowledge exchange, and a strong role of farmers in decision making at every stage of the project process with the aim of empowering them to make request which the facilitators will be obliged to fulfill. This is necessary in order to make the objectives of the on-going Fadama III project achievable and to bring farmers to the point where they can co-create innovation.

### REFERENCES

- [1] Agwu, A.E. and Edum, O.A. (2007) "Influence of Farmers' Development Characteristics on Knowledge Gap of Recommended Fadama Technologies in Iloro Agricultural Zone of Ogun State, Nigeria." *Journal of Agricultural, Food, Environment, and Extension* Vol 6 (2) 52-60
- [2] Ike, P.C. (2012)" An Analysis of the Impact of Fadama III Project on Poverty Alleviation in Delta State, Nigeria" *Asian Journal of Agriculture Science* 4 (2): 158-164.
- [3] NFDP Appraisal Report 2003 "National fadama Development Appraisal Report by the Federal Republic of Nigeria, Abuja.