

## EVALUATION OF NATIONAL FADAMA II PROJECT IN KAFUR LOCAL GOVERNMENT AREA OF KATSINA STATE: IMPLICATION FOR EXTENSION EDUCATION

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### Abstract

*This study evaluated the impact of the National Fadama II project in Kafur Local Government Area, Katsina State. Employing a descriptive survey design, the research utilized stratified random sampling to select 297 beneficiaries from a population of 1,300. Additionally, purposive sampling was used to select 6 extension agents and 3 Fadama officials. Data were collected using the "Fadama II Beneficiaries Impact Assessment Questionnaire (FIIBIAQ)." The findings revealed that the Fadama II Project significantly improved agricultural productivity, rural infrastructure, and poverty reduction in the area. Notably, project beneficiaries and extension agents actively participated in both the planning and implementation phases. Extension agents played a crucial role in disseminating valuable knowledge to the beneficiaries. The study recommends the timely distribution of seeds and fertilizer to further enhance farm productivity, as well as increased support from governmental and non-governmental organizations to strengthen poverty reduction efforts.*

**Keywords:** Evaluation, National Fadama II Project, Extension Education

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### Introduction

The critical role of extension services, particularly agricultural extension, in improving the livelihoods of rural farmers has long been established. Today, these services are more vital than ever, given the numerous challenges faced by rural populations. However, government, donor agency, and NGO efforts to transform rural areas are frequently hindered by the lack of beneficiary involvement in project planning and implementation. Active beneficiary participation is essential for rural development, as it fosters project ownership, enhances benefit realization, and ensures program sustainability. Agricultural extension aims to empower farmers to improve their living standards through their own efforts, utilizing their resources with minimal external assistance. As Anthony (2007) suggests, the value of agricultural extension lies in equipping farmers with the necessary education, skills, and technical information for effective farm management and informed decision-making.

To address food security, poverty alleviation, and rural infrastructure development, the Nigerian federal government introduced the Fadama Development Project. This initiative, funded by the World Bank, the African Development Bank (ADB), and federal, state, and local governments, aimed to enhance the utilization of Fadama areas. The World Bank supported the project in twelve participating states, while the ADB selected six. Designed as a five-year program, the project sought to elevate the socio-economic status of rural dwellers, thereby increasing their income and living standards (Yakubu & Usman, 2024). This study analyzes the National Fadama II project in Kafur Local Government Area, Katsina State, examining its implications for extension education.

## **Statement of the problem**

The initial National Fadama Development Project, launched in the early 1990s with World Bank funding, aimed to promote simple, low-cost irrigation technology. This technology led to a significant increase in farmer production, exceeding 300%. However, the Fadama I project faced implementation challenges, including insufficient community involvement in project design and execution, inadequate stakeholder sensitization, and elite capture. These issues, identified by stakeholders, hampered the project's effectiveness. Consequently, the Fadama II Development Project, a follow-up to the successful Fadama I (1993-1999), was initiated with World Bank support (PCU, 2004). It was expected that Fadama II would address the shortcomings of its predecessor.

Despite these expectations, comprehensive evaluations of the Fadama II Development Project remain limited. While studies by Adeyemo & Kehinde (2021), Mainunguwa & Adefila (2021), and Yakubu & Usman (2024) have explored its impact on sustainable rural development, community-driven initiatives, and capacity building, none have specifically examined its implications for extension education. Therefore, this study aims to evaluate the National Fadama II Project in Kafur Local Government Area, focusing on its implications for extension education.

## **Objectives of the Study**

The main objective of the study is to evaluate national Fadama II development project in Kafur Local Government Area (LGA) and its implications for extension education. The following are the specific objectives of the study, which are to:

- i. find out the extent to which Fadama II project has contributed to productivity of rural dwellers in Kafur Local Government Area of Katsina State;
- ii. ascertain the extent of which Fadama II Project contributed to poverty reduction in Kafur Local Government Area of Katsina State;
- iii. find out the Extent of Community involvement in the planning and the implementation of Fadama Project in Kafur Local Government Area of Katsina State;
- iv. find out the extent of extension involvement in the planning and implementation of Fadama II Project in Kafur Local Government Area of Katsina State; and
- v. find out the implication of Extension Education towards the implementation of Fadama II Project in Kafur Local Governrnt Area of Katsina State.

## **Research Questions**

This study answers the following questions:

- i. To what extent had Fadama II Contributed to increase of productivity of rural dwellers in Kafur Local Government Area of Katsina State?
- ii. What is the level of Fadama II Project contribution towards the poverty reduction in Kafur Local Government Area of Katsina State?
- iii. What is the extent of community involvement in the planning and implementation of Fadama II Project in Katsina State?

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- iv. What is the extent of extension agents' involvement in the planning and the planning and implementation Fadama Project in Kafur Local Government Area of Katsina State?
  - v. What is the implication of Extension Education in the effective implementation of Fadama II Project in Kafur Local Government Area of Katsina State?

### **Significance of the Study**

The findings of this study will benefit various levels of government, development partners, and other stakeholders involved in project implementation. Specifically, the research will highlight the extent of community involvement in planning and implementation, the project's achievements, and the challenges encountered. This information will inform the conception and improve the implementation of future programs. Furthermore, project stakeholders, including farmers, beekeepers, and processors, will be encouraged to adopt modern farming approaches, moving away from traditional methods. This study will also educate Fadama II beneficiaries about the opportunities provided by government and donor-supported development projects, urging them to actively participate from the planning stage to enhance their socio-economic activities.

### **Review of Related Literature**

This section concerns the review of the literature as it relates to the study's focus. It provides clarifications on the basic concept of the study and provides empirical evidence to situate the relevance of the current study in the body of the literature.

### **Evaluation and Extension Education**

Evaluation is the process of determining the effectiveness and worth of a program or project. It involves judging the contributions of all stakeholders against defined value scales. This crucial organizational function guides progress by assessing goals, methods, and procedures against needs and achievements. Bichi (2006) emphasizes that evaluation facilitates the modification of these elements, providing a foundation for future planning and enhancing developmental projects. Nwangu (2001) defines evaluation as the measurement of project outcomes, focusing on efforts, effects, and resource efficiency. Knowles (2021) identifies two key measurement yardsticks: objective fulfillment and operational efficiency. Imhabekhai (1998) stresses that evaluation should be a continuous process, involving data collection and analysis from program inception to completion.

The concept of extension education originated in Scotland around 120 years ago, describing the dissemination of knowledge from universities to the wider community (Macdonald & Hearlie, 1984, cited in Anthony, 2007). Saville (2021) notes that land-grant colleges popularized "agricultural extension" as a non-formal education mode for farming communities. Since then, extension has been adopted globally by governments and NGOs to stimulate rural development in various sectors. Dukku (1991) defines extension education as a non-formal, out-of-school system aimed at empowering people. Zwene (1982) views it as the transfer of knowledge from its source to the community, promoting its application. Imhabekhai (1998) describes extension as a

service that assists farmers in improving methods, increasing production, and enhancing their living standards.

### **Theoretical Framework**

This study is guided by David Fetterman’s Theory of Empowerment Evaluation, which emphasizes stakeholder participation in the evaluation process to promote learning, capacity building, and empowerment. Recognizing stakeholders' critical role in project success, this theory aims to develop their skills and knowledge for informed decision-making. Empowerment evaluation adopts a collaborative and participatory approach, involving stakeholders in all evaluation stages, from question identification to data interpretation. This approach aligns with the Fadama II project's bottom-up philosophy, where communities identify, implement, and evaluate their projects with minimal external intervention.

### **Methodology**

#### **Research Design**

Descriptive survey research design was adopted for this study, which main aim is to evaluate the National Fadama Project in Kafur Local Government Area of Katsina State. The descriptive survey was considered as appropriate for the study as it allows to quantitatively analyze the influence and implications of Fadama II project in Kafur LGA. The choice of survey design enable the researcher to study the Fadama II projects in their natural setting thereby enabling access to adequate quantitative data.

#### **Population of the Study**

All Fadama user groups, extension agents as well as the State Fadama Development Office Team constituted the population of the research.these consist of 1,300 fadama user groups from 5 Fadama Community Associations (FCA) group into 51 Fadama User Groups (FRUGS), 19 extension agents or facilitators, as well as 8 Fadama Development Team. Thus, the total population for the study is 1,327 people. The Table below provides a summary of the population of the project beneficiaries:

**Table 1: Distribution of population of the study**

S/No.	FCA	Crop Farmers 50%	Livestock Rearers 25%	Crop Processors 15%	Others 10%	Total 100%
1.	Kafur/Masari	113	56	34	22	225
2.	Hayin Jare	163	81	49	32	325
3.	Marashi	125	63	38	24	250
4.	Dankanjiba	125	63	38	24	250
5.	Kuringafa/Yari	125	63	38	24	250
<b>Total</b>		<b>651</b>	<b>326</b>	<b>197</b>	<b>126</b>	<b>1300</b>

**Source:** Fadama Development Project Office Kafur L.G.A. (2023)

## Sample size and Sample Procedure

The sample size of 297 subjects was selected, using the Krejcie and Morgan table for determination of sample size (1970). This sample size determination tool stipulates that for a population of 1,300 and above, the sample size of 297 is recommended.

**Table 2: Sample size for the Study**

S/No.	FCA	Crop Farmers 50%	Livestock Rearers 25%	Crop Processors 15%	Others 10%	Total 100%
1.	Kafur/Masari	29	14	9	6	58
2.	Hayin Jare	33	17	9	6	65
3.	Marashi	29	14	9	6	58
4.	Dankanjiba	29	14	9	6	58
5.	Kuringafa/Yari	29	14	9	6	58
	<b>Total</b>	<b>149</b>	<b>73</b>	<b>45</b>	<b>30</b>	<b>297</b>

**Source:** Fadama Development Project Office Kafur L.G.A. (2023)

## Instruments for Data collection

The research instrument used in this research was questionnaire. The questionnaire titled Fadama II Beneficiaries Impact assessment Questionnaire (FIIBIAQ) was meant to target the beneficiaries of the Fadama II Project. The questionnaire has two sections, Sections A and B. The beneficiaries were asked to respond to statement on two point Likert-scale i.e. Agree (A) and Disagree (DA).

## Validity of the Research Instrument

Draft copies of questionnaire were administrated to some member staff from Umaru Musa Yar'adua University for face and content validation.

## Reliability of the Research Instrument

In order to ensure the reliability of research of the FIIBIAQ, test –retest reliability was conducted to ensure the reliability of the questionnaire. The copies of the questionnaire were administrated within two weeks interval on some twenty (20) respondents randomly selected from the study area in Kafur Local Government Area.

The results were correlated using Pearson's Product Moment Correlation (PPMC). The reliability coefficient of the questionnaire was 0.76

## Results

This section presents the results of the study. The results are presented based on the data collected for the study.

Demographic Variables of the respondents

**Table 3: Distribution of Beneficiaries by Age**

S/No.	Age	Frequency	Percentage
1	16 – 25	109	36.6
2.	26 – 39	98	33.3
3.	40 above	89	30.0
<b>Total</b>		<b>297</b>	<b>100</b>

**Sources:** Field Data 2023

Table 3 shows that 109 (36.7%) and 98 (33.3%) of the beneficiaries are below the age of 40. This indicate the Projects mission in targeting youths in order to reduce the high rate of unemployed youth which is seriously affecting the northern part of the country. While the least participants of the project are above forty years which constitute 89% or 30%.

**Table 4: Distribution of Beneficiaries by Gender**

S/No.	Sex	Frequency	Percentage
1	Male	180	60.6
2.	Female	117	39.4
<b>Total</b>		<b>297</b>	<b>100</b>

**Sources:** Field Data 2023

Table 4 indicates the gender of the beneficiaries in which the male dominate the total percentage. This might be as result of religious and cultural practice in which some men restrict the movement of girl child and married women with the men believing that women should be always at home.

### Answering the Research Questions

Research Question One: To Find out the extent of Fadama II Project has contributed to the productivity of rural dwellers in Kafur L.G.A. of Katsina State?

**Table 5:**

Items	A	DA
Fadama II had contributed to an increase of productivity among rural dwellers in Kafur L.G.A of Katsina State	217(73.1%)	80 (26.9%)

**Sources:** Field Data 2023

Table 5 presents the beneficiaries response on the impact of Fadama II project on productivity increase among rural dwellers. According to the Table 217(73.1%) of the respondents had an increase of productivity while 80(26.9) had no productivity increments.

Research Question 2: What is the extent to which Fadama II Project contributed to poverty level among rural dwellers in Kafur L.G.A. of Katsina State?

**Table 6:**

Items	A	DA
Poverty level had decrease as a result of Fadama II Project among the beneficiaries	189(63.6)	108(36.3)

Sources: Field Data 2023

Table 6 shows the impact of Fadama II towards poverty reduction among beneficiaries. According to the Table 189 (63.6%) agreed with the statement while 108(36.3) reject the statement that poverty level had decrease as a result of Fadama II project among the beneficiaries.

Research Question Three: What is the Extent of Community involvement in the planning and implementation of Fadama II Project in Kafur L.G/Area of Katsina State?

**Table 7:**

Items	A	DA
Communities were involved in the planning and implementation of Fadama II Project	258(86.6%)	39(13.8%)

Sources: Field Data 2023

Table7 indicate the responses on the communities in the planning and implementation of Fadama II Project in Kafur L.G Area, the responses show that 258 (86.6%) of the beneficiaries were involve in the planning and implementation of the project while 39 (13.8%) disagree.

Research Question Four: What is the Extent of extension agent involvement in the planning and Implementation of Fadama II Project in Kafur L.G. Area of Katsina State?

**Table 8:**

Items	A	DA
Extension agents were involved in the planning and implementation of Fadama II Project	241(81.1%)	56 (18.8%)

Sources: Field Data 2023

Table 8 shows that majority (81.1%) of the respondents agreed that the extension agents were involved in the planning and implementation of Fadama II projects.

Research Question Five: What is the implication of Extension Education in the effective Implementation of Fadama II Project in Kafur L.G. Area of Katsina State?

**Table 9:**

Items	A	DA
Did the knowledge acquire from Extension services Had impact on your productivity?	184(61.9%)	113(38.0%)

Sources: Field Data 2023

Table 9 above indicates that the beneficiaries response on the implication of Extension to Fadama project. The results indicate 226 or (89.6 %) agree that knowledge acquire from extension services had improve their productivity, while 30 or (10.1%) of the beneficiaries disagree with the statement.

## **Summary of Findings**

From the preceding analysis of data, the following findings were deduced:

- i. Fadama II had contributed to an increase of productivity among rural dwellers
- ii. The level of poverty had reduced significantly among the beneficiaries of Fadama II Project
- iii. Communities were involved in the planning and implementation of Fadama II Project
- iv. Extension workers were involved in the planning and implementation of Fadama II Project
- v. Knowledge acquire from extension services had improve the beneficiaries productivity and living standard.

## **Discussions of the findings**

The study found that Fadama II contributed to increased productivity among rural dwellers, aligning with Amire's (2006) assertion that agricultural activities can reduce poverty, promote equity, and foster sustainable economic growth. Essentially, agriculture remains a potent tool for poverty eradication and socio-economic advancement.

Secondly, the study revealed a significant reduction in poverty among rural dwellers. This contrasts with Okpara's (2004) findings, which suggested that farming in Izzi Local Government Area did not positively influence the living standards of households, particularly those with large families. Okpara identified land tenure, poor transportation, and post-harvest losses as key challenges.

Thirdly, the study indicated community involvement in the planning and implementation of Fadama II, supporting Okafor's (2004) and Ahmed's (2011) emphasis on participatory development. Community participation fosters ownership and enhances project effectiveness.

Fourthly, the study confirmed the active involvement of extension workers in Fadama II, consistent with Oduaran's (1992) and Nwangu's (2001) recommendations for continuous training and capacity building for extension personnel.

Finally, the study demonstrated that knowledge gained from extension education improved beneficiaries' productivity and living standards, reinforcing Anthony's (2007) argument that agricultural extension provides farmers with essential education, skills, and technical information for effective farm management.

## **Conclusion**

This study concludes that the Fadama II Project in Kafur Local Government Area, Katsina State, was successful and that similar projects are desirable due to their positive impact on infrastructure development and socio-economic well-being. The project effectively trained farmers in modern techniques, enhanced agricultural productivity, and actively engaged communities in development initiatives. Furthermore,

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beneficiaries' knowledge gained through extension services significantly improved their productivity and living standards.

### Recommendations

Based on the findings and conclusion of the study, the followings are proffered:

1. Timely distribution of seeds and fertilizer to enhance more productivity of farm products to the rural dwellers.
2. Nongovernmental and other humanitarian organization should be encouraged to participate in providing support and grants to rural communities.
3. There is need for community awareness to participate fully on any developmental project that aimed to alleviate their poverty level.
4. Training and retraining of extension workers should be a major priority.
5. Communities should be trained in order to acquire more impactful knowledge that will enhance their productivity and living standard, media and other means of communication should be used to extend knowledge to rural communities.

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