

## The Impact of the Second National Fadama Development Project on Poverty Reduction in the Geidam Local Government of Yobe State, Nigeria

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### Abstract

**Purpose:** The study was conducted to examine the economic impact of the National Fadama-II Development Project (NFDP-II) on poverty reduction and food security among farmers in Geidam local government of Yobe State, Nigeria.

**Approach/Methodology/Design:** Four communities were identified and selected through random sampling. These four are the farmers of the cultivated crops like rice, millet, maize, vegetables and okra. And interview and a closed-ended questionnaire were administered to a total of one hundred respondents. For the analysis of this study, a descriptive statistic like frequency and simple percentage were used.

**Findings:** After careful evaluation of collected data, it is found out that the majority of the farmers (78.9%) were male and their mean age was 44 years. Out of 95 respondents, 75 (78.9%) were associated with the Fadama and the remaining 20 (21%) have no association with the project. The results of the study revealed that the project has a positive impact on poverty reduction. The result of the study further revealed that all the Fadama-II farmers share similar opinion on the ten identified constraints. These constraints were grouped under three main categories: technical problems, institutional problems, and economic problems.

**Practical Implications:** This study provides strong suggestion to create more awareness about the programme among the people so that they may come forward to participate actively in it. It enhances their income level and they may be able to utilize it for the betterment of their lives.

**Originality/value:** After the careful analysis of the collected data, it can be concluded that the success of Fadama project is dependent upon the provision of the credit facilities for land preparation to farmers, the supply of subsidized farm inputs and farmers' training by the Fadama facilitators.

## 1. Introduction

The major challenges facing the developing countries such as Nigeria are food insecurity (insufficient food) and poverty (DFID, 2006). More than a billion people in the developing world live in the rural areas on less than a dollar per day, without enough money to buy food (Banerjee & Duflo, 2011). It is estimated that of the 1.2 billion hungry and poor of the world, over 800 million suffer from chronic under-nourishment (Roser & Ritchie, 2013). Out of this, 34 million live in Asia, while 186 million live in sub-Saharan Africa (DFID, 2006). Poverty is one of the gravest challenges facing the world today, with a staggering 40 per cent of the world's population living with the reality or the threat of extreme poverty, and one in five persons living in a state of poverty so abject that it threatens survival (Tokunbo, 2003).

Globally, extreme poverty continues to be a rural phenomenon despite increasing urbanization (Anríquez & Stamoulis, 2007). And out of the world's 1.2 billion extremely poor people, 75 percent live in rural areas and, they largely depend on agriculture, forestry, fisheries and related activities for survival (Tokunbo, 2003). Poverty in Nigeria has been described as “widespread and severe” (World Bank, 2015). The United Nations Development Programme (UNDP)'s Human Development Index (HDI) ranked Nigeria as the 137<sup>th</sup> among the 174 countries listed with HDI of 0.384 in 1996. By 1997, the country slipped to 142<sup>nd</sup> position and ranked among the 44 poorest countries. In 2018, Nigeria ranked number 158 out of 189 countries on the Global Human Development Index<sup>1</sup>. Nigeria's basic indicators now placed the country among the 26 poorest countries in the world. The proportion of Nigerians living below the poverty line of one dollar a day has increased dramatically during the last two decades. In the year 2018, about more than 65% of Nigerians were estimated to be living below the internationally defined poverty line. In the same year, in terms of GDP-PPP (in \$) Nigeria placed on 55 rank with 6,098\$ out of 191 countries (UNDP)<sup>2</sup>. About two-thirds of the Nigerian people are poor, despite living in a country with vast potential wealth (National Planning Commission, 2017).

The links between poverty and hunger are unambiguous, which means that poverty alleviation must play a major role in food security for all considerations (Franz et al., 2004). Food security is now defined as the situation when all people, at all times, have physical and economic access to sufficient, safe and nutritious food for a healthy and active life (FAO, 1996; Franz, et. al., 2004). However, this term has gone through stages of definition and redefinition. Approaches to its definition have ranged from an emphasis on self-sufficiency to an emphasis on coping with vulnerability and risk in food and nutrition access. In order to deal with the problems of food insecurity and high incidence of poverty among the rural poor in Nigeria, it is very imperative that agricultural productivity should be rejuvenated. It has been empirically established that low productivity in agriculture is the cause of high incidence of food insecurity and poverty in Nigeria (World Bank, 1996). It is therefore obvious that any policy measure aimed at alleviating poverty must take agriculture and rural development into consideration. Adeolu and Taiwo (2014) analyzed the poverty trend in Nigeria and noted that poor families are in higher proportion in farming households that are mainly in the rural area.

Previous and present governments in Nigeria have tried to sustain investment and support for agriculture by embarking on different agricultural and rural development programmes such as the National Accelerated Food Production Programme (NAFPP-1973), River Basin Development Authority (RBDA-1975), Operation Feed the Nation (OFN) in 1976, Agricultural Credit Guarantee Scheme (ACGS-1977), Green Revolution (GR-1980), Integrated Rural Development (IRD-1980), National Directorate for Employment (NDE-1980), Agricultural Development Programmes (ADP-1985), Directorate of Food, Roads and Rural Infrastructure (DFRRI-1987), the National Land Development Authority (NLDA-1992), The First National Fadama Development Project (FNFDP-1992), and the National Special Programme for Food Security (NSPFS-2003) (Ajayi, 2001; Daudu, 2008). These programmes were fashioned to

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<sup>1</sup> (<http://hdrstats.undp.org/en/countries/profiles/NGA.html>).

<sup>2</sup> United Nations Development Programs Report, 2018.

revolutionize the agricultural sector of Nigerian economy which was derailing from its normal contribution to the economy (Oriola, 2009).

The first National Fadama Development Programme (NFDP) was initiated to assist the qualifying states of the federation through the World Bank supported Agricultural Development Programmes (ADPs) network to, among others, finance the provision of shallow tube wells in Fadama lands for small scale irrigation, simplifying drilling technologies for shallow tube wells wash bores; constructing Fadama infrastructure; organizing Fadama farmers for irrigation management, cost recovery and better access to credit marketing and other services; and providing vehicle, pumps and other equipment. It is believed that the provision of this facility should not only boost agricultural production but enhance the income of the farmers and thereby lift them out of the vicious circle of poverty. The facility was enabled in the 1995/96 cropping year (Adeolu & Taiwo 2004).

The FNFDP (Federal of Nigeria Fadama Development Project II) was initiated for small-scale irrigation development, to increase the productivity of the farming system during the dry and wet seasons (F.M.A.N.R, 1997; Agu, 2002; Nwalieji & Ajayi, 2009). It was implemented in the seven core states of Bauchi, Gombe, Jigawa, Kano, Kebbi, Sokoto and Zamfara. All the other states participated as facilitating state, that is; states in which Fadama I activities were introduced on pilot basis. These states (five of the non-core Fadama (I) states, that is Borno, Katsina, Kogi, Kwara, and Plateau, and one of the Fadama I core states, (Jigawa) being co-funded by African Development Bank (ADB) have been selected for the funding support for the second phase of the project on the basis of a comprehensive set of criteria of: (i) a written proposed action plan for both upstream and downstream post-harvest activities, (ii) a written commitment for regular payment of counterpart funds deducted at source (at the Ministry of Finance), (iii) evidence of viable and active Fadama Resource User Groups or other economic groups, (iv) evidence of the existence of conflict management committees, (v) completion of a detailed assessment of existing Fadama infrastructure, and (vi) a record of Fadama (I) loan recovery rate of at least 75% (ADF, 2003). As a follow up to the FNFDP, the World Bank and the ADB have jointly supported the Federal Government of Nigeria (FGN) to invest in a Second National Fadama Development Project (SNFDP) known as Fadama (II) project. The project (NFDP-II) targets the development of irrigation at small-scale, especially, in the low-lying alluvial floodplains or "Fadama". The NFDP-II is intended to increase the productivity, income, living standards and development capacity of the economically active rural communities while increasing efficiency in delivering implementation services to an estimated four million rural beneficiary households (Kudi, Usman, Akpoko and Banta, 2008; Nwalieji and Ajayi, 2008).

## 2. Literature Review

Fadama is the Hausa name for irrigable land and low-lying area underlined by shallow aquifers and found along Nigeria's river systems (Ingawa et al., 2004). Fadama also refers to a seasonally flooded area used for farming during the dry season. It is defined as alluvial, lowland formed by erosional and depositional actions of the rivers and streams (Qureshi, 1989). They encompass land and water resources that could easily be developed for irrigation agriculture (World Bank,

1992). Fadama 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' (Usman et. al., 2008).

The theoretical framework for this study is based on programme evaluation models. Ajayi (2005) identified some of these programme evaluation models in agricultural extension to include: (i) Project participants and Non-project Participants model (ii) Reflective Evidence to Appraise Programme (REAP) model (iii) Effectiveness Model, (iv) Context Input Process and Product (CIPP) model, (v) Project Objectives, Project inputs, Project Outputs, Project Effect, Project Impact and Project Beneficiary (POIOEIB) Model.

The assertion of the World Bank (2015) that Nigeria is a paradox aptly captures the magnitude of the problem of poverty in Nigeria. By 1999, about 70 percent of Nigeria's population of about 120 million had income of less than \$1 a day and figures has risen since then (National Economic Empowerment Development Strategy (NEEDS, 2004). According to the United National Human Development Report (UNDP, 2018), Nigerian is ranked among the world's 20 (twenty) least developed countries. Out of 189, the UNDP (2018) ranked Nigeria 158th with a Human Development Index (HDI) value of 0.543. The report also put the Human Poverty Index (HPI, 2018), which measures human poverty as 38.8 percent, thus, classifying the Nigeria among 29th poorest countries of the world having ranked 75th out of the 103 countries for which the index has been calculated. The report also put the country's life expectancy at birth at 43.4 years. Mother and child malnutrition are prevalent with stunting and wasting symptoms manifesting among a lot of children in rural communities. Besides, data from Central Bank of Nigeria (CBN, 1999), Federal office of Statistics (FOS,2015), and National Planning Commission (NPC, 2017) indicate that while Nigeria's population has been growing at three percent per annum, that of food production has been increasing at only 1.5 percent per annum in the last five years. In fact, past agricultural estimates in Nigeria by various agencies show that the country's agricultural sector has performed below expectation and the Nigerian people can be said to be food in secured (Aneke, 2007).

Many scholars have pointed out that the high level of rural poverty in Nigeria is because of the neglect of agriculture by government. Nigeria agriculture suffer from a general problem of low productivity, poor production techniques, low investment, few intermediate inputs, low yields, infrastructural inadequacies, inadequate food supply and non-functional credit system (Yusuf, 1999). Food insecurity (absence of food security) is one of the most terrible manifestations of human deprivation and in inextricably linked to every other facet of the development predicament (Leisnger, 1998). Poverty is one of the major causes of food insecurity and sustainable progress in poverty alleviation is critical to improve access to food. Because deficits in food security stem from the combined effects of factors such as poverty, low level of food production, and diminishing environmental quality, the best way to deal with the challenge lies in strategies that tackle all problems comprehensively, that is transforming local agriculture into a sector that generates employment and income for rural people, stimulates the non- farm sector and the overall economy, and increase food supply (Leisinger, 998).

Molnar and Aneke (2007) posits that food security is identified by lack of access to formal education, sustained cooperative endeavour; balanced family household; appropriately addressed gender and family roles; rampant poverty; appropriate social, political and economic discrimination; longer life expectancies; enabling values and attitudes; and distribution of wealth. He concludes that “societies with low levels of social organization and weak systems of human capital formation have high levels of food insecurity”. Food security indicators are summary measures of one of the dimensions of food security used to demonstrate change or the result of a program activity for a target population. Indicator construction begins with a set of observations or measurements, of food security- related conditions at the level of the individual, the household, the community, the market or the region. Once the basic measurements have taken place, indicators are constructed by classifying individual observations according to a set of criteria (food secure/food insecure, malnourished/well-nourished), aggregating the individual observations to the level of program coverage and placing those observations in some program-relevant perspective (AED, 1999; FANTA, 1999; USAID, 1999 in Aneke, 2007).

In deciding which indicator or which measure should be included in a monitoring and evaluation system, several considerations like relevance, credibility, cost, comparability, time sensitivity and information use, should be kept in mind (AED, 1999; FANTA, 1999; USAID, 1999 in Aneke, 2007). Some food security indicators are difficult or expensive to measure directly. This is because the process of measurement is either time consuming and expensive as in the assessment of dietary intake; or they reflect complex processes as in the recording of total household income derived from a number of household members involved in diverse economic activities or total household expenditures.

The current study is delimited to Geidam local government Yobe State of Nigeria. It is a descriptive study and also makes use of validated questionnaire which is based on scientific two-scale point. In this study four communities have been selected and these communities are fully involved in Fadama activities such communities include: Gumsa, Ma'anna, Kusur, and Kelluri community. The objective of the study is to examine, via descriptive statistics, that the economic impact of FADAMA II among these communities on their livelihood and betterment of their life is feasible or not.

### **3. Methodology and Procedures**

This research is based on descriptive analysis and it was chosen because it permits to carefully describe and explain the variables that exist in the study based on the data collected. The collected data was analyzed and presented as descriptive statistics in the form of tables.

The study used probability sampling method and it was based on descriptive survey making use of stratified sampling technique. The sample was drawn from the total population size of the four communities participating in FADAMA II. The total size of the population of the four communities is 990 and out of it, 100 participants were selected as a sample on the basis of proportional approach to stratification. The drawn sample is about 10 per cent of the universe. The data used for this study was collected using interview schedule for farmer with no formal education and the second part of method is through administer questionnaires for farmers that

can read, understand and can also response to the questions contains in the questionnaires, both the interview schedule and the research questionnaires subjected to meet the research requirement, for data from the its original source.

Out of one hundred respondents, fifteen (15) was randomly selected and fifteen (15) questionnaires was distribute to them in order to clarify the questions items on the questionnaires and the questionnaires was given to five respondents for test before the final distribution to the total population of the respondents. After the final distribution of questionnaires, 95 were returned by the respondents.

#### 4. Results and Discussion

This section deals with the data presentation and analysis of the respondents' socio-economic characteristics which includes the age of the respondents, sex, their marital status, respondents educational level, religions, occupation, forming/experience, membership, types of crop that the respondents farm, quantity of the crops getting in a year, poverty index, their feeding information and the constraints associated to the Fadama II users like high cost of food input, lack of sufficient land, lack of improved seed for planting, high cost of labour, high incidence of pests and disease, poor storage facilities, lack of credit facilities, level of poverty among Fadama II farmers low price of farm produce, lack of adequate technical knowhow and lastly their opinion about the National Fadama II Development project in their respective communities.

Table 1: Sex of the respondents

Sex	Frequency	Percent %
Male	75	78.9
Female	20	21.1
Total	95	100

Source: Field Survey, 2019

The table above shows that 78.9% of the respondents are male and they constitute the greater percentage of the response, while 21.1 are female respondents. It shows that the females are having less interest in participating in the project. Therefore, it may be suggestive that local government should encourage more females to participate in such types of programmes.

Table 2: Age of the Respondent

Age	Frequency	Percent %
14-16	5	5.3
17-19	6	6.4
20-22	17	17.8
23And Above	67	70.5
Total	95	100

Source: Field Survey, 2019

The above table 2 shows the age distribution of the respondents in four communities in Geidam local government. The 23 years and above respondents have the greater percentage of 70.5,

followed by respondents of the age between 20-22 years which have 17.8 percentage, then 17-19 years have 6.4 percent and for 14-16 age group having less participation in the programme.

Table 3: Marital Status

Marital Status	Frequency	Percent %
Married	78	82.2
Single	17	17.8
Total	95	100

Source: Field Survey, 2019

From the table above, it is shown that the 70 respondents which constitute the 82.2 percent of the responses are married, while 17.8 percent are not married or single as shown in the table above.

Table 4: Educational Level of the Respondents

Education	Frequency	Percent %
Primary	3	3.2
Secondary	28	29.5
Tertiary	25	26.3
No F. Education	39	41.0
Total	95	100

Source: Field Survey, 2019

The table shows that the majority of the respondents are those with no formal education which constitute the greater portion of the responses with 41.0 percent. Meanwhile, 29.5 percent of the respondents attended secondary school, and 26.3 of the respondents attended tertiary education. The smallest part of the respondents attended primary School with 3.2, percent.

Table 5: Religion of the Respondents.

Religion	Frequency	Percent %
Islam	89	93.6
Christianity	6	6.4
Total	95	100

Source: Field Survey, 2019

The table above shows that the 93.6 percent of the respondents in the all four communities are Muslim, while the 6.4 percent of the respondents are Christian.

Table 6: Occupation of the Respondent

Occupation	Frequency	Percent %
Farmers	48	50.5
Businessmen/Women	16	16.9
Civil Servant	18	18.9
Others	13	13.7
Total	95	100

Source: Field Survey, 2019

From the table above, it is clearly indicated that 50.5% of the respondents of the study communities were famers, and 18.9 percent are civil servants. As indicated, 16.9 percent are businessmen/women and 13.7% of the respondents are students and others.

Table 7: Farming Experience in years

Respondents Experience	Frequency	Percent %
14-16 Years	4	4.2
17-19 Years	10	10.5
20-22 Years	20	21.1
23 And Above	61	64.2

*Source: Field Survey, 2019*

The above table shows that respondents with 23 and above years have the more farming experience than the other respondents. Those with the age of 20-22 years have the second largest proportion of the farming experience with 21.1%, while the respondents that fall within the age of 17-19 years have farming experience with about 10.5%. Lastly, the respondents with the age range between 14-16 years have the smallest proportion of the farming experience of 4.2%

Table 8: Are you a member of Fadama II Association

Member	Frequency	Percent %
Yes	20	21.1
No	75	78.9
Total	95	100

*Source: Field Survey, 2019*

The table clearly shows that most of the Fadama farmers are not a member in National Fadama II program. In addition, 78.9% of the farmers do not know about the National Fadama II program which has its own member. As indicated in the table, 21.1% of the respondents are the members of National Fadama II development project.

Table 9: What Type of Crop do you grow?

Crop	Frequency	Percent %
Rice	45	47.3
Millet	41	43.2
Maize	2	2.2
Vegetable	4	4.2
Others	3	3.1
Total	95	100

*Source: Field Survey, 2019*

From the table above, it is shown that 47.3% of the respondents have rice farms and it constitutes the highest proportion of the respondents. Second to it, 43.2% of the respondents farm millet, 2.2% of the respondents cultivate maize, then 4.2% of the Fadama farmers farm vegetables and 3.1% of the respondents are farmers of other crop like Okra etc.

Table 10: How many bags of crop did you get from your farm?

Bags Of	Frequency	Percent %
Rice	360	47.3
Millet	329	43.2
Maize	16	2.2
Vegetable	32	4.2
Others	23	3.1
Total	760	100

Source: Field Survey, 2019

This table shows that 47.3% of the respondents got about 360 bags of rice, 43.2% of respondents got 329 bags of millet, 16 bags of maize by the 2.2% of the respondents, 4.2% of Vegetable farmers got 32 basket and 3.1% of the respondents got 23 bags or baskets of the others crop.

Table 11: How many times does your family feed in a day?

Times	Frequency	Percent %
Once	1	1.1
Twice	8	8.4
Three Times	80	84.2
Others	6	6.3
Total	95	100

Source: Field Survey, 2019

From the table above, it is shown that the majority of the respondents, that have the greater parts of about 84.2%, eats three times in a day, while 8.4% of the respondents eats twice in a day. Meanwhile, 1.1% of the Fadama II farmers eats once in a day, but 6.3% of the respondents which participate in this questionnaire eats more than three times in a day.

Table 12: Does your family eats from your farm?

Sex	Frequency	Percent %
Yes	62	65.3
No	33	34.7
Total	95	100

Source: Field Survey, 2019

The above table clearly shows that 65.3% of the National Fadama II development project participants eat from their farm's produce, while the 34.7% respondents indicated that they do not eat from what they farm.

### Constraints

Do the following problems affect your participation in the National Fadama II Development project?

Table 13: Cost of Food Inputs

High Cost of Food Input	Frequency	Percent %
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Yes	74	77.8
No	21	22.2
Total	95	100

*Source: Field Survey, 2019*

It was indicated from the survey that 77.8% of the respondents are affected by the constraint of high cost of food input, while 22.2% of the sample are not affected by the above constraints.

Table 14: Availability of Land

Lack Of Sufficient Land	Frequency	Percent %
Yes	69	72.6
No	26	27.4
Total	95	100

*Source: Field Survey, 2019*

The survey shows that the majority of the respondents are affected by the constraint of lack of sufficient land for planting.

Table 15: Availability of Seeds

Lack Of Improved Seed	Frequency	Percent %
Yes	80	84.2
No	15	15.8
Total	95	100

*Source: Field Survey, 2019*

The table above shows that 84.2% of the respondents were affected by the constraints of lack of improved seed for planting, and 15.8% of the Fadama II users are not affected by the above constraints.

Table 16: Availability of Labour

High Cost Of Labour	Frequency	Percent %
Yes	85	89.4
No	10	10.6
Total	95	100

*Source: Field Survey, 2019*

The table above revealed that 89.4% are affected by the constraint of availability of labour, while 10.6% of the respondents were not affected by the above constraint.

Table 16: High Incidence of Pests & Diseases

High Incidence of Pests & Diseases	Frequency	Percent %
Yes	67	70.5
No	28	29.5
Total	95	100

*Source: Field Survey, 2019*

According to the results in the table above, 70.5% of the respondents are greatly affected by the constraints of high incidence of pests and diseases. As shown, 29.5% of the Fadama II users are not affected by the above constraints of high incidence of pests and diseases as the table showed.

Table 18: Poor Storage Facilities

Poor Storage Facilities	Frequency	Percent %
Yes	59	62.2
No	36	37.8
Total	95	100

*Source: Field Survey, 2019*

The statistics in the table above show that 62.2% of the respondents are affected by the constraints above, while 37.8% of the respondents are not affected by the constraint of poor storage.

Table 19: Lack of Credit Facilities

Lack Of Credit Facilities	Frequency	Percent %
Yes	83	87.4
No	12	12.6
Total	95	100

*Source: Field Survey, 2019*

The table above shows that 87.4% of the respondents are affected by the constraints of credit facilities, while 12.6% of the respondents are not affected by the constraint associated to credit Facilities.

Table 20: Poverty Level of Farmers

Poverty Level Of Farmers	Frequency	Percent %
Yes	87	91.5
No	8	8.5
Total	95	100

*Source: Field Survey, 2019*

According to the above information on the table, 91.5% of the respondents are fully affected by the constraints of poverty in their participating National Fadama development project, while 8.5% of the respondents are not affected by the constraints associated to the poverty level of Fadama II farmers.

Table 21: Low Price of Farm Produce

Low Price Of Farm Produce	Frequency	Percent %
Yes	63	66.4
No	32	33.6
Total	95	100

*Source: Field Survey, 2019*

The statistics in the table above reflect that 66.4% of the respondents are affected by constraints of low price of the farm produce. On the contrary, 33.6% of the respondents are not affected by the constraints of low-price of the farm produce.

Table 22: Lack of Adequate Technical Know-How

Lack of Adequate Technical Know-How	Frequency	Percent %
Yes	70	73.6
No	25	26.4
Total	95	100

*Source: Field Survey, 2019*

The table above shows that 73.6% of the respondents are affected by the constraints of technical know-how, while 26.4% of the respondents as shown in the table above are not affected by the constraint of the technical know-how.

Table 23: What is your opinion on the National Fadama II development project on your community?

Opinion	Frequency	Percent %
Poverty Eradication Or Reduction	60	63.2
Need Credit From The Nfdp Ii	10	10.5
Complain About The Services Of Nfdp Ii	10	10.5
Not Re-Act To The Question	7	7.4
Appreciated The Program Nfdp Ii	5	5.3
No Clear Indication Of Opinion On Nfdp Ii	3	3.2
Total	95	100

*Source: Field Survey, 2019*

The survey shows that 63.2% of the respondent's opinion is to eradicate poverty from the Fadama Farmers. As indicated, 10.5% also shows that Fadama II farmers need credit from the NFDP II, another 10.5% of the respondents on the table above complain about the services delivery of the National Fadama II development project. As indicated, 7.4% of the respondents do not care about the question, ignoring and giving no opinion. As the table depicts, 5.3% of the respondents shows their appreciation to the National Fadama II Development project on their services delivery, while 3.2% of the respondents could not form an opinion about the FADAMA Project.

## Results Discussion

Table 1 implies that sex distribution of the farmers is skewed toward male in the Fadama II development project in Geidam Local Government. It revealed that most of the beneficiaries are male rather than female. Therefore, it is recommended that the local government should encourage the women participants in the future FADAMA activities. Table 2 implies that the

majority of the respondents are within the middle age as well as active year of working. The data analysis in table 3 implies that more married farmers are involved in national Fadama II development project. It is also indicated that most of the Fadama II farmers are illiterate with greater percentage of 41.0%. In addition, most of the Fadama farmers were Muslim and this implies that religion plays a greater role in Fadama farming.

The majority of the farmers were not employed by any government agency. The survey revealed that most of the respondents have been in farming system for quite a long time. In addition, the majority of the Fadama users are not a member of any Fadama II Association. As revealed in the data analysis, the majority of the farmers grow rice and this result implies that 47.3% of the farmers in Geidam Local Government deals with rice production.

Based on the responses, it is shown that 95 respondents get 760 bags of crop grown yearly, and this implies that a single respondent can get only 8 bags of the crop farmed. More importantly, most of the Fadama farmers in Geidam local government eat regularly three-time in a day from their produce. It is reflected that a number more than a half of the respondents eat from what they farm. From the above finding, it clearly indicated that the FADAMA II has a positive economic impact on the participants' livelihood and the betterment of their lives. Therefore, it is recommended that the state government as well as local government should encourage new farmers to participate in such kinds of programmes. An entire table of constraints revealed that all the constraints above directly or indirectly affect the farmers of the Fadama II in one way or the other. This implies that most of the farmers were associated with the constraints with about 77.5%.

## **5. Conclusion and Suggestion**

Based on the findings of the study, the socio-economic characteristics of the Fadama-farmers indicated that the majority of them were males with a long experience of farming and the majority of the respondents are within middle age. A common perception by Fadama-farmers on most of the identified problems shows that these problems affected the farmers directly or indirectly. The majority had no formal education and they are affected or associated with the agricultural constraints. Economic constraints and technical constraints still pose some problems in the area thereby slowing down the full implementation of the programme target,

Based on the major findings of this study, to improve the overall performance of the programme, the programme at all levels should ensure that the programme implementation plan, various LDPs are followed and the programme projects are completed. Given the fact that agricultural production operation is time-bound, it is recommended that the timely, adequate and consistent provision of farming inputs and Fadama facilities such as improved seeds, fertilizers, herbicides, tube-wells, rice dis-stoner etc. at subsidized cost by the NFDP(II) management should be provided. This will enhance the farmers' rice production in the area. The Fadama farmers should be encouraged by the provision of tractor services at subsidized rates, provision of training opportunities and by making the programme flexible to accommodate the peculiarities of the various locations. Employment of project facilitators should be specific to only those with good

agricultural background especially in crop science and agricultural extension to allow effective relationship between the project and farmers. All participating communities should ensure that they have group leader who can serve as intermediate between the Fadama farmers and NFDPII implementers.

### Conflict of Interest

The author of the article declares no conflict of interest.

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