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Effect of Second National Fadama Development Project on Farmers Productivity in Imo State, Nigeria

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Abstract
A work was carried out on the Effect of Second National Fadama Development Project on farmers productivity in Imo State, Nigeria. Specifically it examined socio-economic characteristics of farmers (Fadama users and non fadama users); identify the infrastructures provided by the Fadama Project; and determined productivity difference between Fadama users and non Fadama users in Imo State. A total of two hundred and thirty five (235) respondents were sampled, which comprised one hundred and fifteen (115) Fadama users and one hundred and twenty non Fadama users. They were randomly selected from six local government areas out of the eleven LGAs that participated in the Second National Fadama Development Project in Imo State. Data were collected using two sets of questionnaire administered to Fadama users and non Fadama users respectively. Frequency, percentage, and z-test analysis were used to analyze the data collected. The result showed that there is significant difference at 1% between productivity of Fadama users and non Fadama users in the study area. It further revealed a productivity difference of 6.333913. This implied that the Second National Fadama Development Project has greatly increased the productivity of the farmers who participated in the project. There is positive correlation between the output of Fadama users and that of non Fadama users. It was also found out that borehole, bridge, VIP Latrine, cooling shed, cold room and cassava processing machine were provided to some communities that participated in the Fadama Project. In conclusion, Fadama Users productivity has been increased more than the non Fadama Users in Imo State, Nigeria. I recommend that more farmers should be encouraged to participate in the on-going National Fadama Development Project in Nigeria.
Keywords: Farmers, Fadama Users, Non-Fadama Users and National Fadama Development Project.

INTRODUCTION

National Fadama Development Project is one of the projects established by the federal government of Nigeria to enhance agricultural production. "Fadama," is a word in Hausa language which means, seasonally floodable or floodable flood plan along major savannah rivers and depressions on the adjacent low terraces. The need for improvement in fadama lead to development of small irrigation pumps, wash bores, and shadow tube wells for Small Scale Irrigated Farming System (SSIFS). This has existed in the Nigerian Sudano-Sahelian region before introducing the Large Scale Irrigated Farming System (LSIFS) to Nigeria (PCU – NFDO, 2007). These two systems have been introduced by the government, while farmers only diverted water from the channels to their individual farms (Jibowo, 2005).

National Fadama Development Project (NFDP) is part of Agricultural Development Programme (ADP). This project is anchored on Community Driven Development (CDD) approach. Areas in which investments was proposed in the project were; empowering communities (with financial resources, expanding their knowledge base and strengthening their organization), promoting private enterprise to foster growth of the non-oil sector and enhancing governance and organizational capabilities of local governments, coordinated and transparent delivery of public services (Roseland, 2006). The sector goal of the National Fadama Development Project (NFDP) is reduction in poverty by improving the living standard of the rural poor and to contribute to food security and increase access to rural infrastructure. This project thus has a potential to alleviate the farmers' (fadama users) from poverty. The project is aimed at reducing poverty and improving the livelihood of the ruralites. For the success of any poverty alleviation programme/project, however, knowledge of the profile of poverty in that society is very important. Studies have shown that agriculture is the locus of poverty in Nigeria (World Bank, 2001).

The National Fadama Development Project (NFDP) Phase 1 was negotiated by the Nigerian Government with the World Bank and approved by the World Bank in 1992. The initial beneficiary states were Bauchi (now Bauchi and Gombe), Kano, Jigawa, Sokoto (now Sokoto and Zamfara) and Kebbi. The project adopted the Small Scale Irrigated Farming System (SSIFS), as the preferred option because of its cost saving features when compared with Large Scale Irrigation projects in Nigeria (Akinola, 2003).

Oredipe (2008) reported that the National Fadama Development Project phase 1 was implemented over a period of six (6) years (1992-1998), it was aimed to promote simple and low-cost irrigation technology under World Bank financing. The Federal Ministry of Agriculture and Rural Development (FMARD) was the Executing Agency. The overall coordination of the project activities were delegated to the National Fadama Development

Office (NFDO). The actual implementation of the project activities were managed by the State Fadama Development Teams (SFDTs). The State Fadama Development Committee (SFDC) was directly responsible for the overseeing project activities in the state.

The Second National Fadama Development Project (Fadama 11) was embarked upon to address some of the factors that militated against the full realization of the potential benefits of agricultural production activities-among which are poor development of rural infrastructure, storage and marketing facilities and to address lessons learnt in implementation of National Fadama Development Project 1 (NFDP 11, 2008). The objective of the Second National Fadama Development Project is to sustainably increase the incomes of fadama users; empowering communities to take charge of their own development agenda, and reducing conflict between fadama users.

The Second National Fadama Development Project (NFDP-11) was a follow-up on the first phase. The main objective of SNFDP-11 was to sustainably increase the incomes of the Fadama users through expansion of farm and non-farm activities with high value added output (World Bank, 2007). The National Fadama Development Project (NFDP) phase 11 was jointly sponsored by the World Bank (WB) and the African Development Bank (ADB). The purpose of this phase was to increase the incomes of Fadama users, namely pastoralists, fishers, hunters, and others. This project was implemented over six years (2004-2009) in 18 states of the Federation. Twelve states out of the eighteen states was sponsored by World Bank and these states include Adamawa, Bauchi, Federal Capital Territory, Gombe, Imo, Kaduna, Kebbi, Lagos, Niger, Ogun, Oyo, and Taraba. The six states sponsored by the African Development Bank (ADB) include Jigawa, Kastina, Kwara, Kogi, Plateau and Borno (PCU – NFDO, 2009).

Oredipe (2008) reported that the National Fadama Development Project is a major tool for realizing the government's poverty reduction objective in the rural areas of Nigeria. Its beneficiaries are the private economic agents who achieve their livelihood directly or indirectly from the exploitation of the natural resources in a given fadama areas. The project empowers the Fadama Community Association (FCAs) with the resource and the needed training and technical assistance support to properly manage and control these resources for their own development. FCAs take charge of their own destiny through real empowerment. In addition, he further stated that it adopted a socially inclusive and participatory process whereby all fadama users collectively identify their development priorities and agreed on their investment activities which were outlined in a Community Development Plan (CDP).

Report from Imo State Fadama Development Office (2009) showed that the Fadama II project was made up of five components namely;

-Capacity Building
-Rural Infrastructure Investments,
-Pilot Productive Asset Acquisition support
-Demand – Responsive Advisory Services
-Project Management, Monitoring and Evaluation.

Productivity is a measure of output from a production process, per unit of input (Saari, 2006). Agriculture needs adequate finance to enhance the productivity and income of farmers. Apart from land, labour and management, finance is one of the factors that determine the output in agricultural production. Nigerian agricultural sector still suffers low productivity arising from under utilization of natural resource due to inadequate financial resources which makes Nigerian farmers to remain a perpetual small scale producer in agricultural production (Okunade, 2010).

Fadama Users refers to the farmers that participated in the National Fadama Development Projects while non Fadama Users are farmers that did not participate in this project in those areas were Fadama Projects were carried out in Nigeria.

The broad objective of this study is to determine the Effect of Second National Fadama Development Project on farmers (Fadama Users and Non Fadama Users) productivity in Imo State, Nigeria. Specifically it examined socio-economic characteristics of farmers (Fadama users and non fadama users) and identifies the infrastructures provided by the Second National Fadama Project in Imo State.

METHODOLOGY

This study was conducted in Imo State (latitude 50 20''N and 50 27''N and longitude 7 00''E and 70 07''), located in the Southeast humid forest zone of Nigeria. The study targeted men and women who participated and those who did not participate in the Second National Fadama Development Project in the eleven LGAs that participated in the project in Imo State. A total number of 26,068 farmers who participated in the Second National Fadama Development Project in Imo State (SNFDP, 2009) and 27,000 farmers whose who did not participate within the study area constitutes the study population.

Six out of the eleven local government areas (LGAs) that participated in Second National Fadama Development Project in Imo State were randomly selected for the study. One Fadama Community Association

(FCA) was randomly selected from the list of Fadama Community Associations that make up each selected local government area. Two Fadama User Groups (FUGs) were randomly selected from the list of Fadama User Groups that make up each selected Fadama Community Association. Ten Fadama Users were randomly selected from the list of fadama users that make up each selected Fadama Users Group and administered fadama users' interview schedule. Ten non-fadama users were randomly selected from the list of non-fadama users in the villages that constitute each selected Fadama User Groups and administered non-fadama users' interview schedule. The sample size therefore was two hundred and forty respondents, comprised of 120 fadama users and 120 non-fadama users. Out of these two hundred and forty (240) copies of questionnaire distributed, two hundred and thirty five (235) were recovered comprising one hundred and fifteen (115) for fadama users and one hundred and twenty (120) for non fadama farmers.

The data for the study were obtained from primary source with the aid of structured questionnaire interview schedule, and analyzed using descriptive statistics such as percentages, frequency and z-test. To get the productivity of farmers', each farmer's total output (Naira) was divided by his total inputs (Naira).

RESULTS AND DISCUSSION

Table 1 shows the socio-economic characteristics of farmers (Fadama Users and non-Fadama Users). The table reveals that majority (80%) of the Fadama Users were males, This indicated that male farmers participated more in Second National Fadama Development Project than their female counterpart. Among the Non Fadama Users, majority (85%) of the farmers interviewed were male. Majority (96.52%) of the Fadama users were married, this implied that more married farmers were involved in Fadama 11 project than the single farmers in Imo State. In the same vain, 98.33% of the Non Fadama users were married. The findings showed that majority of farmers in Imo State were married people that have responsibility of taking care of their family members. Being married with children makes the farmers to be more serious about their work. This is because of their financial needs to feed and train the children (Mafimisebi *et al*., 2001). Therefore, there would be need for increased income in the family. Also in table 1 majority (82.59%) of Fadama Users were within the age range of 20 – 49 years, while 85.01% of the non Fadama Users were within the same age range of 20 – 49 years. This finding revealed that majority of farmers in Imo State, Nigeria was in their middle age. This implied that these farmers were still active and vibrant in carrying out agricultural activities. This result indicated that majority (68.70%) of the Fadama users were literate, whereas majority of the non Fadama users (51.67%) were illiterate. The literacy of Fadama Users makes communication easy and facilitates participation in Fadama projects as educated farmers accept change easily and are known to be less conservative.

The result in table 1 further revealed that majority (66.08%) of Fadama users had income per annum ranging from N251,000 – N290,000. In case of the non Fadama users, 46.67% of them had income per annum between N51,000 – N90,000. This finding revealed that Fadama users had greater income per annum than the non Fadama users. This implied that Fadama 11 project had greatly increased the income of farmers that participated in the project in I mo State. The result showed that 85.22% of the Fadama users had between 1 and 2 hectares of farm land, while 80.83% of non Fadama users had between 1 and 2ha of farmland. This study showed that majority of farmers interviewed in Imo State had farm size between 1 and 2 hectares. This indicated that farmers (Fadama users and non Fadama users) in the study area were mostly small scale producers. Among the Fadama users 54.78% of them had no contact with the extension agents, and also for the non Fadama users about 67.50% indicated that they had no contact with extension agents. This indicated that extension contact in the study area is very low and should be improved upon, to enable farmers get the necessary information required to enhance agricultural production. From the study 54.78% of the Fadama users had farming experience between 11 – 20years, while 35% of non Fadama Users had between 11 – 20years farming experience. This showed that majority of Fadama users had long years of farming experience of between 11 – 20years. Long farming experience builds confidence in the farmers.

Table 1: Socio-Economic characteristics of farmers (Fadama Users and Non Fadama Users) in Imo State.

Variables	Fadama Users		Non-Fadama Users	
	Frequency	Percentage	Frequency	Percentage
Sex				
Male	92	80.00	102	85.00
Female	23	20.00	18	15.00
Marital status				
Married	111	96.52	118	98.33
Single	4	3.48	2	1.67
Age (years)				
20 - 29	5	4.34	10	8.33
30 – 39	38	33.04	43	35.83
40 – 49	52	45.21	49	40.83
50 – 59	20	17.39	18	15.00
60 – 69	1	0.86	-	-
Level of education				
No formal education	36	31.30	62	51.67
Primary school	51	44.35	41	34.17
Secondary school	18	15.65	7	5.83
OND	4	3.48	6	5.00
HND	2	1.74	3	2.50
B.Sc	3	2.61	1	0.83
PGD	1	0.87	-	-
Household size				
1 – 5	44	38.26	35	29.17
6 – 10	64	55.65	72	60.00
11 – 15	7	6.09	13	10.83
Income (Naira)/annum				
10,000 – 50,000	-	-	34	28.33
51,000 – 90,000	-	-	56	46.67
91,000 – 130,000	-	-	21	17.50
131,000 – 170,000	-	-	3	2.50
171,000 – 210,000	9	7.83	4	3.33
211,000 – 250,000	30	26.09	2	1.67
251,000 – 290,000	76	66.08	-	-
Farm size (ha)				
<1	16	13.91	23	19.17
1 – 2	98	85.22	97	80.83
3 – 4	1	0.87	-	-
Extension visit (yearly)				
No visit	63	54.78	81	67.50
Once	51	44.35	39	32.50
Twice	1	0.87	-	-
Farming experience (Years)				
1 – 10	33	28.70	50	41.66
11 – 20	63	54.78	42	35.00
21 – 30	19	16.52	26	21.67
31 – 40	-	-	2	1.67

Source: Field Survey, 2011

Table 2 showed the rural infrastructures provided through the aid of Second National Fadama Development Project to support the economic infrastructures and local public goods which will help to improve

the productivity of the Fadama users. Table 2 indicated that 100% of the fadama users agreed that Fadama 11 project provided boreholes and VIP Latrines in the study area; 34.78% of the respondent stated that bridges were constructed in their community by the aid of Fadama 11 project. About 62.61% of the Fadama user agreed that cooling sheds were provided in their markets by Fadama 11 project to protect people buying and selling from being affected by direct sun light and rainfall. From the study 84.35% of the Fadama users stated that cold rooms were provided in some markets in their community. This is in agreement with Nwachukwu *et al*., 2008 that through the Fadama 11 project some rural infrastructures were provided in some rural areas in Nigeria.

Table 2: Rural Infrastructure Provided by the Second National Fadama Development Project

Variables	Frequency	Percentage
Borehole	115	100
Bridge	40	34.78
Road grading	20	17.39
VIP Latrine	115	100
Cassava processing machine	50	43.48
Cooling shed	72	62.61
Cold room	97	84.35

Source: Field Survey, 2011
Multiple responses were recorded

Information in Table 3 showed that the mean productivity of Fadama users was 10.19391 while the mean productivity of non Fadama users was 3.86. This gives a great productivity difference of 6.333913. This means that for every one naira invested by Fadama User he realizes about six naira thirty three kobo, and for every one naira invested by a non Fadama Users he released about three naira eighty six kobo. The result showed that there is significant difference at 1% between productivity of Fadama users and non Fadama users in the study area. This implied that the Second National Fadama Development Project has greatly increased the productivity of the farmers who participated in the project. This agrees with the report of World Bank (2007) which stated that the Second National Fadama Development Project has helped to increase farmers output in Sokoto State. It is also in line with the objective of the Second National Fadama Development Project in Nigeria, which was to sustainably increase the income and productivity of participated rural community dwellers (PCU – NFDO, 2009). There is positive correlation between the output of Fadama users and that of non Fadama users, which implied that as the output of Fadama users' increases that of non Fadama users also increases. The result equally showed positive correlation between the input of Fadama users and input of non Fadama users at 1% level of significant, indicating that as the input of Fadama users' increases, the input of non Fadama users' increases.

Table 3: Z-Test of Productivity difference between Fadama Users and Non Fadama users

Paired variables	Mean	Std. Deviation	r	z
Output of Fadama Users	285965.2	78820.24	0.2681***	15.6419
Output of Non-Fadama users	68534.78	26264.57		
Input of Fadama users	34100	26397.12	0.0212***	15.6419
Input of Non-Fadama users	18128.7	5859.941		
Productivity of Fadama users	10.19391	4.60776	0.1064***	15.6419
Productivity of Non-Fadama users	3.86	1.04031		
Difference	6.333913	4.342424		

Source: Field Survey 2011
NB: Fadama users N = 115, Non-Fadama users N = 120
***significant at 1%.

CONCLUSION

This work revealed that majority of farmers (Fadama users and non Fadama users) in Imo State were married people that have responsibility of taking care of their family members. They are mostly small scale farmers that have farm size between one and two hectares. Some rural infrastructures such as borehole, bridge, road grading, VIP Latrine, cassava processing machine, cooling shed, and cold room were provided to some communities through the aid of Second National Fadama Development Project to support the economic infrastructures and local public goods which helped to improve the productivity of the Fadama users. The Fadama users had increased output more than the non Fadama users in the state. The Second National Fadama Development Project has greatly increased the productivity of the farmers who participated in the project in Imo State, Nigeria. I recommend that farmers should be encouraged to participate in the on-going National Fadama Development Project in Nigeria.

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