



THIRD NATIONAL FADAMA DEVELOPMENT PROJECT: PROSPECTS AND CHALLENGES FACING YAM FARMERS IN NIGER STATE

Yohana Chidawa

Chidawayohana2016@gmail.com

+2348034985775

Department of Liberal Studies, Niger State Polytechnic, Zungeru Nigeria

Abstract

The study examines the prospects and challenges of the Third National Fadama Development Programme facing yam farmers in Niger state. The Third National Fadama Development Programme has the primary objective of sustainably increasing the income of its beneficiaries (Yam farmers) in Niger State. The study examines the extent to which the third National Fadama Development Programme impacted on the yam farmers' beneficiaries and the challenges encountered. The study made use of Questionnaires to obtain the data necessary for the study. Secondary data were derived from Fadama III documents, obtained from the Federal, State and Local Government fadama facilitators. The theory of participation was used as a theoretical framework to lend credence to the adoption of the community driven development strategy. The study found that the project was a success. The simple percentage was used in the analysis. The statistical analysis carried out clearly indicated that fadama III has greatly impacted on yam farmers in Niger State by reducing the beneficiaries distance and travel time to the nearest community, household incomes of the beneficiaries. The socioeconomic characteristics investigated all ran in line with a prior expectation on of the study. The study also discovered that the fadama III yam farmers' beneficiaries face challenges such as inadequate farm equipment, lack of capital, high cost of transportation, and unavailability of fertilizers, herbicides, pesticides, improved seeds amongst others. Based on the findings, the study recommended that financial institutions should be encouraged by the government to provide financial assistance to the fadama III yam farmers; yam farmers should also be trained in ways of preserving farm product, and the project implementers should harness resources towards rural infrastructural development of the communities.

Keywords: Fadama, Farmers, National, Programme, Rural

1. Introduction

The National Fadama III project is a rural development programme that was introduced through agriculture to contribute to the Nigerian economy in many ways: in the provision of food for the increasing population; supply of adequate raw materials to a farming industrial sector; a major source of employment generation, foreign exchange earnings; and provision of a market for the products of the industrial sector (Eze, 2017).

The Fadama III Project, according to a CBN (2010) report, has a strong rural base; hence, generating concern for agriculture is widely driven by both Government and the Private sector, which has established institutional support in the form of agricultural research, extension,



commodity, marketing, input supply and land use registration to fast-track development of agriculture and rural economic empowerment through Fadama III Project Financing. The term “Fadama” in Nigeria is a Hausa word for irrigable land. It is a low-laying plain underplayed by shallow aquifers found along Nigeria’s major river systems. Such lands are especially suitable for irrigated production, fishing and traditionally provide feedsand water for livestock. (Baba &Singh1998) referred to Fadama as a low-laying water logged area mostly characterise by fine alluvial or clayey soil, suitable for irrigated crop production during dry seasons or drought periods. When irrigated, Fadama provides good moisture for crop root establishment. The Fadama land facilitates crop production all year round and increases crop productivity.

The National Fadama Development Project was established to guarantee all year low cost improved irrigation under a World Bank financing. Food crops grown on the Fadama include rice, leafy vegetables, okra and maize to mention but a few. Fadama Projects aim at reducing poverty and increasing farm productivity and income of participating farmers (Bello 2008). The National Fadama Development Project 1 and II were adjudged successful by both National and International Assessors culminating in Federal Government of Nigeria requesting the World Bank for the implementation of the Third National Fadama Development Project (NFDP III) (Ezeh, 2007).

The scope of the Third National Fadama Development was intended to involve all 36 States in the Federation and the Federal Capital Territory as a tripartite funded intervention by the World Bank, the Federal Government of Nigeria and participating States. Funding is by World Bank contributing 55.6%, Federal Government of Nigeria 5.1%, participating States and Local Governments contributing 17.1% and 8.9% respectively. The World Bank had provided the sum of \$200m for Nigeria Fadama III Project as at August 2013 (World Bank, 2013).

The National Fadama Development Project is aimed at sustainably increasing income of beneficiary groups such as Fadama User Groups (FUGs) and Fadama Community Associations (FCAs) in all the States, by directly delivering resources to them empowering them to take decisions collectively on how to effectively and efficiently allocate and manage resources for their livelihood activities. The project is aimed at reducing rural poverty, increase food security and contribute to the achievement of a key Millennium Development Goal. The project which started from July 2008 and has an end line to June 2013 has been extended to 2017.

The Federal Republic of Nigeria has embarked on Several Projects with the aim of improving the livelihood of the rural dwellers. These programmes are channeled towards transforming the rural areas. However, despite these programmes, the yam farmers in Niger State are still complaining of lack of farm inputs like fertilizers, herbicides, improved seedlings and tractors. Some of these yam farmers go to the extent of collecting loans from private individuals to pay back with 100% interest this has also resulted to the poor living standard of the farmers in study area. Nigeria ranks number 148 in the 2002 Human Development Index. Nigeria’s basic indicators place 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. In the year 2000 more than 70% of Nigerians were estimated to be living below the internationally defined poverty line. Poverty in Nigeria is both state and sectors based. Poverty is more widespread in the northern part of the country. Two northern states, Kano and Kogi, account for nearly one-third



of the poorest 20 percent of the population. Almost 90% of Nigeria poor are engaged in agriculture (ADF, 2003). Past programmes aimed at developing the rural areas, thereby leading to poverty reduction include the Operation Feed the Nation (OFN), Green Revolution, Family Economic Advancement Programme, Directorate of Food, Roads and Rural Infrastructure, National Economic Reconstruction Fund and a lot of them. Despite all these programmes the small scale rural farmers in Niger State are still facing a lot of problems. There has been a lot of complaints by the yam farmers in Niger State as a result of low farm yield. This work seeks to assess the prospects and challenges of the Third National Fadama Development Project on yam farmers in Niger State.

The following research questions were developed for this study.

What are the methods of land acquisition by yam farmers in Third National Fadama Development Project in Niger State? What are the methods of land cultivation by yam farmers in Third National Fadama Development Project in Niger State? What are the varieties of yam produced by yam farmers in Third National Fadama Development Project in Niger State? What are the sources of seedlings for planting by yam farmers in Third National Fadama Development Project in Niger State? What are the challenges facing yam farmers in Third National Fadama Development Project in Niger State? The main aim of study is to investigate prospects and challenges facing yam farmers in Third National Fadama Development Project in Niger State. The specific objectives of this study are: to identify the methods of land acquisition by yam farmers in Third National Fadama Development Project in Niger State; to identify methods of land cultivation by yam farmers in Third National Fadama Development Project in Niger State; to identify varieties of yam produced by yam farmers in Third National Fadama Development Project in Niger State; to identify sources of seedling for planting by yam farmers in Third National Fadama Development Project in Niger State; and to identify challenges facing yam farmers in Third National Fadama Development Project in Niger State.

2. Literature Review

The National Fadama Development Project as a rural transformation strategy was introduced to tackle the problem of rural development. A lot of studies on rural development in general and fadama project in particular have been carried out in different parts of Nigeria and on different aspect of the impact analysis of the National Fadama Development Project. For example Agwu and Abah (2009) used the multistage sampling to investigate the attitude of farmers toward cost sharing in the second National Fadama Development Project in Kogi State of Nigeria and it was discovered that the majority of the farmers had favourable attitude toward cost-sharing of the fadama II implementation, proffering conflict mitigation measures. Adeoye *et al.* (2011) also undertook a study to examine rural infrastructure and profitability of farmers under Fadama II Project in Oyo State, using infrastructural index and gross margin. They compared the infrastructural development between fadama II local government areas and non-fadama II areas. Their findings revealed that, more than half of the villages in Fadama II local government areas have more infrastructure than non fadama II villages. This is a clear indication that fadama II has a significant positive impact in the infrastructural development of rural areas in Oyo State.

In another study by Adegbite *et al.* (2008) that explored the impact of Fadama II Project in Ogun State, it was revealed that “more income is earned by the beneficiaries of the project than



the non-beneficiaries. The socio-economic characteristics investigated all ran in line with a priori expectations on the study'. The various problems and constraints limiting production could be reduced or avoided if the project implementations harness resource towards rural infrastructural development of the communities.

Ajayi and Nwalieji (2010) studied the impact of the Anambra State Fadama programme phase 1 on the socio-economic life of the rural farmers using t-test and chi-square statistics. The study indicated that Telfair and Okra production were most preferred to other vegetable during wet and dry season because of their high income generating capacity and usefulness and readily availability to the family. Ugwumba and Okechukwu (2014) examined the performance of Fadama III user groups crop farmers at mid-term in south east Nigeria using descriptive analyses and ordinary chi-square multiple regression analyses. The study found that distance to market, farm size, extension visits and productive resources significantly influenced income while education, age, availability of several infrastructures, family size, gender and farming experience were not significant. The above two studies clearly indicate that financial empowerment and other extension services have a great influence on the fadama users. In another study, Kudietal (2008) examined the impact of the fadama II on poverty alleviation among farmers in Giwa Local Government Area of Kaduna State on how the project has affected the socio-economic states of the farmers and production efficiency. They discovered that there was a little improvement in the income of farmers. This has clearly indicated that better income brings about better purchasing power and leads to improvement of the standard of living.

In a similar development Yunana *et al.* (2013) in the first year of operation, in F.C.T. Fadama III Project made considerable impacts on access to markets, acquisition and on household income. The statistical analysis carried out found out that the Fadama III Project has greatly reduced beneficiaries', distance and travel time to the nearest community and there has been a great reduction in waiting time for transport and transport fares, relative to households in non-fadama coordination areas. It was also evident that household access to productive assets has increased especially for the poorest households largely because of the subsidy given to the acquisition of such assets. This is a clear indication that the fadama III has a positive impact on the poor and vulnerable. Olaolu, Akinagbe and Agber (2013) in a study of the impact of the National Fadama Development Project phase II on poverty and food security among rice farming beneficiaries in Kogi State in Nigeria using descriptive statistics. The study discovered that fadama project had an appreciable impact on poverty reduction of farmers by a change in the poverty incidence of 66.8% and 96% change in the poverty depth. This is an indication that the National Fadama development Project has impacted positively in the lives of the rural dwellers.

Ibrahim and Ahmed (2012) in a similar study in Nassarawa State suggested that a Fadama III Project has impacted on the welfare and social capital of the project beneficiaries in Nassarawa State. The results also show that Fadama III Project was effective in job creation, poverty reduction, and provision of rural infrastructures and service mobilisation in theproject communities. Osondu (2015) in a study to examine the poverty levels of Fadama and non Fadama III participating food crops farmers discovered the line of fadama III farmers (N20,445.83) being higher than that of the Non-Fadama III Farmers (N16,037.79) the incidence



of poverty for fadama farmers was thus lower. This index showed greater propensity to escape from poverty amongst fadama farmers in the area. Farm income and farm size of fadama III was significantly higher than non-Fadama III farmers. This is in line with a study by Ishaku *et al.* (2017) in Nassarawa State which discovered that the poverty line and core poverty for participants were found to be higher than that of the non-participants indicating that the participants had better standard of living when compared with non-participants.

A study conducted by Apesughur (2014), discovered that Fadama 3 did not improve the condition of members of the members of the benefitting communities especially in the area of food production. In addition, corrupt practices such as embezzlements and management of funds by both rural and state management officials of fadama 3 programme, untimely and inadequate supply of inputs and difficulties of member communities to pay counterpart funds were major constraints to effective implementation of fadama 3 programme in the study area.

From the reviewed works, it has been discovered that none of these works revealed the impact of the fadama III on the benefitting communities in general; most of the benefits are personal. Therefore, this work will focus on how to implement the National Fadama Development project III for the benefit of the benefitting community in general for the good of everybody in the community since it is a Rural Development Strategy.

The theory of participation has been discussed by several scholars towards the 21st century calling for more active engagement of poor people in development. Some of these scholars include: Chambers K, Karol Wojtyla, Cornwall A, Giles Mohan, etc. Mohan cited in Abang (2015) stated that the strongest advocates of participating in development is characterised by biases, eurocentrism, positivism and top-downs which are disempowering. The tendency, according to Mohan, is to equate development with modernity achieved by western societies and to copy them through planning by experts. The flip side is that “non expert”, local people were sidelined and their only role was to act as the object of grandiose schemes (Abang, 2015). The most widely used methodology, according to Chambers, is the participating rural appraisal (PRA). Participation is a dynamic correlation of person and action. In participation, it includes both the ability of acting together with others and the realisation of personality value of action on the fulfillment of the person himself. Wojtyla say: In this correlation “participation signifies, on the one hand, that ability of acting together with others” which allows the realisation of that result from communal acting simultaneously to enable the one who is acting to realise the personality value of action. However, this ability is followed by its actualisation. Thus the notion of “participation” includes here both ability and realisation. Man’s thought is greatly affected by his experience in life. A person is a subject who lives alongside different objects that are around him. Man’s fulfillment is something which requires an active interaction with the world because it is through his interaction with the world that he is called upon to perform specific action which inevitably forms specific action which inevitably forms him as a person (Edward, 2007). The members of the community must relate properly. Pateman (1970) opined that freedom comes from participation in decision making because people gain a very real degree of control of their lives and environment.

One of the most deliberated and criticised area of his theory is his methodology. According to Mieczyslaw A. Krapiec, the rector of the Catholic University of Lublin, at the time Wojtyla



proffered his theory, defined philosophical anthropology as a “theory of man that makes the human being non-contradictory in the context of its fundamental operations”(Jaroslaw ,2001). Therefore, Krapiec argued that since Wojtyla does not present an analysis of man in all the essential aspects of his life, he does not create a philosophical anthropology but rather an “aspect anthropology” that presents the person only as a subject of morality (Jaroslaw,2001). Some other philosophers have held negative views to the methodology of Wojtyla. One of these philosophers is Stanislaw Kaminski, a professor of logic and methodology. He held that Wojtyla’s method leads only to an analytical description of the subject (Jaroslaw,2001) A further look at Wojtyla’s work would reveal to some extent that his project is incomplete. There has to be a further explanation of the acting person in simpler terms that can be easily understood (Ekeke, 2014). Another demerit is the difficulty in understanding Wojtyla’s use of both the traditional terms (suppositum, nature, rational nature, participation) and the modern usage of the terms (praxis, alienation, self-determination, solidarity) in new ways, as well as his creation of new categories especially that of “lived experience”, to explicate the unique reality of the acting person (Ekeke, 2014) When read deeply, one would not be able to miss how Wojtyla neglects these terms within the scholarly context. This makes his work a little bit confusing. Despite all these weaknesses, the theory will still be very useful in this study because the people are allowed to participate in their development.

Wojtyla, unlike other philosophers, who have discussed about the human person, considers the experience of man as the starting point of the knowledge of the human person. This shows Wojtyla’s originality in his work. Wojtyla employs a more sophisticated phenomenological method which vows to describe indiscriminately the whole content of the human experience. Wojtyla tries to reconstruct an original human experience and build an adequate theory of the acting person by going beyond the limits of phenomenological method set by Scheler’s paradigms (Ekeke, 2014). Like other creatures, man is an essence made alive by an act of existence, but his nature cannot be recognised apart from this act. So for Jaworski, Wojtyla is right when he begins his study by retrieving from human experience, the fundamental elements that constitute the human being (Jaroslaw, 2001). One cannot fail to credit Wojtyla for exploring a depth too deep to comprehend. The human person is very complicating to understand and Wojtyla’s theory of the acting person has to some large extent helped in understanding the human person better through his actions. Wojtyla’s originality is commendable because it opens or brings to us another view of how we can perceive the human person. One important merit of Wojtyla’s project is that it is an attempt to articulate precisely what is an irreducible experience. This irreducible experience can only be felt and not explained. Wojtyla’s theory also has a lot to give to the world today in our understanding of the human person (Ekeke, 2014).The theory will be the best for this study because it sets the beneficiaries of developmental project at the driver’s seat.

Another theory is the Community Driven Development Approach as an offshoot of the theory of participation. This approach places the beneficiaries in the drivers’ seat. International Fund for Agricultural Development (IFAD2009) refers to CDD as “the way a policy or a project is designed and implemented than to the content of a policy or to the component of an investment project or programme “the Community Driven Development evolved as a response to the failures of earlier programmes targeted towards poverty alleviation such as lending to



agricultural institutions and integrated development programmes for a geographical area. It is an approach that gives control of development decisions to community groups. Ejiofor (2007) explained that the Community Driven Development (CDD) strategy makes it possible for beneficiaries to play leading roles in: identification and prioritisation of their needs; deciding and preparing of micro-projects required to address the identified needs; co-financing the micro-projects; operating and maintaining the micro-projects thereby ensuring capability; learning to do things for themselves and in so doing their capabilities are built; and ensuring ownership of the micro-projects is guaranteed by active participation of beneficiaries in all the phases of the micro-projects cycle (identification, planning, prioritisation and designation measures).

The community Driven Development (CDD) approach has been embraced as an effective Programme Based Approach (PBA) to delivering International Development Aid (Kwadwo & Peter, 2012). The World Bank defines CDD as a Development Approach that gives control over planning decisions and investment resources to community groups and local governments (Dongier, 2003). This is because the CDD provides communities with a voice and control over all project stages, according to Dongier, et al (2012) it is believed to (a) enhance sustainability, (b) improve efficiency and effectiveness (c) allow poverty reduction efforts to be taken to scale; (d) make development more inclusive;(e) empower poor people, build social capital, and strengthen government; and (f) Complement market and public sector activities.

The core belief of CDD proponents according to Binswanger, *et al.* (2012) is that the poor can become the most important actors in their own development. Communities are allowed to analyse their own problems, opportunities and constraints and develop a list of projects and activities that they would like to undertake, thereby changing from passive recipients to active managers of their destiny. Owing to the many advantages of this approach, the World Bank investment in Community Driven Development (CDD) in 2000 – 2010, according to Binswanger et al (2010), has been enormous averaging almost USD 2 billion a year. For example, an Independent Evaluation Group review of sixty-two countries (including Nigeria) assistance strategies found that CDD operations are an important part of the World Bank's strategy in more than 74% of relevant countries. According to World Bank (2010), in 2008, the International Development Association's (IDAs) lending for CDD related programmes average 17% of its total lending; while the number of CDD Programmes active at the IDA for the 2007 – 2009 period averaged over seventy – two.

The Fadama III Community Driven Development (CDD) approach is meant to concede project initiation, Planning and implementation to the benefiting communities with the assistance of facilitators. Local Communities under the umbrella of Fadama Community Associations (FCAs) and Fadama User Groups (FUGs) oversee the design and implementation of the project and are empowered through skills and capacity building to improve their livelihoods by increasing income generating activities (Raji & Adawumi, 2008). According to Yunana (2013), the project approved by the World Bank's Board of Directors in July, 2008, has six main components: Capacity building, local government and communication, Small scale community owned infrastructure, Advisory service and input support development (ADPs) sponsored research and on farm demonstrations Asset acquisition for individual Fadama Users Group (FUGs) Economic Interest Groups (EIG), Project management, monitoring and evaluation. Committees



as well as promotes the principle of transparency and accountability in planning and management of public investments within the participating L.G.As.

According to Gillespie (2004), individual studies have shown that the Community Driven Development Approach can increase the effectiveness, efficiency and sustainability of projects or programmes making them more pre-poor and responsive to local priorities. Other objectives of the CDD include: Developing capacity; -Building social and human capital; -Facilitating community and individual empowerment;-Developing democracy; Improving governance; and Strengthening human rights. The CDD according to Abang (2015) Is promoted by governments, multinational agencies, and non-governmental organisations alike, but some exceptions, initiatives are usually small scale. The potential for wide-reaching impact, through adoption by a large number of communities, has not been suitably realised. The CDD is yet to infiltrate the mainstream when large programmes are at stake. According to World Bank (2009), the ultimate goal of the CDD projects is to move from being “Islands of excellence” to serve and empower a handful of communities, to operating at a national scale, where all regions of the clients’ country can benefit from the projects approach. By “scaling up” the main aim is to reach the greatest possible number of poor people and to motivate and empower the greatest number of communities to take control of their development.

The CDD approach can best be used to study the fadama 3 mode of operation which is in agreement with the general practices of the programme which main objectives includes: empowering local communities to play an active role in their own development and take charge of their development agenda, sustainably increasing the income of fadama users, stimulating poverty reducing growth in the fadama and to reduce conflict between fadama user groups.

The main criticism challenging CDD is the lack of information regarding community participation and its role in CDD success. “Elite capture” is another potential pitfall of CDD. This is the phenomenon that occurs when a small group of those in power within a community receive the majority of resources devoted toward a specific CDD project. Others have pointed out that in heterogeneous communities; it is often difficult to target the poor segment of society. This contributes to elite capture as those who are not among the lowest socioeconomic levels are benefiting the most. Several methods for combating elite capture have been suggested, such as sequential or conditional disbursement of funds for these projects. Other policy papers discuss the different effects of universal programs as opposed to programs that target recipients based on income level or region. While more research needs to be conducted on the subject, the Research and Data arm of the World Bank (DEC) has concluded that while a poorly executed project that does not take into account the local context can be wasteful, a well-designed and properly implemented project has the potential to create enormous positive change within the community. The World Bank has spent an increasing amount of resources toward CDD without solid evidence of its success. A study conducted by the Independent Evaluation Group (IEG), an independent unit within the World Bank, found both strengths and weaknesses of CDD. While it allowed projects to achieve success along several quantitative measures, its evaluation systems are not able to assess qualitative goals. Though CDD can lower costs, a portion of these costs are now shifted onto already struggling communities. CDD can also offer communities access to resources and an infrastructure they may not otherwise see, but these advantages might not be useful to the poor nor sustainable without World Bank assistance. Several criticisms of



the Community-Driven Development approach question the underlying assumptions made by CDD. For instance, community participation is one of the foundations of CDD. This participation gives projects a grassroots energy allowing for individuals to feel empowered within their own communities. However, it has been argued that this participation may actually be detrimental to poor individuals, costing them both time and money. On the contrary, other evaluations show that the participatory aspect may be the cause of increased efficiency, due to social institutions and higher local accountability. These evaluations ask if CDD successes should be attributed to the monetary redistribution or to the sole act of mobilizing a community and supporting communication.

3. Methodology

The Study Area

Niger State lies between the latitude of 3.20' east and longitude 8 and 11.3' north. It is bordered to the North by Sokoto State, West by Kebbi State, South by Kogi and South-West by Kwara State. Kaduna and Federal Capital Territory border the State to both North-East and South-East respectively. The State has a common boundary with the Republic of Benin along New Bussa, Agwara and Wushishi Local Government Area. This has given rise to common inter border trade between the two countries. Before the merger of Borgu Local Government with the State, in 1991, the 1963 National Population Census stood at 1,194,508. With the release of the 1991 population figure by the Federal Government in 1992, Niger State has 2,482,367 people. The spill-over of population from the Federal Capital, Abuja is also increasing the population growth of the State. Niger State covers a total land area of 83,266,779 square kilometres or about 8.3 million hectares which represent 8% of the total land area of Nigeria. About 85% of the land is arable.

Like most alluvial soils, the soil in Niger State is the flood plain type and is characterised by considerable variations. The soil is of two main types which could be used for agriculture and are rich in minerals for the manufacture of various products. The two types of soil are the Ku-soil which has little hazards and the Ya-soil which has a better water holding capacity. About 85% of the State's population are farmers, while the remaining 15% are engaged in other vocations such as white collar jobs, manufacturing, business, production of crafts and arts. Niger State experiences distinct dry and wet seasons with annual rainfall varying from 1,100mm in the Northern part of the State to 1,600 mm in the southern parts. The maximum temperature is recorded between March and June, while the minimum is usually between December and January. The rainy season lasts for about 150 days in the Northern parts and about 120 days in the Southern parts of the State. Generally, the climate soil and hydrology of the State permit the cultivation of most of Nigeria's staple crops and still allow sufficient opportunities for grazing, fresh water fishing and forestry development.

Research Design

The research design is a survey research, because it has systematically made use of questionnaires to gather information. Survey method of research is prevalent in the study of political and social status, their spread and how they change (Adefila cited in Abang, 2015). The Likert rating scale was used in the questionnaires administered.



Population of the study: Niger state is selected for the study. It is also a state that is funded by the World Bank. The target population for the study are fadama III project beneficiaries, fadama III facilitators and fadama III non - beneficiaries. This will ensure reliability, interpretability and usefulness of data collected. The fadama III project is not dealing with individuals directly but through the use of Fadama User Groups (FUGs). The FUGs were used as focused groups in the study.

Sampling techniques: The cluster sampling technique was used in the course of this study. Cluster sampling technique was used for the Fadama User Groups, that is the focused group. The study also adopted accidental sampling technique to select the fadama III non-beneficiaries. A total number of 150 questionnaires were administered for the study, that is 50 questionnaires to the fadama 3 yam farmers' beneficiaries and non-beneficiaries in each of the Local Government Area under study.

This study examines the prospects and challenges facing yam farmers' beneficiaries of the National Fadama Development Project III. The target population for the study is the fadama III participating and non-participating yam farmers in Niger State: three local government areas comprising Munya, Shiroro and Paikoro were chosen because these are the yam producing local governments in the state. The sampling procedure involves random selection of yam farmers participating in the Fadama III project and also Fadama III non-beneficiaries. The simple random sampling technique was used to study the population of interest. A proportionality factor was used to determine the number of participating yam farmers from each local government area under study.

Data Collection Techniques

Data were collected with the aid of questionnaires administered by the researcher. A total of 150 questionnaires were administered to the respondents that is, 50 questionnaires in each of the local government areas. Interviews were conducted among some of the leaders of the respective Fadama User Groups (FUGs). The data collected cover Farmers' socio-economic and crop production variables like age, level of education, farm size, household members engaged in yam farm and farming experience. Data on inputs and outputs as well as their current market prices were collected. The sizes of farmers' field were determined by stepping method to estimate the dimension where there are no records. The unit of measurement is hectares. Information of labour use was collected throughout the study period; the labour requirement for various farm operations was gauged and also evaluated including the relative contribution of family and hired labour. The study also took note of quantity of seeds used, fertilizer and herbicides; kilogram was used for the measurement of seeds and fertilizer and litre for herbicides. These inputs were estimated at the prevailing market price. Fixed inputs like machetes, hoes, wheel barrows, sprayers and other farm inputs were used in the process of farming.

The total farm output was obtained by recording the amount harvested in each farm during the harvesting period. The output was estimated by multiplying the unit sales of price obtained from the farmers and/or local market by the quantity of total farm output. Estimates of household consumption was determined and estimated. Also secondary data were sourced from the Niger State Fadama Development Office.



4. Results

Socio-economic characteristics of respondents

Table 1: Age Group

	Frequency	Percentage
Valid up to 30	4	2.6
31-35	25	16.6
36-40	30	19.9
41-45	51	34.0
46-50	20	13.3
51-56	10	6.6
56-60	6	4.0
60 and above	4	2.6
Total	150	100

Source: Field work Feb, 2020.

Majority of the respondents (34%) are between the age bracket of 41-45years, followed by 36-40 years (19.9%), 31-35 years (16.6%), 51-56 years (13.3%), 56-60 years (4%) and 60 above (2.6%). The age of the respondents clearly indicates that the highest number of respondents falls within youth at their productive age, who can also provide the requisite information for the study. That means majority of respondents are between the age brackets of 41-45years.

Table 2: Educational Level

	Frequency	Percentage
Primary	20	13.3
Secondary	10	6.6
OND/NCE	02	1.3
B.SC/HND	01	0.6
P.G	00	0.0
Others	07	4.6
None	110	73.3
Total	150	100

Source: Field work Feb, 2020

It was indicated from the study that the highest number of respondents are illiterates (73.3%) followed by primary education (13.3%), secondary (6.6%), others (4.6%), OND/NCE (1.3%),

Table 3: Method of Land Acquisition.

	Fadama III Users	Percentage	Non Fadama III users	Percentage
Lease	2	2.6	1	1.3
Inheritance	66	88.0	49	65.3
Purchase	6	8.0	10	13.3
Gift	1	1.3	15	20.0
Total	75	100	75	100

Source: Field work, Feb, 2020



and none for P.G. From the above information, it is clearly indicated that most of the yam farmers are illiterates and this could affect the proper implementation of the fadama III program. That reveals that majority of respondents have not attained any level of education.

The result of both fadama III users and non-users follow the same pattern with inheritance (88.0%) and (65.3%) respectively, followed by purchase (8%) among the fadama III users, lease (2.6%) and gift (1.3%). Among the non fadama users (13.3%) of the respondents indicated that they acquire land by purchasing, gift (20%) and lease (1.3%). The result clearly indicates that majority of the yam farmers in the study area acquire their land through inheritance. That discloses that majority of respondents acquired their land through inheritance.

Table 4: Method of Cultivation.

	Fadama III users		Non Fadama III users	
	Frequency	Percentage	Frequency	Percentage
Manual	75	100	75	100
Mechanical	0	0	0	0
Animal power	0	0	0	0
Total	75	100	75	100

Source: Field work, Feb, 2020.

The above table revealed that all the yam farmers in the study area use manual labour in the process of yam cultivation with all the respondents (100%) indicating that all work is done manually. That means that majority of the respondents cultivate their land manually.

Table 5: Varieties of Yam

	Fadama III users		Non Fadama III users	
	Frequency	Percentage	Frequency	Percentage
Kwasu	75	96	68	70.6
Didiya	1	1.3	5	16.6
Pepa	1	1.3	0	0
Giwa	0	0	0	0
Lagos	1	1.3	1	10.3
Others	0	0	1	1.3
Total	75	100	75	100

Source: Field workFeb, 2020.

Table 5 clearly indicates that majority of the yam farmers cultivate 'kwasu' by the fadama III user respondents (96%) while 'Didiya', 'Pepa; 'Lagos', (1.3%) reach while 'Giwa' and other varieties (0%). The non-users indicated that (70.6%) cultivate 'Kwasu' (16.6%) cultivate 'Didiya' 'Lagos' (10.3%) and other (1.3%), while 'Giwa' and 'Papa' (0%). From the above information, it is clear that most of the yam farmers in the study area cultivate the improved variety with the fadama III users with the highest number, this implies that fadama III user respondents have more access to improved varieties. That means majority of respondents cultivate "Kwasu" variety.



Table 6: Source of seedlings

	Fadama III users		Non Fadama III users	
	Frequency	Percentage	Frequency	Percentage
Previous Harvest	5	6.6	65	86.6
Fadama III	61	81.3	0	0
Market	9	2.1	10	13.4
Total	75	100	75	100

Source: Field work Feb, 2020.

The above table clearly shows that (81.3%) of the fadama III users got their seedlings through the fadama III programme, (6.6%) indicated that they got theirs from previous harvest, while (2.1%) indicated that they got theirs from the market. Among the non fadama III users (86.6%) indicated that they got their seedlings from previous harvest, (0%) from fadama III program and (13.4%) from the market. This has clearly indicated that the fadama III programme has helped the yam farmers in getting yam seedlings. That means that majority of respondents got their yam seedlings through previous harvest.

Table 7: Access to Implements

	Fadama III users		Non Fadama III users	
	Frequency	Percentage	Frequency	Percentage
Hired	15	20	64	85.3
Free	60	80	11	14.7
Total	75	100	75	100

Source: Field work, Feb, 2020

The above table indicated that 8% of the fadama III respondents get free implements while 20% hire, 85.3% of the non fadama users also indicated that they hire the implements they use while (14.7%) free. The non fadama III users that get free implements could be those that live within the fadama III communities. That means that majority of respondents got their implements through hiring.

Table 8: Availability of Fertilizer, Herbicides and Pesticides.

	Fadama III users		Non Fadama III users	
	Frequency	Percentage	Frequency	Percentage
Availability	60	80	45	60
Non availability	15	20	30	40
Total	75	100	75	100

Source: Field work Feb, 2020.

From the above table, 80% of the fadama users indicated that they have access to fertilizer, Herbicides and Pesticides. While 20% indicated that it is not available, 60% of the non-users indicated that they have access to these and 40% indicated that it is not available. That means that majority of respondents have access to fertilizer, herbicides and pesticides.



Table 9: Value of Productive Assets before and After Fadama III (in Naira).

	Before	After
Fadama Beneficiaries	250,158.00	710,235.00
Non Fadama Within	216,745.00	425,095.00
Non Fadama Outside	209,319.00	245,115.00

Source: Field work Feb, 2020.

From the above table it is clear that fadama III project has increased the acquisition of productive assets, which is expected to contribute significantly to increased income. The spillover has also affected the non-users that are within fadama III communities. In the case of the non-fadama III users there is no significant increase in the acquisition of productive assets.

Table 10: Challenges Encountered in Farming

	Fadama III users		Non Fadama III users	
	Frequency	Percentage	Frequency	Percentage
Inadequate equipment	10	13.3	5	6.6
Poor Price of Farm Product	15	20	10	13.3
Unavailability of Fertilizers, Herb & Pest	10	13.3	25	33.3
Unavailability of improved seeds	10	13.3	27	36
Lack of Capital	16	21.3	3	4
High Cost Transportation	11	14.6	3	4
Inadequate Agric Land	11	14.6	2	2.6
Total	75	100	75	100

Source: Field work Feb, 2020.

Evidence from the above revealed that all (100%) of the respondents, both Fadama III Users and non-Fadama III Users have one challenge or the other. This implies that more is still to be done to help the Fadama III Yam Farmers to overcome their challenges

Table 11: Suggestion for improved Farming

	Fadama III users		Non Fadama III users	
	Frequency	Percentage	Frequency	Percentage
Technology	20	26.6	10	13.3
Input Supply	21	28	19	25.3
Adequate Funding	19	25.3	30	40
Provision of infrastructure	15	20	16	21.3
Total	75	100	75	100

Source: Field work Feb, 2020.

The need for improved farming to facilitate the Coordination of Fadama III Project in Niger State cannot be over emphasised. The above table indicates that (28.6%) of Fadama Users suggested for input supply 26.6% suggested for improved technology while the respondents also indicated that adequate funding will also help in making the program a success. That means majority of respondents requested for adequate funding.



Discussion of major Findings

From the results, it is found that majority of the respondents (73.3%) are within the age of 41 – 45 years (table 1). Table 2 clearly indicates that 73.3% of the respondents have no educational background. From the results on the method of cultivation, it is clear that all the respondents (100%) adopt manual labour in cultivating their crops. On availability of farm implements the results clearly indicates that the respondents have access to free farm implements (80%), while the non-fadama III beneficiaries indicated that 85.3% of them hire their implements, it has clearly showed that fadama III programme has played a positive role in terms of providing farm implements, this is in line with the study by Ugwumba and Okechukwu (2014) to examine the performance of Fadama User Groups crop farmers at mid – term in South-East Nigeria, it was discovered that availability of implements, farm size and productive resources significantly influenced income of the fadama III beneficiaries.

On value of productive assets before and after fadama III (in Naira), the fadama beneficiaries before the programme had 2,50,158.00 and after 710,235.00; Non fadama (within fadama Area) 216,745.00 and after 425.095.00. Then non fadama beneficiaries outside fadama community had 209,319:00 before and 245.115.00 after. This is a clear indication that fadama III has a positive impact on the beneficiaries in terms of productive assets. This is in agreement with the study carried out by Kuza, Okwoche and Age (2018) on the impact of fadama III on annual income of beneficiaries in Nassarawa, State it was found that annual farm income after the NFDP III intervention was ₦1,013,022.73, against before intervention ₦788, 636.36.

On challenges encountered, table 10 clearly shows that the respondents encounter problems ranging from inadequate equipment, poor price of farm products, non-availability of inputs, lack of capital, high cost of transport and inadequate farm land. These challenges may run in line with the result of a study by Kudi (2008) that revealed that there was a little improvement in the income of the farmers these may be as a result of some of these challenges.

5. Conclusion and Recommendation

The statistical analysis carried out has clearly indicated that the Fadama III Project has greatly impacted on the Yam Farmers in Niger State. It has reduced the beneficiaries' distance and travel time to the nearest community. It has also increased the household incomes of the beneficiaries. The incomes impact of the Project is likely to increase their income significantly. The socio-economic characteristics investigated all ran in line with a priori expectations on the study. The various problems and constraints limiting production could be reduced or avoided if the project implementers harness resource towards rural infrastructural development of the communities, empowerment of the farmers through capacity building of integrated pest management, provision of herbicides and fertilizer which will lead to increase in production thereby leading to increase in total revenue. It was also discovered that the fadama III non-beneficiaries complain more and in terms of productivity, their farms yield less.

Based on the findings, financial institutions need to be encouraged by the government to provide financial assistance to farmers in both Fadama and non-Fadama Communities. This will lead to increase in their capital base, leading to increase in production. Farmers should also be trained in ways of preserving farm products. The Fadama Programme should also be extended



to all communities this will lead to increase in production, thereby resulting to having enough food for the country.

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