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Socioeconomic determinants of credit need assessment of Fadama farmers in Delta State, Nigeria

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Abstract
The study examined the credit need of farmers involved in Fadama III programme in the three agricultural zones of Delta State, Nigeria. Specifically examined the constraints faced by them as well as tested the relationship between the farmers' socio-economic characteristics and their credit needs. Data was collected using the questionnaire method administered to 176 Fadama farmers and was subjected to descriptive statistics, Pearson Product Moment correlation analysis and analysis of variance. The Socio-economic characteristics of the respondents revealed that Fadama participants were young with mean age of 45 years. They were highly educated (91%) and having some form of formal education. The respondents were of 14 years farming experience and 50.1% of them were married and they were faced with problem of getting credit facilities. It was found that both male and female farmers participated in the Fadama III programme. The average loan received by respondents from the Fadama III programme was ₦500,000. However, the desired credit volume by the respondents was about ₦920,000, suggesting a gap between what the farmers were given and what they actually needed. The coefficient of determination of the respondents at 0.05% shows that age (r = -0214), educational qualification (r = 0.180) and farming status (r = 0.157 correlated with their desired credit volume. The study concluded that Fadama III management should increase the volume of credit disbursed to the farmers and remove the bottlenecks in acquisition of credit

Keywords: *Credit; Fadama; Needs.*

Introduction

Majority of farmers in Nigeria are peasants, who according to Nnadi and Onweagba(2000) depend on rainfall for their cropping, and they adopt traditional practices in farming. Nwajiuba (2005) noted that, their farming system is subsistence in which only very little is produced for the market and sold to meet the needs of their family. In a nation where this farming system is dominant, Okolo (2006) observe that it cannot produce enough food for her consumption let alone produce for export. Consequently, lots of funds have to be spent on food importation to meet the country's domestic food needs. Central Bank of Nigeria (2018) reported that the import bill on food for the country rose from ₦2.9billion in 2012 to about ₦5.6billion in 2018.

Restricting farming to raining season only limits productivity. Sometimes too much rainfall or lack of rainfall has results in poor performance of crops. In addition, farming, only during the raining season means that for the remaining part of the year farmers are idle. This is where fadama farming is expedient. Fadama farming, according to Oladoja et al (2006), is a local word for low-lying flood plains usually with easily accessible shallow ground water, used to supply water to crops in dry season, thus gainfully occupying the famers for more food productivity and other activities throughout the year. It is worthy of note that, with the fadama system of farming,

lands otherwise tagged as unproductive, becomes economically useful for production. Nwalieji, (2005). "Fadama" is a Hausa name for irrigable lands or flood plains and low-lying areas underlined by shallow acquifers. They are usually found along river bed and usually flood naturally. (NFDP manual). The term is also applied to areas where people have channeled or pumped water to their farms or other purposes (Adesoji,et al 2006). The concept of Fadama I&II includes; the growing of crops, raising of animals and fisheries, but in Fadama III, it includes all the above and forest (Project Coordinating Unit, 2008). This abounds in the southern part of Nigeria and particularly, in Delta State, which is the area of this study. Historically, the Fadama programme implementation was to be carried out in phases. What informed the establishment of Phase 1 was the Federal Government's awareness of the continuing constraints to agriculture and the recognition of the need for the sector to grow substantially to feed and provide employment for her citizens, and also, to produce raw materials for industrial development (National Fadama Development Project).the ultimate objectives of the agricultural policy in 1987 were self-sufficiency in basic food commodities, increase agricultural production for export and raw materials for local use, and prevention of environment degradation (Semeobo, 2008).

Farmer needs assessment is a principal component of service delivery encompassing sustainability which adds dimension that is too long ignored in the system. Research should focus on understanding farmers in other to know their needs. This information is essential so that organizations can attract, satisfy and sustain their clientele participation tailored towards the real or felt needs of their clientele, and this will have greater impact than those that do not have.

The Fadama III programme recently expired in December 2013. If any future phase of the programme is going to be considered, it is necessary to understanding the needs of the farmers involved in the past programme. It is important to assess current needs of farmers regardless of the phase the programme may be. Hence this study is concerned with accessing the credit needs of Fadama Farmers in Delta State.

Many government agricultural programmes failed due to the facts that farmers were not carried along and their needs were not duly considered or incorporated into the programme. To avoid this, it is very important to understand the current needs or challenges facing the farmers participating in the Fadama programme in Delta State. This will help ensure that the programme is continually aligned to reflect current needs/challenges of the farmers, and this will help facilitate the sustainability of the programme.

Although several studies have been conducted on Fadama farming, only limited information on the assessment of farmers' needs especially credit needs are available. The general trend of these other studies has been to focus on issues relating to technology adoption (Ike 2011) Profitability, (Ala, 2012). This study hopes to address this gap in research revealing what the credit needs of Fadama farmers are in Delta state, this will have provide the management of the Fadama programme important information that would enhance the success of the programme and equally help guide the formation of subsequent phases of the programme.

The National Fadama Project was an idea conceived by World Bank, Africa Development Bank and Federal government of Nigeria with active participation of the states and local governments. It is quick and sustainable agricultural and development project with a wide spectrum targeted at dry farming and related agro-processing and marketing activities. The rapidly growing demand for food from the expanding Nigeria

population puts great pressure on land valley bottoms or Fadama of the semi-arid and sub-humid regions in Nigeria. (Apantaku, 2007).

Balogun et al (2012) remarked that Fadama formation is a geo-morphological phenomenon that has resulted from the combination of slow river bed accretion and periods of high rainfall that caused extensive, high velocity flooding and deposition of assorted materials over the flood plains.

Fadama farming is different from others in terms of their ecology and micro-climate they are low-lying, flood prone, slow draining areas and generally possess finer textured and less acid soils. These factors have resulted in Fadama soils with a remarkable different moisture regime from upland soils (National Fadama Development Project). As a result, the natural vegetation cover has been characterized by a composite of thick acacia scrubland, open grassland and open seasonally or permanent pond areas with edges and reeds, (Erie, 2010).

Fadama farming project in Nigeria was introduced in phases. The first phase of National Fadama Project 1 (NFDP1) was planned to be run in the northern part of the country mainly for vegetable production (Apantaku, 2007). For this purpose, the Federal Government of Nigeria took a World Bank loan to grow vegetables such as okra, rose, comb, eggplant tomato, onions, melon, carrot and long fruited juice. Irrigation water was used for the vegetable production which was successful except for competition and conflict between nomadic cattle rearers, hunters and Fadama farmers (Project Coordinating Unit 2008).

The Second National Fadama Development Project was followed after Fadama I, due to the competition and conflict in that phase. to manage some of these conflicts Fadama II included other aspects of farming like livestock, fish, hunting, crops, pastoral, farming and agro processing (Federal Ministry of Agriculture and Rural Development. 2003; Apantaku, 2007).

The third National Fadama Development Project was developed based on the lessons learnt from Fadama I and II. The objective was to increase the incomes for the Fadama users through expansion of farm and non-farm activities with a high value-added output in a sustainable way. Fadama III project includes Fadama users who depend directly or indirectly on Fadama resources. They are farmers, pastoralist, fisher men, hunters, gatherers and service providers, Akinola (2003), & Onemolease, (2006).

From the discussions, it can be seen that a seamless marriage between and the project objectives would naturally give birth to increase and effective utilization of land and water resources in Fadama III beneficiary communities. This will bring about the multiplier benefits of increase food production, employment creation, rural infrastructure development and ultimately promoting not only food security but also national security, Onemolease (2006) The main objectives of the study was to assess the credit needs of Fadama farmers involved in the Fadama III in Delta state, Nigeria.

The following null hypothesis was tested in the study at 0.05 level of significance.

HO_1: Socio-economic characteristics of the Fadama farmers are not significantly related to their credit needs in Fadama farming.

Materials and Methods

The Area of study was Delta State and it is located approximately between longitude 5.00^0 and 6.45^0 East of the Greenwich Merdian and latitude 5.00^0 and 6.30^0 North of the equator. It is a state in Nigeria, comprising mainly Igbo (Anioma people), Urhobo, Ijaw and Itsekiri, and it has 25 Local Government Areas. The State is administratively grouped into three senatorial districts, namely: Delta Central and Delta South. It is an oil producing State in Nigeria, situated in the region known as "The

Niger Delta", in the South-South geo-political area with a population of 4,098,391 (Male = 2,074,306 Female = 2,024,085) (NPC, 2006) and Ojeikere and Olowo (2011).

The capital city is Asaba located at the Northern end of the state with an estimation area of 762km while Warri is the economic nerve center of the state and the most populated town is located in the Southern end of the state. The state shares boundary with Edo, Ondo, Rivers, Anambra and Bayelsa states. In the South-West, it has approximately 122 kilometers of coast line bounded by Bight of Benin on the Atlantic Ocean. The State is also rich in various solid minerals deposits such as industrial clay, silica, lignite, kaolin, tar sand, decorative rocks, personal limestones and others. These are raw materials for industrial use like in brick making, ceramics, bottle manufacturing and sanitary wares, decorative stones and quarrying. Their main occupation is fishing and farming, mainly arable crops.

The study is limited in scope to participants in Fadama project in Delta State. It focuses on the credit needs of the Fadama farmers taking into consideration their personal characteristics and credit needs in the three Agricultural zone in the State. The population of the study consisted of 317 Fadama User Groups (FUGs) from 9 LGAs of the State.

Data for the study was collected from primary source which were from the Fadama farmers. The instrument used for data collection was the interview schedule and the questionnaire. The questionnaire was administered to the Fadama III Farmers while interview schedule was administered by the FUG facilitators to the illiterate farmers.

Multi-stage sampling technique was used in the study. The first stage was the purposive selection of the three agricultural zones (Delta North, Delta South & Delta Central) in the state. This is to ensure true representation of the stakeholders in the State From the agricultural zone three Local Government Areas were randomly selected giving a total of 9 LGAs.

In stage two, Ten (10%) of the population of FUGs in the selected local government area which is 317 were randomly sampled through proportional means to give a total of 30 FUGs. The total membership size for the 30 selected FUGs was 456.

In stage three, forty six percent (46%) of the total membership was sampled through proportional means to give a total of 210 Fadama users. However, due to non-response and/or incomplete responses, only 176 question instruments were retrieved for analysis.

The data collected were analyzed using both descriptive and inferential statistics. The former included tables, frequency, percentages, means and standard deviation. The inferential statistics used were the Pearson Product Moment Correlation (PPMC) and Analysis of Variance (ANOVA). These were used to test the hypothesis formulated for the study which states that there is no significant difference in the credit needs of Fadama farmers in the study area.

Result and Discussion

Socioeconomic characteristics of respondents

The personal characteristics of respondents examined in the study included age, educational qualification, gender, farming experience, marital status and occupation.

Table 1 shows the age distribution of the respondents. 28.4% of the respondents were in the age bracket of 41-50 years with a mean of 45 years. This implies that young and active people are the ones involved in the Fadama programme. 11.4% were 30 years and below. 12.5% were above 60 years and above.

Table 1: Age Distribution of respondents

	Delta South		Delta Central		Delta North		Total	
Age (years)	Freq	%	Freq	%	Freq	%	Freq	%
30 & below	2	6.3	12	14.0	6	10.3	20	11.4
31-40	10	31.3	18	20.9	12	20.7	40	22.7
41-50	4	12.5	26	30.2	20	34.5	50	28.4
51-60	8	25.0	24	27.9	12	20.7	44	25.0
61-70	2	6.3	4	4.7	8	13.8	14	8.0
>70	6	18.8	2	2.3			8	4.5
Total	32	100.0	86	100.0	58	100.0	176	100.0

Field survey data, 2014.

Credit sources of respondents

There were many sources of loan accessed by the farmers as shown in the discussion. These included government (20.7%), microfinance banks (13.8%), commercial banks (3.4%), family and friends (17.2%), cooperatives (10.3%) unspecified sources (6.9%). Only very few (3.4%) patronized the commercial banks whose interest rate, according to them, was very high. CBN (2012) noted that high interest rate associated with commercial bank credit is a major deterrent to farmers' access to such credit. The result indicated that apart from credit obtained from the Fadama programme, participants still accessed other credit sources, suggesting that, the loan they were given in the programme was probably inadequate to meet their farm needs. Family members and friends remained the major source of credit. This has implication on the volume of credit they can access compared to if they have gone to finance houses.

Table 2: Credit sources of respondents.

	Delta South		Delta Central		Delta North		Total	
Sources	Freq*	%	Freq*	%	Freq*	%	F	%
Government	2	6.3	16	18.2	12	20.7	30	45.2
Microfinance Banks 6	18.8	22	25.0	8	13.8	36	57.6	
Family	-	-	14	15.9	2	3.4	16	19.3
Members/friends 12	37.5	34	38.6	10	17.2	66	93.3	
Co-operatives	12	37.5	28	31.8	6	10.3	46	79.6
Others	8	25.0	18	20.5	4	6.9	30	52.4

*Multiple response: Field survey data, 2014.

Credit volume access by respondents

Based on those the respondent table 3 shows the loan volume obtained from Fadama programme and other sources by respondents. It shows majority (36.3%) of the farmers got over ₦600, 000 loan facility from the Fadama programme while the modal loan range obtained from other sources was ₦200,000 – 400,000. The average loan volume access, which is about ₦500,000 and N240,000 from Fadama III and other sources respectively, suggests that the Fadama III programme had improved farmers access to agricultural credit. This is in conformity with its objective to improve the livelihood of the rural populace (Apantaku, 2007).

Table 3: Loan volume accessed by fadama users

Loan volume (N)	Loan obtained from Fadama III (n = 104)								Loan accessed from other sources (n = 100)							
	Delta South		Delta Central		Delta North		Pooled		Delta South		Delta Central		Delta North		Pooled	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
200,000 & below	4	33.4	8	12.4	2	7.1	14	13.3	6	75	22	37.7	12	35.4	40	40
200,001 – 400,000	-	-	12	18.7	20	71.2	32	30.6	2	25	32	54.9	14	41.2	48	48
400,0001 – 600,000	-	-	-	18	28.1	2	7.1	20	19.2	-	-	2	3.4	4	11.8	6	6
Above 600,000	8	66.7	26	40.5	4	14.2	38	36.3	-	-	2	3.4	4	11.8	6	6
Total		12	100	64	100	28	100	104	100	8	100	58	100	34	100	100
Mean =		₦498,361								₦237,848						

Credit volume desired by respondents

Below shows that, most farmers (62%) desired a loan of over a million naira, 19.2% desired ₦600,001-800,000 while 8-4% desired ₦400,001-600,000. Compared with the average loan obtained (about ₦500, 000), the average loan desired (about ₦924, 000) suggest a wide gap between the desired and actual loan size. This may constrain respondents' farming projects/enterprise.

Table 4: Credit volume desired by respondents

Credit volume desired by respondents

	Delta South		Delta Central		Delta North		Pooled	
Volume (₦)	Freq	%	Freq	%	Freq	%	Freq	%
200,000 & below	6	23.1	-	-	-	6	3.6	
400,001-600,00	6	23.1	-	-	8	14.3	14	8.4
600,001-800,000	-	-	10	11.6	22	39.4	32	19.1
800,001-1,000	-	-	10	11.6	2	3.6	12	7.2
Above 1M.	14	53.9	66	76.7	24	42.9	104	62.0
Total	26	100	86	100	56	100	168	100

Average = ₦923, 809.52

Field survey data, 2014.

Constraints encountered in accessing credit

The major constraint in credit assessment by farmers are insufficient credit (M=2.61), irregular disbursement of funds (2.30), this is the reason why Balogun et al (2012) stated that to obtain farm credit or input, all known bottlenecks should be eliminated for proper investment.

Conclusion and Recommendations

The study identified that young able-bodied men are involved in the fadama programme in Delta State. Insufficient credits and irregular disbursement were identified as the major constraints of the farmers in assessing credits.

It is recommended that the credit volume be increased to accommodate more farmers.

The bureaucratic bottlenecks associated with loan disbursement should be eliminated since farming is a time-depended activity

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