ISSN: 2736-0040 (Online)
ISSN: 2695-1975 (Print)
AKSUJAEERD 8 (1): 37 – 47, 2025 AKSU Journal of Agricultural Economics, Extension and Rural Development.

USE OF ADVISORY SERVICES AND INPUT SUPPORT AMONG RICE FARMERS OF FADAMA III ADDITIONAL FINANCING (AF1) BENEFICIARIES IN ADAMAWA STATE, NIGERIA

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Abstract
This study examines the extent to which rice farmers in Adamawa State utilized advisory services and input support provided under the Fadama III Additional Financing I (AF1) initiative. Using a multistage random sampling technique, data were collected from 146 rice cluster farmers across Fufore, Numan, and Yola South Local Government Areas through structured questionnaires. The analysis employed descriptive statistics, rating scales, and multiple regression techniques. Findings revealed that the majority of respondents were male (93.2%), married (95.2%), with an average age of 49.3 years, mean household size of 12 persons, and farming experience averaging 19.7 years. Most respondents (68.5%) were literate and had farming as their primary occupation. Advisory services provided included information on improved agronomic practices, market access, and post-harvest handling. Input support comprised fertilizers, improved seeds, herbicides, insecticides, and limited access to machinery such as power tillers and milling machines. Overall, the utilization of both advisory services and input support was high, although some services, particularly post-harvest processing and mechanization were underutilized due to accessibility constraints. Regression analysis identified age, education, farming experience, off-farm income, and farm income as significant determinants of service utilization. The study recommends continued or expanded implementation of the Fadama III AF1 model, investments in rural infrastructure, and the establishment of additional machinery hiring centers to enhance farmers' productivity and resilience.
Keywords: Agricultural Extension, Input Support, Fadama III AF1, Rice Farmers

Introduction

The Nigerian government, in their effort to reduce the problems inflicted by food insecurity and poverty due to low agricultural production and productivity in the nation established agricultural aid programs. One of such programs is the National Fadama Development Project which was implemented in phases. 'Fadama' is a Hausa name for irrigable land usually low-lying plains underlain by shallow aquifers found along Nigeria's major river system (Olatunji, 2022)). The last phase of the project which is the Fadama III received its Additional Financing (AF) of ₦ 32, 644, 300, 000 billion in June, 2013 and became effective in October, 2013 (World Bank, 2016). The Additional Financing was implemented in selected States on the basis of comparative advantage and high potential to increase production and productivity of Cassava, rice, sorghum and horticulture.

Rice remains a prominent crop among the wide array of staple crops in Nigeria's agricultural sector, accounting for a significant share of cereal consumption and domestic production. In 2024/25, Nigeria produced 5.8 million metric tons of milled rice, with consumption reaching 8.3 million metric tons, reflecting its critical role in food security and livelihoods (Reidy, 2025). It is a staple food for over two-thirds of the world's population, significantly influencing livelihoods and economies. Its cultivation faces challenges like climate change, but innovative solutions and policies are essential for enhancing production and ensuring food security.(Asma, Subrahmanyam, & Krishnaveni, 2023). According to a report by United Nations Environmental Programme (UNEP, 2002) in the 1960s, rice was only consumed during festivals and largely in upscale homes at Christmas or other religious festivals. However, a study by Chiaka, Zhen & Xiao (2022) study found that rice consumption in Nigeria rose from 21.96 kg per person in 2000 to 39 kg per person in 2018.A report by Rice Farmers Association of Nigeria and National Bureau of Statistics (RIFAN

&NBS, 2023) showed that rice is now the most consumed staple food in Nigeria, with increased consumption rate of 9.6 million tons in 2023, reaffirming its status as the most consumed staple in the country.

Rice remains a leading staple crop in Nigeria's agricultural sector, playing a crucial role in household food security, rural livelihoods, and the national economy (Food and Agriculture Organization [FAO] 2021). It is among the most widely consumed food commodities, with significant influence on income generation for smallholder farmers and traders alike (International Rice Research Institute [IRRI], 2023). Historically, rice consumption in Nigeria was limited to festive occasions and affluent households during the 1960s (United Nations Environment Programme (UNEP) 2002). However, Since the mid-1970s, per-capita rice consumption in Nigeria has surged—driven by shifting dietary preferences, rapid urbanization, and population growthwith consumption rising from roughly 3 kg in the 1960s to about 22 kg in the late 1990s and reaching approximately 39 kg by 2018 and around 33 kg as of 2021 according to (Chiaka *et al.*, 2022)

Although, rice production in Nigeria has increased from 5.5 million tons in 2015 to 5.9 million tons in 2017, Nigerian rice farmers are still unable to meet the local demand, leaving a supply gap which is bridged by importation (Rice Farmers Association of Nigeria (RIFAN) 2017). In order to attain self-sufficiency in rice production, federal government of Nigeria has established many institutions, programs and schemes. One of such major institutions among others is the Fadama III Additional Financing 1 (Solomon, 2020)

The Fadama III AFI which was established by the government in 2013 has an advisory service which empowers the Fadama users through their Local Government Areas to purchase advisory services from public and private sources. These services include provision of advice on the how, when, where and why the use of agro-technology with its associated input market. Inputs support on the other hand, supports, guides and persuade farmers to adopt new technology and more productive practices in their income generating activities to enhance their financial capacity to purchase farm inputs (World Bank, 2016).

The utilization of advisory services and input support among rice farmers in Adamawa State, particularly in the Fadama III Additional Financing (AF1) project, is critical for improving agricultural productivity. Despite the provision of these services, there remains a disparity in their utilization, affecting the overall success of the program in enhancing farm productivity and improving the livelihoods of farmers. Given the importance of rice as a staple food crop and its contribution to household food security and rural livelihoods in Adamawa State, understanding and addressing the gaps in the utilization of advisory services and inputs will not only enhance the effectiveness of the Fadama III AF1 initiative but also contribute to the sustainable development of the rice production sector in the region.

Methodology

The Study Area

The study was conducted in Fufore, Numan, and Yola South Local Government Areas (LGAs) of Adamawa State, Nigeria. Geographically, Fufore is located at approximately 9°13′ N and 12°39′ E; Numan lies between 9°10′ and 9°39′ N and between 10°24′ and 12°55′ E; while Yola South is situated around 9°15′ N and 12°25′ E (Adebayo, 1999). Fufore LGA shares boundaries with Song and Maiha to the north, Mayo Belwa and Jada to the west and south, and the Republic of Cameroon to the east. Numan is bordered by Shelleng to the north, Lamurde to the west, Demsa and Taraba State to the south, and again by Demsa to the east. Yola South borders Fufore to the east and south, Demsa to the west, and Yola North and Girei to the north (Adamawa State Government, 2023). The region falls within the Northern Guinea Savannah zone, characterized by a mixture of woodland and grassland vegetation (Food and Agricultural Organization [FAO], 2021). The area contains substantial Fadama (seasonally flooded) lands, which are critical for dry-season irrigation. Climatically, the study areas experience a tropical savanna climate with annual rainfall ranging from approximately 860 mm in Yola South to over 1,100 mm in Numan, with peak precipitation occurring between July and August (World Bank Climate Portal, 2023; Weather Spark, 2023). The rainy season typically spans from late March to early November. Agriculture is the mainstay of the local economy, with rice,

maize, sorghum, millet, cowpea, vegetables, groundnut, and cassava being the principal crops cultivated (National Agricultural Extension and Research Liaison Services [NAERLS], 2022). Livestock rearing, fishing, petty trading, and civil service also contribute significantly to household livelihoods in the area.

Method of Data Collection

The primary data were collected through the use of semi structured questionnaire which was administered to the respondents. The questionnaire was in three sections, section A: was for the socio-economic characteristics of the respondents, section B: types of advisory services offered to the rice cluster farmers and Section C: Utilization of advisory services and input support.

Sample Size and Sampling Technique

A multi-stage sampling procedure was employed to select respondents for the study. In Adamawa State, seven Local Government Areas (LGAs) benefited from the Fadama III Additional Financing I (AF1) intervention. The rice farmers under the program were organized into clusters, each comprising several hundred farmers, with the exception of Mayo-Belwa, which had 60 farmers, and Lamurde, which had two clusters of 100 farmers each. At the first stage of sampling, three LGAs which included: Fufore, Numan, and Yola South were randomly selected from the seven participating LGAs. These three LGAs collectively comprised 300 rice farmers under the Fadama III AF1 program, with each LGA contributing 100 farmers. In the final stage, 150 respondents were randomly drawn from the sampling frame using simple random sampling. Structured questionnaires were administered to the selected respondents; however, only 146 properly completed questionnaires were retrieved and subsequently used for the analysis.

Analytical Techniques

Descriptive statistics were used to analyze the socio-economic characteristics of the respondents (objective I), the type of advisory services and input support offered to rice cluster farmers (objective II). Objective III, which is the utilization of advisory services and input support, were measured on 4-point scale of High (used by almost all) = 4, Average (used by half) = 3, Low (used by very few) = 2 and not used= 1. This also involved the use of frequency counts, percentages and means. Grand mean = (4 + 3 +2 +1) /4 = 2.50.

Results and Discussion

SocioeconomicCharacteristics of the Respondents

The socio-economic characteristics of the respondents presented in this study include sex, age, marital status, household size, farming experience, primary occupation, level of education, off-farm income, farm income, access to credit, and membership in other associations. Results in Table 1 show that the majority (93.2%) of the respondents were male, while only 6.8% were female. This suggests that men dominate rice farming in the study area. The dominance of male participants may be attributed to the labour-intensive nature of rice production, which requires strength and resilience, as well as to prevailing socio-cultural norms that often limit women's involvement in agricultural decision-making. This finding agrees with those of Mustapha et al., (2018), Girei and Dire (2013), and Abba and Abu (2015), who also reported male dominance in rice farming across different parts of Nigeria.

The age distribution of respondents presented in Table 1 shows that most (42.5%) were within the age range of 40–49 years, followed by 37.0% within 50–59 years. The mean age of respondents was 49.3 years. This finding indicates that most of the rice farmers were middle-aged, placing them within the economically active population with the capacity for labour-intensive farming. This is a positive indicator for the adoption of new farming technologies and participation in training programmes. The result is consistent with the findings of Mustapha, Abdullahi& Yusuf (2019) who observed a similar age pattern among rice farmers in their respective studies.

In terms of marital status, the result reveals that the majority (95.2%) of the respondents were married, while only 1.4% were single, 1.4% divorced, and 2.0% widowed. The dominance of married individuals among the respondents suggests a strong family labour base that supports rice farming activities. This may be due to the additional responsibilities that come with marriage, such as providing for family welfare, which can motivate individuals to engage more actively in farming. Similar findings were reported by Bawa and Ani (2015) who found that

married people constituted the majority of rice farmers in their respective studies.

The household size distribution from the result shows that most (43.2%) of the respondents had between 11 and 15 members, while 35.0% had between 6 and 10 members. The mean household size was 12.1 persons. Large household sizes provide a readily available source of family labour, which can enhance productivity and reduce labour costs. The prevalence of large households may be linked to the practice of polygamy, which is common in many farming communities. These findings are in line with those of Igboji *et al.,* (2015) who also reported large household sizes among farming populations.

Table 1 also reveals that the majority (55.0%) of respondents had between 11 and 20 years of farming experience, with a mean of 19.7 years. This level of experience suggests that the respondents are well-versed in agricultural practices, which may positively influence their ability to adopt improved farming techniques. Experienced farmers tend to have better understanding of seasonal patterns, pest management, and market dynamics. This observation supports the findings of Kagbu *et al.,* (2016) and Umeh and Ekwengene (2017), who found that years of experience contributed significantly to the adoption of agricultural innovations.

In terms of primary occupation, the findings in Table 1 shows that 77.4% of the respondents were primarily engaged in farming, particularly rice cultivation. Other occupations included civil service (17.1%) and trading (4.1%). The high proportion of respondents involved in rice farming may be due to the fact that the Fadama III AF1 programme was implemented in areas with comparative advantage in rice production. This result indicates that most of the beneficiaries were active farmers, thereby ensuring the relevance and potential impact of the programme.

With regard to educational attainment, the result from Table 1 shows that 31.5% of the respondents had no formal education, while 26.0% had primary education, 24.0% secondary education, and 18.5% tertiary education. Overall, 68.5% of the respondents were literate, which is encouraging, as education facilitates better understanding and adoption of agricultural innovations. This result aligns with the findings of Ibok *et al.,* (2015) and Igboji *et al.,* (2015), who observed that education positively influences the use of improved farming techniques.

Table 1 also shows that significant proportion of the respondents (24.0%) earned between ₦210,000 and ₦300,000 annually from off-farm activities, while only 5.0% had no off-farm income. The average off-farm income was ₦289,000 per annum. This suggests that most farmers had alternative income sources to supplement their farming operations. Such income can be used to finance input purchases and reduce dependence on farm yields. This finding supports the works of Alabi *et al.,* (2018), Babatunde (2012), and Igboji *et al.,* (2015), who highlighted the importance of off-farm income in enhancing farm investment. In terms of farm income, the result shows that 19.0% of the respondents earned between ₦501,000 and ₦600,000 annually, while 16.0% earned between ₦701,000 and ₦800,000. The average farm income was ₦504,000 per annum. This relatively high income may be attributed to the interventions provided by Fadama III AF1, which were targeted at improving productivity in rice farming. The result indicates that rice farming is a viable economic activity for households in the study area.

Access to credit, as shown in Table 1, was available to 67.0% of the respondents, while 33.0% had no access. This level of credit availability is encouraging, as access to financial services is crucial for purchasing inputs, hiring labour, and expanding farm operations. This result is in agreement with the findings of Sakiru (2013), who reported that access to credit positively influences farmers' ability to adopt improved practices and enhance productivity.

Finally, the findings shows that 64.4% of the respondents belonged to other associations besides Fadama III, while 35.6% did not. Membership in associations provides access to shared resources, credit opportunities, and information on improved agricultural practices. This finding is consistent with that of Ibok *et al.,* (2015), who found that social group affiliations positively impact technology utilization among farmers. Such networks can also provide a

platform for training and collective bargaining in agricultural markets.

Table 1: Socio-economic Characteristics of Rice Farmers Beneficiaries of Fadama 111 Additional Financing in Adamawa State, Nigeria (n= 146)

Variables	Frequency	Percentage	Mean	Standarddeviation
Gender				
Male	136	93.2		
Female	10	6.8		
Age Group (Years)				
20-29	3	2.0		
30-39	11	7.5		
40-49	62	42.5	49.3	49.9
50-59	54	37.0		
60-70	16	11.0		
Marital Status				
Single	2	1.4		
Married	139	95.2		
Widowed	3	2.0		
Divorced	2	1.4		
Household Size				
1-5	4	2.7		
6-10	51	35.0		
11-15	63	43.2	12.1	12.7
16-20	24	16.4		
21-30	4	2.7		
Years of Experience				
1-10	12	8.0		
11-20	80	55.0		
21-30	39	27.0	19.7	21
31-40	12	8.0		
41-50	3	2.0		
Primary Occupation				
Farming	113	77.4		
Trading	6	4.1		
Civil Servant	25	17.1		
Fishing	1	0.7		
Hunting	1	0.7		
Level of Education				
No formal education	46	31.5		
Primary Education	38	26.0		
Secondary Education	35	24.0		
Tertiary	27	18.5		
Off-Farm Income (`000)				
10-100	21	14.0		
101-200	35	18.0		
201-300	19	24.0		
301-400	14	13.0		
401-500	13	9.0	289	353.4
501-600	5	3.0		
601-700	3	2.0		
701-800	2	1.4		
801-900	1	0.6		
901-100	7	5.0		
Farm Income (`000)				

10-100	2	1.4		
101-200	10	7.0		
201-300	18	12.0		
301-400	16	11.0		
401-500	22	15.0		
501-600	28	19.0	504	486.8
601-700	20	14.0		
701-800	24	16.0		
801-900	3	2.0		
901-100	2	2.0		
1001-1100	1	0.6		
Access to Credit				
Yes	98	67.0		
No	48	33.0		
Membership of other Association				
Yes	94	64.4		
No	52	35.6		

Source: Field Survey, 2021

Types of Advisory Services Offered to Rice Cluster Farmers

The types of advisory services offered to the rice cluster farmers by Fadama III additional financing 1 in Adamawa s Sate is presented in Table 2. The advisory services offered were mechanical land preparation, appropriate planting date, recommended seed rate, use of improved varieties, appropriate spacing, improved method of weed control, application of appropriate fertilizer, pest and disease management practices and harvesting technique, use of mechanical winnower, post- harvest handling, storage methods others were improved processing, market information and linkage to market. There was no any matching grant given for advisory services offered.

Table 2: Types of Advisory Services Offered to Rice Cluster Farmers (n=146)

Advisory Services	Frequency	Percentage
Appropriate Planting Date	146	100.0
Recommended Seed Rate	146	100.0
Improved Method of Weed Control	146	100.0
Application of Appropriate Fertilizer	146	100.0
Method of Fertilizer Application	146	100.0
Mechanical Land Preparation	145	99.3
Use of Improved Variety	144	98.6
Market Information	136	93.2
Pest and Disease Management Practice	134	91.8
Appropriate Spacing	128	87.7
Post-harvest handling	122	83.6
Linkage to Market	77	52.7
Storage Methods	69	47.3
Harvesting Technique	56	38.4
Improved Processing	24	16.4
Use of Mechanical Winnower	27	18.5

Source: Field Survey, 2021

This result implies that the cluster farmers in Adamawa State were actually offered advisory services by the Fadama III Additional Financing 1. This result is in line with the findings by Umar *et al.*, (2012) in an investigation on the impact of Fadama II project on adoption and demand for advisory services in Adamawa State, Nigeria who found out that Fadama II farmers were offered more advisory services in the area of post-harvest handling, agricultural marketing and

crop management practices. It is also in agreement with the study by Obidike (2011) in a study on rural farmers' problems accessing agricultural information in Nsukka Local Government Area, Enugu State, Nigeria who reported that farmers were offered information on new method of crop preservation, introduction of new herbicides and pesticides/uses, crop disease treatment and control, better crop rotation practices and fertilizer application.

Types of Input Support Offered to Rice Cluster Farmers

The types of input support offered to the rice cluster farmers in Adamawa State by Fadama III additional financing 1is presented in Table 3 The inputs were improved seeds, herbicides, insecticides, pesticides and fertilizers, tractorization/power tiller, milling machines, generators and manual rice harvester; others were rain boots, hand gloves, hoe, cutlass, knapsack sprayers and trampoline. Some of the inputs such as the power tiller and milling machines were not given across all the study area because they were an additional support for youth and women who were not initial beneficiaries of the input support. Beneficiaries of power tiller, milling machines generators and manual rice harvester were grouped. Farmers paid a 50% matching grant for the inputs. This result indicates that the rice cluster farmers in the study area actually received input support from Fadama III Additional Financing I in Adamawa State. This result agrees with Mahadeva (2014) in his study on agricultural input subsidies in Karantaka, India. He revealed the types of subsidies offered to farmers in Nagarabhavi as improved varieties of seeds, agricultural implements, plant protection, chemicals, equipment, fertilizer, paddy and equipment for sowing.

Table 3: Types of Input Support Offered to the Rice Cluster Farmers (n=146)

INPUTS	Frequency	Percentage
Fertilizers	146	100
Milling Machine	98	100
Herbicides	144	98.6
Improved Seed	142	97.3
Insecticides	132	90.4
Pesticides	127	86.9
Manual Rice Harvester	24	49
Tractorization/Power tiller	67	45.9
Generators	37	25.3

Source: Field Survey, 2021

Assessment of the Utilization of Advisory Services and Input Support

Assessment of the Level of Utilization of Advisory Services

This result in Table 4 implies that the respondent utilized the advisory services offered to them as only five out of the sixteen advisory services have their mean less than the grand mean, this is because the utilization was monitored by the advisory services and input support consultants of Fadama III. The low utilization of the method of fertilizer application was probably because it consumes more fertilizer while the low utilization of storage method might also be because the improved method is too tedious for them hence their preference to the old method. Linkage to market was not utilized by most of the respondent probably because they already have their links while some have market right in the village where they produce and sell their paddy, improved processing because they don't process but sell paddy rice, and probably accessing mechanical winnower was difficult for the respondents. This result is line with Adetimehin*et al.,* (2018) in a study on the utilization of agricultural information and knowledge for improved production among rice farmers in Ondo State, Nigeria, who reported that the utilization of agricultural information on improved rice production cultural practices was generally high. However, this result contradicts the findings of Asogwa *et al.,* (2014) on marketing information usage among rice producers in Benue State, Nigeria who revealed that the level of marketing information utilization was generally low to mediu

Table 4: Assessment of the Utilization of Advisory Services (n=146)

	Advisory Services	High 4	Average 3	Low 2	Not Utilized 1	Total	Mean
i	Market Information	99 (67.8)	28 (19.2)	9 (6.2)	10 (6.8)	508	4.48
ii	Improved Method of Weed Control	140 (95.9)	6 (4.1)	0	0	578	3.95
iii	Use of Improved Variety	138 (94.5)	5 (3.4)	1 (0.7)	2 (1.4)	571	3.91
iv	Application of appropriate Fertilizer	126 (86.3)	18 (12.3)	2 (14)	0	562	3.85
v	Recommended Seed Rate	91 (62.2)	50 (34.3)	5 (3.4)	0	518	3.59
vi	Mechanical Land Preparation	84 (57.5)	35 (24)	26 (17.8)	1 (0.7	494	3.38
vii	Appropriate Planting Date	50 (34.2)	88 (60.3)	8 (5.5)	0	480	3.29
viii	Appropriate Spacing	45 (30)	83 (56.9)	0	18 (12.3)	447	3.04
ix	Post-Harvest Handling	45 (30)	68 (46.6)	9 (6.2)	24 (6.4)	426	2.92
x	Pest and Disease Management Practice	46 (31.5)	66 (45.2)	22 (15.1)	12 (8.2)	438	2.91
xi	Method of Fertilizer Application	19 (13)	46 (31.5)	81 (55.5)	0	376	2.58
xii	Linkage to Market	52 (35.6)	10 (6.8)	15 (10.3)	69 (47.3)	337	2.31
xiii	Harvesting Technique	17 (11.6)	25 (17.1)	14 (9.6)	90 (61.6)	261	1.79
xiv	Storage Methods	6 (4.1)	10 (6.9)	53 (36.3)	77 (52.7)	237	1.62
xv	Improved Processing	0	18 (12.3)	6 (4.1)	122 (83.6)	194	1.29
xvi	Use of Mechanical Winnower	7 (4.8)	8 (5.5)	12 (8.2)	119 (81.5)	195	1.23

Source: Field Survey, 2021

NOTE: Grand Mean=2.50; Figures in parentheses are in percentages

Assessment of the Utilization of Input Support

The assessment of the level of utilization of input support is presented in Table 5; this result implies that the inputs were utilized because only three out of the nine inputs have means below the grand mean. Some of the farmers were constrained in utilizing manual rice harvester, processing machines and generator, probably because it was difficult for them to use these inputs as a group.

Table 5: Assessment of the Utilization of inputs Support (n= 146)

INPUTS	High 4	Average 3	Low 2	Not Utilized 1	Total	Mean
Herbicides	140 (95.9)	4 (2.7)	0	2 (1.4)	574	3.93
Improved Seed	136 (93.2)	6 (4.1)	0	4 ((2.7)	566	3.88
Fertilizers	123 (84.2)	22 (15.1)	1 (0.7)	0	560	3.84
Insecticides	54 (37)	64 (43.8)	14 (9.6)	14 (9.6)	450	3.18
Pesticides	50 (34.2)	64 (43.8)	13 (9)	19 (13)	437	2.99
Power Tiller	43 (43.9)	29 (29.6)	26 (26.5)	0	311	3.17
Manual Rice Harvester	20 (13.7)	22 (15.1)	11 (7.5)	93 (63.7)	261	1.79
Processing Machine	22 (22.5)	15 (15.3)	0	61 (62.2)	194	1.98
Generator	30 (20.6)	17 (11.6)	20 (13.7)	79 (54.1)	290	1.99

Source: Field Survey, 2021

NOTE: Grand Mean=2.50: Figures in parentheses are in percentages

This result is in line with the finding by Oyewale and Ojeleye (2014) in their study on the factors influencing the use of improved farm practices among small scale farmers in Kano State, Nigeria who reported that, the use of pesticides, herbicides and improved seeds was high among the farmers. However, this result contradicts the findings of Rufai *et al*., (2018) in a study on input utilization and agricultural labor productivity in Nigeria, who revealed that input use was generally low among farmers.

Conclusion

The study concludes that Fadama III AF1 was effectively implemented in Local Government Areas with strong potential for rice production. The beneficiaries were predominantly married, literate, and experienced male farmers with large household sizes, factors that likely enhanced their productivity. The high utilization of advisory services and input support, under the supervision of Fadama III consultants, contributed significantly to the farmers' impressive farm incomes despite prevailing challenges. This affirms the impact of targeted agricultural interventions in enhancing productivity and livelihoods in rice-farming communities.

Recommendations

Based on the findings of this study, the following recommendations are proposed:

1. Sustain and Expand Agricultural Support Programs: There should be continuity of the Fadama III AF1 project or the introduction of similar programs that provide advisory services and input support (subsidies). Proper monitoring and supervision by consultants, as implemented under AF1, should be ensured to maximise impact and productivity among rice farmers.

2. Improve Rural Infrastructure: The government should construct new feeder roads and rehabilitate existing ones to improve rural accessibility. This will ease transportation challenges, facilitate access to markets, reduce input delivery costs, and support the movement of farm produce.

3. Strengthen Input Distribution Systems: An efficient and timely distribution network for agricultural inputs should be established to ensure that inputs are readily available for both rainy and dry season farming activities.

4. Enhance Pest and Disease Management: Farmers should be regularly trained on the identification, prevention, and control of pests and diseases. Additionally, necessary chemicals such as insecticides should be made available at subsidized rates.

5. Invest in Climate Resilience and Insurance Schemes: There is a need for effective land use planning and the construction of flood control infrastructure such as canals, dams, and floodwalls. Government should also promote weather-indexed agricultural insurance schemes like those offered by the Nigerian Agricultural Insurance Corporation (NAIC), with subsidized premiums to cushion the impact of climate-related losses.

6. Promote Access to Mechanization: The government should establish more machinery hiring units—providing access to tractors, threshers, and harvesters—in major rice-producing areas. This will support resource-poor farmers, enhance efficiency, and encourage expansion of cultivated land.

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