



Attitudes of Fadama Users towards Project Cost-Sharing in Niger State, Nigeria

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Abstract

In the recent past years, it has been observed that Nigeria has experienced a substantial decline in its crop production. This decline coincided with the termination of the financial arrangement between the World Bank and the FADAMA project in Nigeria, creating concerns regarding the availability of appropriate and reliable funding for FADAMA users. Consequently, this research aims to investigate the attitudes of farmers who accessed FADAMA Projects towards project cost-sharing. A quantitative analytical study was conducted using a Multistage Sampling to select 180 FADAMA Farmers in Niger State. The collected responses were analyzed using a 3-point Likertscale and Mean measurement. The analysis revealed that a significant proportion of farmers held positive attitudes towards the implementation of project cost-sharing. The findings of this study hold several implications. Firstly, extension agents can utilize these findings to encourage FADAMA users to actively participate in project cost-sharing thereby enhancing their output and income. Additionally, monetary lending agencies can leverage these findings to provide FADAMA users with implementation of the FADAMA programmes. Therefore, this research provides valuable insights into access to funds at low-interest rates, fostering a positive attitude among farmers towards the attitudes of FADAMA farmers regarding project cost sharing, offering practical recommendations for extension agents and monetary agencies to improve agricultural productivity and support the success of the FADAMA programme.

Keywords: FADAMA Users, Attitudes, Project Cost- Sharing, Niger State

Introduction

The *Fadama* development project is one of the Nigeria's agricultural policies designed to increase food production for her teeming and growing population. The first phase of the project, named *Fadama I* started in 1990 through the collaboration of the Federal Government of Nigeria and the World Bank. This is in realization of the fact that *Fadama* potentials had a high capacity of reducing the negative effect of rudimentary and small holder rain fed agriculture on the teeming population in rural Nigeria. *Fadama* project was mainly aimed at sustaining increase in the income of users of rural land and water resources. The need for all year-round improved food production in Nigeria is inevitable with the projected annual population growth rate of 5.5 percent and food production at annual growth rate of 3.2 percent (World Bank, 1996). The word *Fadama* is a Hausa name for irrigable land usually low-lying plains underlined by shallow aquifers found along major river systems (Kudi, Ani and Oredipe, 2008). In addition to providing a source of water for livestock during dry seasons, *Fadama* also support large and diverse resident of wildlife including herbivores,

carnivores and migratory birds (Folayan, 2013). Cost-sharing is seen as a tenable privatization policy option. Cost-sharing can be defined as a system where beneficiaries of services pay user fee. It is a privatization strategy, which entails paying a fee for services, and advice, which formally was free of charge (Rivera and Cary, 1997).

Attitude is generally defined as a predisposition to classify sets of objects or events to react to them with some degree of evaluative consistency. Attitude has also been defined as "the more or less permanent feelings, thoughts and predispositions a person has about certain aspects of his environment (Van denBan and Hawkins, 1996).

Statement of the problem

Provision of adequate and stable funding for *Fadama* project in Nigeria has been a major problem since the expiration of the World Bank's funding arrangement. In order to solve this problem, cost-sharing of agricultural technology delivery is seen as a tenable alternative privatization policy option. Considering the fact that agricultural technology transfer in Nigeria has mainly been



publicly funded, introduction of cost-sharing method is viewed as new funding mechanism and also met some challenges facing *Fadama* users in the country.

However, the level of farmers' participation in the overall *Fadama* programme (such as planning, implementation, monitoring and evaluation), financial management, and maintenance of *Fadama* investments are very low, late and or inadequate disbursement of funds from government, difficulties in the collection of money from some *Fadama* users, high cost of administration, and the tendency of highly placed individuals (politicians) to hijack the programme, are also among problems militating against the effective implementation of the *Fadama* project (Agwu, 2009).

Therefore, for sufficient increase in food production in the country, the perception of *Fadama* farmers toward the constraints and strategies towards effective cost-sharing of agricultural technology delivery in Nigeria must be considered. This study aims at describing the attitude of *Fadama* users in project cost-sharing in Niger State. However, this research aimed at providing answers to the following questions:

- (i) What are the socio-economic characteristics of *Fadama* users in the study area?
- (ii) What are the various farming activities involved in by the *Fadama* users in the study area?
- (iii) What is the attitude of *Fadama* users towards the cost-sharing method?

Objectives of the study

The aim of this study was to examine the attitude of *Fadama* users toward the project cost sharing in Niger State. The specific objectives were to:

- i. describe the socio-economic characteristics of *Fadama* users in Niger State,
- ii. identify and describe the various farming activities involved in by *Fadama* users in the study area, and
- iii. examine the attitude of *Fadama* users towards the cost-sharing method.

Methodology

The study was carried out in Niger State, Nigeria. Niger State is located in the North-

Central Nigeria. It is the largest State in the country, with the State capital in Minna.

The population of this study include *Fadama* users in Niger State, estimated to be 27,717 male farmers and 20,896 female farmers which give a total of 48, 613 registered *Fadama* farmers in Niger State as at the implementation of *Fadama* III between the year 2009 and 2013 (Niger State *Fadama* Office, 2014). Multistage sampling procedure was adopted for the selection of respondents for the study. Niger State consists of three Agricultural zones namely: Zone I, II and III. Two (2) Local Government Areas each were randomly selected from each of the Agricultural zones based on the *Fadama* activities of *Fadama* User Groups (FUGs) in the area, which gave a total of six (6) local Government Areas. The second stage involved random selection of two (2) *Fadama* Community Associations (FCAs) from each of the six (6) Local Governments (making total of twelve (12) FCAs). Third stage also involved random selection of two (2) *Fadama* Users Groups (FUGs) from each of the twelve (12) FCAs making total of twenty four (24) FUGs. In each of the selected FUGs, a list of *Fadama* farmers was obtained from their executives to get the sample frame for the study. The sample size was obtained using a propose formula by Yamane (1967). This gave a total of 180 *Fadama* farmers, which is 55% of the sample frame. Fifty five (55%) of *Fadama* users were selected from each selected local government areas using simple random sampling technique based on the list of registered *Fadama* farmers.

$$N = \frac{N}{1 + N(e)^2} = \frac{327}{1 + 327(0.05 \times 0.05)} = 180$$

N = Population size
n = Sample size = 180
e = Precision level

Table 1: Study locations and distribution of sample size

Zones	LGA	Sample Frame	Sample (55%)	Size
I	Bida	50	28	
	Lapai	60	33	
II	Bosso	44	24	
	Shiroro	30	17	
III	Borgu	75	41	
	Wushishi	68	37	
	Total	327	180	

Data for this study were collected from the primary source. The primary data were collected with the help of trained enumerators under the supervision of the researcher using a well-structured interview schedule. The data



include; socio-economic characteristics of *Fadama* users, various *Fadama* activities involved by *Fadama* users in the study area, attitude of *Fadama* users towards the cost-sharing method in the study area.

Definition and Measurement of Variables

The variables measured for this study includes:

A. Independent Variables

1. Socio economic characteristics of *Fadama* users
 - (i) **Age**- This is measured in years, from birth, and usually marked by a certain stage or degree of mental or physical development and involvement in legal responsibility and capacity.
 - (ii) **Sex**- This is defined as being male or female. Measured by indicating the sex of respondents (Male 1, Female 0).
 - (iii) **Marital Status**- Refers to being single, married, divorced, widow or widower. Measured by indicating *Fadama* farmers' marital status (1 if married and 0 otherwise).
 - (iv) **Household Size**- Refers to number of persons living and eating together under the same roof with same headship. Measured in numbers.
 - (v) **Primary Occupation**- This means usual or principal work of a person as a means of living. Measured by indicating the major occupation as (Farming 1, Others 0)
 - (vi) **Secondary Occupation**- This is the work that an individual engages alongside their major work. Measured by indicating the secondary occupation (If any 1, Farming 0).
 - (vii) **Level of Education**- Refers to educational attainment (the highest level of schooling that a farmer has attained). Measured by indicating years spent in formal education.
 - (viii) **Farm Size**- This is an area of land that is devoted primarily to agricultural processes. It is determined by the availability of income or credit made available for agricultural activities. Measured in hectare(s).
 - (ix) **Farming Experience**- This refers to the level of experience the farmer has in farming activities. Measured in years.
 - (x) **Extension Contact**- Refers to numbers of time extension agents visit farmers for proper dissemination of agricultural information. Measured by the number of times visited.

- (xi) **Land ownership**- Method of acquiring land for self-use. (Ownership; if yes 1, No 0).
- (xii) **Access to credit**- Means the availability of credit support for the farmers to boost their production and income. (Access to credit; Yes 1, No 0).

B. Dependent Variable

- (i) **Attitudes of *Fadama* Users towards the Cost-Sharing Method** - measured on 3 point Likert rating scale, the positive and negative statements on project cost sharing were provided. For the positive statements (Agreed=3 point, Undecided=2 point, Disagreed=1 point) and for the negative statement (Agreed=1 point, Undecided=2 point, Disagreed=3 point). To determine the attitudes of *Fadama* users weather Favourable or Unfavourable towards the project cost- sharing, the value assigned to the 3 responses were added together to get 6 point and then divided by 3 (i.e $3+2+1=6/3=2$) to get 2 point as the mean score. Respondents that had mean score of 2 point and above were grouped as those that have favourable attitudes towards the cost- sharing methods, while those that had below mean score of 2 point were grouped as those with unfavourable attitudes towards the project cost- sharing method.

Result and Discussion

Socio- economic Characteristic of the Respondents

The results presented in the table indicate key demographic characteristics of *Fadama* users in the study area, aligning with established patterns observed in similar agricultural contexts. Among the respondents, 42% fell within the age bracket of 41-50 years, 38% were aged 31-40, and 7% were above 50 years. The mean age was determined to be 42.5 years, suggesting that the *Fadama* users were primarily in the active and energetic phase of their lives.

This age distribution corresponds with the assertion made by Olajide (2002) that the



prevalence of manual labor in agriculture is linked to age, implying a direct influence on the quality of labor. Furthermore, the gender distribution revealed that 56% of Fadama users were male, and 44% were female, indicating a balanced participation of both genders in the Fadama program.

Marital status emerged as a significant factor, with 92% of respondents being married. This finding underscores the role of marital status in farming activities, as married couples, along with their family members, provide a readily available labor force, potentially reducing labor costs and enabling the expansion of farm sizes.

Education levels among Fadama users varied, with approximately 30% having tertiary education, 19% completing secondary school, 20% receiving Quranic education, and 25% having no formal education. This suggests that Fadama farmers in the study area have a moderate level of education. This aligns with the perspective of Rogers (2009), who emphasized that education serves as a tool for successful implementation rather than the sole determinant of innovation adoption.

Household size was another pertinent aspect, with 35.0% of Fadama users having a household size of 6-10 people, and 7.8% having larger households exceeding 20 people. The household size was seen as influential in determining the available labor force for Fadama farming activities and subsequently reducing labor costs.

In terms of land cultivation, 49% of Fadama users were found to cultivate above three hectares of land, indicating that they predominantly operate as small-scale farmers—the primary target group for Fadama empowerment programs. The study also noted variations, with 37% cultivating between 1.51 - 2.0 hectares, and 16% managing farm sizes exceeding 4 hectares. This observation aligns with the findings of Baba and Singh (1998), who highlighted the high agricultural potential of Fadama lands compared to adjacent uplands.

Table 1: Socio-economic characteristics of respondents (n=180)

Variables	Frequency	Percentage Mean
Age (Years):		
20 – 30	15	8.3
31 – 40	68	37.8

Variables	Frequency	Percentage Mean
41 – 50	76	42.2
51 – 60	12	6.7
Above 60	9	5.0
Sex:		
Female	80	44.4
Male	100	55.6
Total	180	100.0
Marital Status:		
Single	4	2.2
Married	165	91.7
Divorced/Separated	2	1.1
Widow/widower	9	5.0
Level of Education:		
Primary (6)		
Secondary (12)	10	5.6
Tertiary (18)	32	17.8
Adult Education	52	28.9
Quranic Education	5	2.8
None	36	20.0
Total	45	25.0
Households Size:		
1 - 5		
6 – 10		
11 – 15	22	12.2
16 – 20	63	35.0
21 – 25	37	20.6
Above 25	30	16.7
Total	14	7.8
Farm Size (Hect):	14	7.8
0.01 - 1.0		
1.01 - 2.0	1	
2.01 - 3.0		0.6
3.01 - 4.0	1	12.8
Above 4.0	23	23.3
Total	42	13.9
Fadama Land Size (Hect):	25	49.4
0.001 - 1.00		
1.01 - 1.50	89	
2.01 - 2.50		18.3
2.51 - 3.0	33	2.2
Above 3.0	4	37.2
Total	67	17.8
	32	8.9
	16	15.6
	28	100.0

Other Socio-economic characteristics of respondent

The table presented demonstrates significant aspects of Fadama user characteristics, aligning with established patterns and contributing to a nuanced understanding of their engagement in the Fadama program. Specifically, 47% of Fadama users indicated a tenure of 6-10 years in the Fadama program, with 12% having an experience exceeding 10 years. This suggests that a substantial majority of Fadama users have acquired extensive experience and insights into Fadama Projects, potentially enhancing their productivity and income. This finding resonates with Johnson's (2009) assertion that experience in agricultural activities, including Fadama programs, can elevate productivity, income, and overall living



standards for farmers. A notable 80% of the respondents identified farming as their primary occupation, consistent with the findings of Oladoja et al. (2008), emphasizing the prevalence of farming in rural areas of Nigeria. The remaining 20% pursued diverse occupations such as handcrafts, civil service, trading, fishing, and other farm-related work. Regarding secondary occupations, 49% of respondents engaged in trading, 18% in farming, 13% in fishing, 9% in handcrafts, and 6% as civil servants. This implies that a majority of Fadama users have alternative sources of income beyond their primary occupation, diversifying their financial streams. Remarkably, 98% of Fadama users were identified as members of the Fadama enterprise group, indicating their potential eligibility for support from NGOs, donor agencies, and other bodies dedicated to empowering small-scale farmers.

Furthermore, the data presented the distribution of positions held within the Fadama enterprise group. Notably, 34% of respondents served as sub-group committee members, 19% as treasurers, 18% as floor members, 14% as chairpersons, and 13% as secretaries. This indicates that a majority of respondents actively participate in their respective groups, fostering cohesive decision-making and effective management of the Fadama project. This collaborative engagement positions Fadama users to advocate collectively and manage the project more efficiently.

Table 2: Distribution of the respondents according to their personal characteristics

Variables	Frequency	Percentage (%)
Years Spent in Fadama		
1 – 5		
6 – 10	84	46.7
11 – 15	75	41.7
Total	21	11.7
Major Occupation:		
Farming		
Hand Craft		80.0
Civil Servant	144	0.6
Trading	1	15.0
Fishing	27	2.8
Others	5	1.1
Variables	Frequency	Percentage Mean
Total	2	0.6

Secondary Occupation:	1	
Farming		
Trading	17	9.4
Fishing	2	1.1
Other	10	5.6
Total	89	49.4
Membership of Fadama Ent:	24	13.3
Non Member		
Member	5	2.8
Total	180	
Secretary		
Treasurer	180	97.8
Sub-Group		
Committee Member		
Total	26	
	35	13.3
	62	19.4
	33	34.4
	180	18.3

Source: Field Survey, 2020.

Farming activities involved in by the Fadama users

Table 3 showed that 67% of the respondents engaged in crop production, 29% were into livestock farming, while 3% of respondents engaged in fish farming. The implication of this is that majority of Fadama users in the study area engaged more into crop farming so as to promote the food security in the country and as well as to cater for their family. Crop farming is a common means of food production all over the world and its importance is not expected to decrease in the nearest future.

Table 3: Distribution of the respondents according to farming activities involved in by Fadama users (n=180)

Activities	Frequency	Percentage
Crop Production	121	67.3
Pastoral/Livestock Farming	52	28.9
Fishing	5	2.8
Others	2	1.0

Source: Field Survey, 2020.

Crops grown by the respondents:

Table 4: revealed that high proportion of respondents (77%) had rice as the major crop grown on their Fadama land, which ranked 1st, 41% of respondents cultivated maize on their Fadama land ranked 2nd and 15% of the respondents cultivated Soybean ranked 3rd while about 4% of respondent cultivated other



types of crops on their *Fadama* land. This implies that crops (like rice, maize and soybean) are very popular in the study area and *Fadama* famers get involved in growing them as this yield them more profit during dry season. The principal motive of growing these crops (rice, Maize, Soybeans) on the *Fadama* Land by the respondents is to make more gain and make sufficient food for their family at the time of dry season. This finding is in line with that of Sandra and Ago (1996) who pointed out that the development of *Fadama* agriculture will not only provide income to farmer but also make significant impact on the drive towards self-sufficiency in food production.

Table 4: Crops grown by the respondents (n=180)

Crops	Frequency	Percentage (%)	Ranking
Rice	138	76.7	1
Maize	73	40.6	2
Soybeans	27	15.0	3
Leafy Vegetable	7	3.9	4
Others	7	3.9	4
Tomatoes	6	3.3	5
Yam	5	2.8	6
Cassava	5	2.8	6
Sorghum	2	1.1	7
Millet	2	1.1	7
Water Mellon	1	0.6	8

Source: Field Survey, 2020

Attitude of *Fadama* users towards project cost sharing

Table 5: showed the distribution of the mean scores and the standard deviation of the *Fadama* user`s attitude towards the project cost sharing. The data showed the attitude of the respondents towards the twenty (20) statements bordering on cost sharing arrangement. Among these statements, ten (11) were positive and the other ten (9) were negative. The result showed that the *Fadama* users express positive attitude towards eleven (11) statements out of twenty (20). Specifically,

the following positive statements elicited favourable attitude from the farmers: *Fadama* users are willing to share in the cost of service they consider its importance to them ($\bar{x} = 2.98$); participating in cost sharing of *Fadama* project is necessary to achieve increase agricultural productivity and income ($\bar{x} = 2.98$); participating in project cost sharing encourages continuous and effective agricultural development ($\bar{x} = 2.83$); cost sharing in *Fadama* project make *Fadama* service providers to offer better service to farmer ($\bar{x} = 2.85$).

Cost sharing method has increased *Fadama* farmers' voice in the management of the project ($\bar{x}=2.91$); cost sharing in *Fadama* project has made agricultural services to be more relevant and responsive to the farmers need ($\bar{x} = 2.78$); Most *Fadama* are not willing to take part in the cost sharing due to the lack of fund ($\bar{x} = 2.46$); Cost sharing in *Fadama* project has increase *Fadama* farmers knowledge in terms of farm management ($\bar{x} = 2.90$); Cost sharing of *Fadama* project brings more cooperation among famers ($\bar{x} = 2.91$); Project cost sharing will reduce financial burden of government and other donor agencies in Nigeria agriculture ($\bar{x} = 2.32$). This finding shows that the majority of the farmers have favourable attitudes towards the cost sharing mechanism of the *Fadama* project. This is in agreement with that of Ozor, Agwu, Chukwuone, Madukwe and Garforth (2007) who noted in their study that farmers were in favour of cost sharing of agricultural technology delivery in Nigeria. In this study, the specific statements which elicited the most favourable attitude from the farmers include: "Participation in cost sharing of *Fadama* project is necessary to achieve increased agricultural productivity and income" and "*Fadama* users are willing to share in the cost of service as they consider its importance to them". This implies that the *Fadama* users were aware that cost sharing of *Fadama* project could improve their socio-economic status.

Table 5: Attitude of *Fadama* users towards project cost sharing (n = 180)

S/N	Attitudinal Statements	Mean	Standard Deviation	Attitude
1	<i>Fadama</i> Users are willing to share in the cost of service as they consider its importance to them	2.98	0.17	Favourable
2	Participation in cost sharing of <i>Fadama</i> project is necessary to achieve increased agricultural productivity and income	2.98	0.17	Favourable
3	Considering our present conditions, it is not possible for us to participate in cost sharing of the project	1.42	0.75	Unfavourable
4	Cost sharing in <i>Fadama</i> project creates conflict between farmers and <i>Fadama</i> service providers	1.56	0.88	Unfavourable
S/N	Attitudinal Statements	Mean	Standard Deviation	Attitude



5.	Participating in project cost sharing encourages continuous and effective agricultural development	2.83	0.51	Favourable
6.	Cost sharing in <i>Fadama</i> service providers to offer better services to farmers	2.85	0.48	Favourable
7.	Cost sharing of <i>Fadama</i> project does not allow service providers to provide quality service	1.17	0.51	Unfavourable
8.	Cost sharing method has increased <i>Fadama</i> farmers' voice in the management of the project	2.91	0.39	Favourable
9.	Cost sharing in <i>Fadama</i> project should be restricted to only large scale farmers	1.36	0.74	Unfavourable
10.	Cost sharing in <i>Fadama</i> project has made agricultural service to be more relevant and responsive to farmers needs	2.78	0.53	Favourable
11.	<i>Fadama</i> farmers stand to lose as a result of cost sharing in the project	1.18	0.57	Unfavourable
12.	Most farmers are not willing to take part in the cost sharing due to lack of fund	2.46	0.87	Favourable
13.	Cost sharing in <i>Fadama</i> project has increased <i>Fadama</i> Farmers knowledge in terms of farm management	2.90	0.41	Favourable
14.	Cost sharing of <i>Fadama</i> project brings more cooperation among farmers	2.91	0.39	Favourable
15.	Project cost sharing will reduce financial burden of government and other donor agencies in Nigeria agriculture	2.32	0.08	Favourable
16.	Project cost sharing is designed for benefit of few individuals. Hence, participation of many farmers are not possible	1.56	0.86	Unfavourable
17.	Cost sharing in <i>Fadama</i> project is not the best option for funding agricultural programme	1.44	0.78	Unfavourable
18.	Cost sharing in project has encouraged <i>Fadama</i> users to express their right as information consumers thus, ensuring project effectiveness	2.64	0.73	Favourable
19.	Participating in project cost sharing has not improved the socio-economic status	1.41	0.75	Unfavourable
20.	Cost sharing in <i>Fadama</i> project leads to low agricultural output for <i>Fadama</i> users	1.12	0.41	Unfavourable

Source: Field Survey, 2020.

Conclusion

In conclusion, majority of the *Fadama* users in the study area were married, had spent 6 – 10 years in *Fadama* program, had access to extension agents on monthly basis and had rice as the major crop grown on their *Fadama* land. *Fadama* users had positive attitude toward project cost sharing, willing to share in the cost of service they considered the importance to them and were motivated by the less capital invested in the implementation of the program, factors affecting the farmer's attitude includes age, contact to extension agents and access to credit facilities. More so, they had increased production and income level during their involvement in *Fadama* project compare to the period without *Fadama* project. Untimely disbursement of inputs and insufficient credit availability were the major constraints faced by the respondents on cost sharing in the study area.

Recommendations

1. Extension agents should further encourage the *Fadama* users to participate more in cost sharing of project so as to increase their production and income.
2. Credit facilities should be made available to *Fadama* users at a low interest rate so as to give the farmers a positive attitude towards the implementation of the *Fadama* program.

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