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CONTACT:
The Editor-in-Chief,
Kebbi Journal of Agriculture and Natural Sciences,
Faculty of Agriculture,
Abdullahi Fodio University of Science and Technology Aliero,
PMB 1144, Birnin kebbi, Nigeria.
Email: kejaanseditor@ksusta.edu.ng,

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About the Journal

This official scientific publication of the Faculty of Agriculture, Abdullahi Fodio University of Science and Technology Aliero, is a non-profit, open access, double-blind peer-reviewed Journal publishing four issues (January, April, July and October) per annum. The Journal is a platform open to collaborations with researchers, authors, institutions, research agencies and private companies related to Agriculture. The Mission of the Journal is to disseminate scientific knowledge through the publication of original research articles, research notes, book reviews, letters to the editor and reviews of Literature, representing a contribution to scientific and technological knowledge in respective areas covered by the Journal. The Kebbi Journal of Agriculture and Natural Sciences seeks to validate and disseminate new knowledge, making it public in order to strengthen the human capacity, constitute a link in the scientific community to the society and encouraging the expansion of University and academic researches.

Scope of Kebbi Journal of Agriculture and Natural Sciences (KEJAANS)

The Kebbi Journal of Agriculture and Natural Sciences has the sole aim of providing an intellectual platform and ideas for scholars, by promoting interdisciplinary studies related to agriculture and natural science through publishing the latest scientific research findings that are of direct policy implications and beneficial to the research community. Consequently, the journal covers all aspects of Crop Science, Animal Science, Agricultural Economics, Agricultural Extension and Rural Development, Food Science, Fisheries and Aquaculture, Biotechnology, Soil Science and Agricultural Engineering, Forestry and Environment, Wildlife, Agricultural Education, Agro-allied Industries as well as all Natural Science researches related to Agriculture.

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EFFECTS OF FADAMA III PROJECT ON LIVELIHOOD ACTIVITIES OF SMALL-HOLDER FERMERS IN KEBBI STATE, NIGERIA.

Aminu Yahaya Sanda[1], Shehu Usman Hassan[2] and Abdussalam Adamu Jega[2]

Department of Agricultural Economics and Extension, Faculty of Agriculture, Federal University of Agriculture Zuru, Kebbi State, Nigeria[1].Department of Agricultural Economics and Extension, Faculty of Agriculture, Kebbi State University of Science and Technology Aliero, Nigeria[2].

ABSTRACT

The study was conducted to examine the effects of Fadama III additional funding (AF) project on livelihood activities among smallholder farmers in Kebbi state, Nigeria. A multistage sampling procedure was used to randomly select 180 participant farmers to constitute the sampling size for the study. Primary data and secondary source of information were used and the data were collected with the aid of structured questionnaire. Descriptive statistic like frequency, percentage and mean score were used to analyze the data, The result revealed that 45.1% of farmers were within the age bracket of 31-50 years, with the mean years of 45.6. Majority of participant farmers representing 67.2% were males while 32.8 were females. A total of 43.9% of the participant farmers had 6-10 members in their household, and the average household size was 12.2 members. It was revealed in the result that greater proportion of 31.6% of participant farmers had 11-20 years of farming experience and the average farming experience of 22.1. About 86% have been involved in Fadama membership for 6-15 years, with average membership years of 10.9. The result also revealed that the major livelihood activities engaged by respondents were crop production, animal rearing, poultry production, non-farm activities and agro- processing. However some problems were encountered by the respondents. The study recommended that there is need for Fadama participants to have access to credit as financial assistance from Fadama project cannot meet their demand for inputs, various stake holders including farmers should be involved in planning, execution, monitoring and evaluation of the programme, and the programme should be sustain.

Keywords: Fadama III Project,, Livelihood Activities, Smallholder farmers,

Introduction

The National Fadama Development Project (NFDP) was established to guarantee all-year round growing of crops and promotion of simple and low-cost improved irrigation under a World Bank financing. Food crops grown on the Fadama include rice, leafy vegetables, okra, maize and other crops including root and tuber. Fadama projects aim at reducing poverty by increasing farm productivity and income of farmer participants (Bello, 2008). The projects so far (NFDP I and NFDP II) were adjudged successful by both national and international assessors culminating in Federal Government of Nigeria requesting the World Bank for implementation of the third National Fadama Development Project (NFDP III) (Ezeh,2007 and Ike, 2012). The scope of the Third National Fadama Development Project (NFDP III) was extended to involve all 36 states in the federation and the Federal Capital Territory (FCT) as a tripartite funded intervention of the World Bank, the Federal Government of Nigeria and participating States. Funding is by

World Bank contributing 55.6%, Federal Government of Nigeria, 5.1%; participating States and Local Governments contributing 17.1% and 8.9% respectively.

The World Bank had provided the sum of $200m US Dollars for Nigeria Fadama III project as at August 2013 (World Bank, 2013). The NFDP III is aimed at sustainably increasing income of beneficiary groups such as Fadama Users Groups (FUGs) and Fadama Community Associations (FCAs) in all the states, by directly delivering resources to them, empowering them to take decisions collectively on how to effectively and efficiently allocate and manage resources for their livelihood activities (Osondu et al., 2014). By doing this the project would help reduce rural poverty, increase food security and contribute to the achievement of a key millennium development goal. The project which started from July 2008 and has an end line to June 2013 has been extended to 2017, and ended in December 2017. The programme strategy included investing in public infrastructure, asset acquisition using matching grants and advisory services on best ways of improving group management mechanisms to avoid and resolve conflict(s) within participating groups (FMARD, 2003).

It is worthy of note that the desire to harness the verse potentials of Fadama in Nigeria culminated in the design of National Fadama Development Projects I, II, III and then Fadama III – Additional Financing. Fadama III Additional Financing, which was an extension of Fadama III, aimed at sustaining an increase in the income of users of rural land and water resources (Agunloye, Fasina, and Akinnagbe, 2017). The project was to scale up the impacts and the development effectiveness of a well-performing project by aligning it more closely with the new Agricultural Transformation Agenda, which was adopted by the Government of Nigeria in 2011. The project has been consistent with the development objective of the parent project and as such, no major changes were made to the Project Development Objective, design or implementation arrangements of the original project. Nevertheless, the main difference is that instead of national coverage as in the case under the parent project, the AF had a narrow geographical focus on clusters of farmers in selected states with comparative advantage and high potential to increase production and productivity of cassava, rice, sorghum and horticulture value chains and link them to better-organised markets. (NFCO, 2018; Dayo, Olumuyiwa, Yarama, Malomo and Ekong, 2018)

The concept of livelihood and sustainable livelihood framework has become an integral part of rural development and poverty reduction in recent times. Rural livelihoods are composed of the activities that provide the means of household survival and long-term well-being (Stephen and Lenihan 2010). The further stated that state that livelihood strategies may be classified into natural resources-based activities (e.g. collection and gathering, cultivation, livestock-keeping, etc) and non-natural resources based activities (e.g. trade, services, remittances). The livelihoods framework is founded on a belief that people require a range of assets to achieve positive livelihood outcomes. Assets require investments of time and money in order to be acquired or create livelihoods resources. Different households have different access to livelihood assets, which the sustainable livelihood approach aims to expand. Changes in the portfolio of assets, their productivity and the extent to which households have access to them are the attributes that are critical in determining livelihood diversification and ultimately household welfare (Dorward et al., 2003).

Small scale farmers constituted 90% of Nigeria's agricultural output (Ayinde et al, 2020) while the majority of such farmers are not able to feed themselves and other relatives. The low productivity is mainly as a result of fragmented land holdings, over a reliance on rain-fed agriculture, climate change, low access to input and poor economic base. Small-holder agriculture involves about 95% of Nigerian farmers, while the corporate and government supported large-scale farms account for the 5 percent. However, efforts in promoting agriculture in the country prioritize the 5%, possibly due to their alliance and proximity to government agencies, thereby giving less attention to the greater percentage of the farming population. Small-holder farming system characterizes Nigeria's food production system. The system is operated on small farms, family-owned, rented, or leased as a dominant form of agriculture. Small-holder farmers constitute a significant proportion of farm holdings in Nigeria and have continued to feed the nation and its people, but the system receives inadequate support and improper attention from government (Sabo et al., 2017). Although, concerted efforts have been made by past and present governments of Nigeria towards improving agricultural productivity and production efficiency and in alleviating poverty among the rural farmers, millions of people in Nigeria are still poor and hungry (Simonyan et al., 2010). Studies have been carried out in different parts of Nigeria and on different aspect of the impact analysis of the National Fadama Development Project. For example, Bajoga et al, 2006, Adeoye et al 2011 and Ugwumba and Okechukwu, 2014) etc, showed that a lot of studies have been conducted on Fadama development project on the living standard of dry season farmers, small-scale farmer's income, poverty alleviation among farmers, rural infrastructure and profitability of farmers, FUGs mid-term performance of the programme, poverty and food security among rice farming beneficiaries in Nigeria. But majority of these studies were conducted on Fadama I and II while few of them were on Fadama III, and this create a gap. Thus, this current study is determined to fill the gap as it is focus to determine the effects of Fadama III on livelihood activities among small holder farmers in kebbi state. Therefore, the need to evaluate and validate this claim became necessary and this necessitated this study, Hence, the study seeks to determine the socio-economic characteristics of Fadama III AF participating farmers, identify the livelihood activities engaged by the participating farmers and identify the problems faced by the participating farmers.

Research Methodology

Description of the Study Area

The research was conducted in Kebbi state. It lies in north western region of Nigeria with its capital in Birnin kebbi. Based on projection from 2006 census figure, kebbi state is estimated to have a population of 4, 629,880 (NPC, 2006: projected to 2017). Kebbi state is made up of 21 local government area (LGAs). It has four (4) emirate councils (Gwandu, Argungu, Yauri, and Zuru) and has four (4) agricultural zones namely Agungu, Bunza, Yauri and Zuru zones respectively, for ease of administration. Kebbi state falls between latitude 12 46N and 12 27N and longitude 4 19E and 4 11E. Agriculture is the main occupation of people of the state especially in the rural areas. Crops produced are mainly grains like rice, millet, sorghum etc. The weather of the state is often dry with lots of sunshine. The wet season last from May to October, while the dry season lasts for the remaining period of the year. Mean annual rainfall is about 800mm-1000mm. Temperature is generally high with mean annual temperature of about 26 C and above in

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all location of the state. This climatic peculiarity allows for meaningful investment in agriculture.

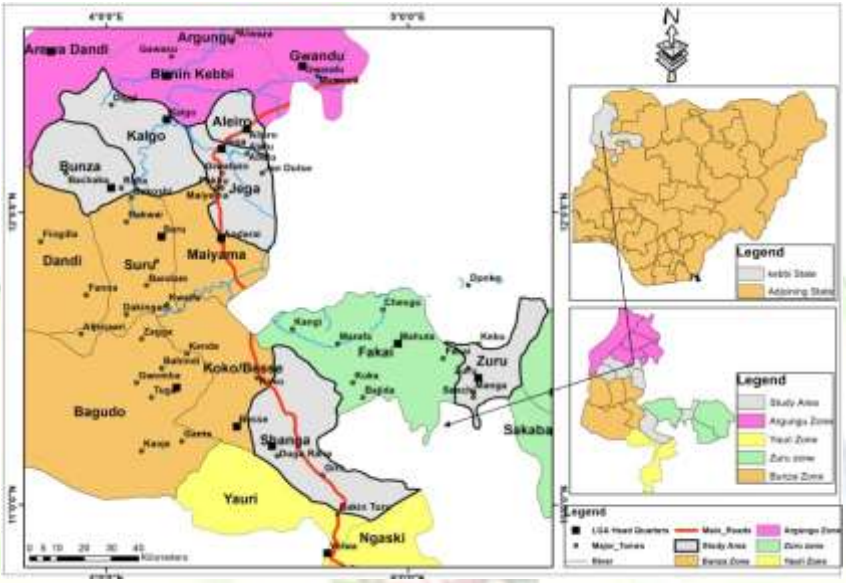

Figure 1. Map of the Study Area
Source: Cartography Lab Geography Depatent UDUS(2021)

Sampling Technique and Sample Size

The study sample was drawn from rural communities in Kebbi State. The population of this study comprises of Fadama III participanting farmers in Kebbi State, Northwest of Nigeria. Kebbi State is divided in to four (4) Agricultural Zones (Emirate Councils) namely: Gwandu (Bunza) Zone, Argungu Zone, Zuru Zone, and Yauri Zone. Selection of sample for the study was done using multi-stage sampling technique. At the first stage, Proportionate sampling was used in each of the agricultural zones to select a total of six (6) local government across the state using 30%, considering the variation and disparity in number of local governments in agricultural zones. (Number of local governments divided by 100 multiplied by 30 to arrive at number of local government). At the second stage, Purposive sampling was employed to reach out to the targeted Fadama participating farmers, where one cluster was randomly selected from each local government as sampling frame. At the third and final stage, a simple random selection of thirty (30) Fadama III participating farmers from each selected cluster was done, giving a sample size of one hundred and eighty (180) Fadama participating farmers.

Method of Data Collection

Both primary and secondary data was used for the study. The primary data for the study was gathered through field survey with the use of a structured questionnaire designed in line with the objectives of the study. The secondary information includes those sources from journals, bulletins and other literature materials from the internet etc. The questionnaire for the study was used to collect information on: socio-economic characteristics of Fadama III participating

farmers, activities engaged in by the Fadama III participating farmers, and problems faced by Fadama III programme participating farmers.

Method of Data Analysis

Data analysis was carried out using descriptive and inferential statistics to analyse the data generated using SPSS version 20. Descriptive such as frequency distribution, percentages, mean as well as mean weight were used to analyse the data in the table, this was used to describe the socio-economic characteristics of the Fadama III AF participating farmers, livelihood activities engaged in by the Fadama III AF farmers as well as the problems faced by Fadama III AF farmers in the study.

Research Hypotheses

In order to provide empirical bases for relationship that exist between the variables of this study, the following hypothesis were set in null form.

Ho1 Fadama III AF programme farmer's socio economic characteristics has no significant effect on livelihood activities of participants in the study area.

Results and Discussion

Socio-economic Characteristics of Respondents

This section described the socio-economic characteristics of the Fadama III AF Farmers in the study area. These characteristics include age, gender, marital Status, household size, level of education, farming experience, farm size, years of FUG membership, secondary occupation and income (Table 1a, !b and 1c).

The result of the study shows that the minimum age of the participant farmers in the study area was 25 years and the maximum age was 72 years with the mean age of 45.75 years. Majority of the participants farmers 67.2% were male, and 84.4% of the participants were married. All farmers had one form of formal education. The mean household size was found to be 12.2 person per household. The minimum and maximum farming experience of participants farmers were 4 and 52 years with mean of 22 years farming experience. The result shows that the minimum and maximum years of membership involvement to Fadama III user groups were 2 and 15 years, with the mean years of 10.9. The minimum and maximum hectares cultivated by the participant farmers before and during the programme were 1 and 5 hectares with mean of 2.6 hectares, and during the programme the minimum and maximum hectares were 1 and 5 with mean of 3.5 hectares. The distribution according to farm size indicate that the Fadama III farmers were made up of small and medium scale farmers. The minimum and maximum of farm income of farmers before the programme was N50,000 and N4,500,000 with mean of N689,794.4, also during the programme the minimum and maximum farm income was N50,000 and N10,000,000 respectively, with the mean of N1,560,816.7. The result indicated that the Fadama III participants had higher income during the programme than before in the study area. The major secondary occupation apart from farming among the participants farmers in the study were trading 42.2%, livestock rearing 26.1% and civil service 13.9%.

Table 1a : Socio-economic characteristics of Fadama III AF participating farers (N=180).

Variables	Frequency	Percentage	Mean	S.D
Age				
20-30	31	17.3	45.75	12.34
31-40	40	22.2		
41-50	41	22.9		
51 years and above	68	37.9		
Total	180	100		
Gender				
Male	121	67.2		
Female	59	32.8		
Total	180	100		
Marital Status				
Single	12	6.7		
Married	152	84.4		
Divorced	10	5.6		
Widow	6	3.3		
Total	180	100		
Level of Education				
Arabic Education	31	17.2		
Adult Education	24	13.3		
Primary Education	21	11.7		
Secondary Education	54	30.0		
Tertiary Education	50	27.8		
Total	180	100		
Variables	Frequency	Percentage	Mean	S.D
Age				
20-30	31	17.3	45.75	12.34
31-40	40	22.2		
41-50	41	22.9		
51 years and above	68	37.9		
Total	180	100		

Source: Field Survey 2022

Table.1b: Socio-economic characteristics of Fadama III AF participating farmers (N=180).

Variables	Frequency	Percentage	Mean	S.D
Farming Experience				
1-10	36	20	22.1	11.4
11-20	57	31.6		
21-30	46	25.7		
31-40	37	20.7		
41 and above	4	2		
Total	**180**	**100**		
Years of FUG Membership				
1-5	24	13.4	10.9	3.84
6-10	62	34.4		
11-15	94	52.2		
Total	**180**	**100**		
Secondary Occupation				
Crop farming	26	14.4		
Livestock rearing	47	26		
Civil servant	25	13.9		
Trading	76	42.2		
Artisan	5	2.8		
Others	1	0.7		
Total	**180**	**100**		

Source: Field Survey 2022

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Table.1c: Socio-economic characteristics of Fadama III AF participating farmers (N=180).

	Before Fadama III AF		After Fadama III AF	
Income	Frequency	Percentage	Frequency	Percentage
50,000-1,000,000	149	83	114	62.7
1,000,001-2,000,000	25	13.4	24	13.6
2,000,001-3,000,000	3	1.8	16	9
3,000,001-4,000,000	2	1.2	11	6.2
4,000,001 and above	1	0.6	15	8.5
Total	180	100	180	100
	Before Fadama III AF, Mean 689,794.4		After Fadama III AF,Mean 1,560816.7	
Farm size (hectares)				
0-1.0	56	31.1	9	5.0
1.1-2.0	46	26.2	43	23.9
2.1-3.0	15	8.3	40	22.2
3.1-4.0	30	16.3	13	7.2
4.1 and above	33	18.1	75	41.7
Total	180	100	180	100

Source: Field Survey 2022.

Distribution of Respondents Based on Livelihood Activities.

The result presented in Table 4.5 which was recorded in multiple response revealed that all the participating farmers were engaged in one form of livelihood activity or the other with very few engaging in agro forestry (9.4%) and fishing (31.1%). The commonly observed livelihood activities in which the participating farmers were engaged include crop production, animal rearing, poultry production, agro-processing and non-farm activities. The result indicates that (100%) of the participating farmers were engaged in crop production which was ranked first, (93.9%) were found to engage in animal rearing and it was ranked second, (87.2%) were involved in poultry production and it was ranked third, (86.7%) were engaged in non-farm activities due to capital provided to them by the project and it was ranked fourth, and (41.1%) were into agro-processing which was ranked fifth. The result of the study implies that most of the participating farmers were engaged in agricultural related activities (crop production, animal rearing, poultry etc) and non- farm activities (civil servant, trading, tailoring, artisan etc). According to CTA (2004), diversifying income sources helps to minimize risk among farmers, and one single activity does not provide the income needed as such agricultural activities needs to be incorporated with non-farm income-generating activities that require relatively working capital.

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Table 2. Distribution of Respondents Based on livelihood Activities.

Variable	Frequency	Percentage	Ranking
Crop production	180	100	1st
Animal rearing	159	93.9	2nd
Fishing	56	31.1	6th
Poultry	157	87.2	3rd
Agro-processing	74	41.1	5th
Agro-forestry	17	9.4	7th
Non-farm Activities	156	86.7	4th

Multiple Response Recorded*

Distribution of Respondents Based on Problems Faced by Fadama III AF Participating Farmers.

The result in Table 4.6 shows that the responses of Fadama III programme participating farmers were analyzed on a 5 point scale with weighted mean of 3.0, where any variable ≥ 3.0 was considered as a problem while variables < 3.0 ware considered as not a problem. The most challenging problems faced by Fadama III participants farmers in the study area were the problems of high cost of farm inputs (50.6%), late arrival farm of farm inputs (95.0%), inadequate information dissemination (60.8%), high risk and uncertainties (87.8%), non-availability of credit facilities (88.9%), incidence of pests and diseases (84.4%), late disbursement of credit facilities (91.7%) and inadequate extension staff (75.0%). The implication is that these problems had negative effects on the productivity and food security status of the respondents. These problems could affect farmer's level of commitments and the adoption of new technology being provided to them through Fadama III programme in the study area.

The problem of high cost of farm inputs and late arrival of farm input could discourage many farmers from participation in the programme. Farm inputs supply to the farmers serves as an incentive to the farmers, farmers will engage more when they are sure of being supplied with farm inputs while participating in the programme. Also, inadequate extension staff/personal alongside inadequate information dissemination when the need arise will limit the ability of a farmer to tackle his immediate challenges so as to increase the level of production. According to Onyemauwa (2005), shortage of Fadama staff will affect the rate of response of farmers to any challenge they face in trying to adopt new farming technologies introduced to them through the Fadama III programme and these will translate into low productivity on the part of farmers. Inadequate information dissemination will affect the easiness with which a farmer would relate his/her problems to the Fadama personnel/extension staff and get the expected feedback as quickly as possible. The inability of farmers to communicate their problem effectively will translate to low productivity, and also will affect the ability of the farmers to learn new technologies and to brainstorm for solution for these most pressing needs. According to Ibeagwa (2011), irregular meeting of farmers with Fadama III personnel affects the rate of exchange of ideas among the

farmers and between the farmers and the programme personnel for increasing the productivity of the farmers.

Non-availability and late disbursement of credit facilities will hinder most farmers from making huge investments in their farming business or adopting costly technologies It will also affect most farmers from purchasing sufficient farm inputs and to finance their farming business. Ogbe, (2009) noted that the larger the size of farm the larger the scale of farming operation and hence the higher the demand for funds to meet up the scale of operation. This assertion was supported by Nnamerenwa (2012) who noted that lack of funds affect the willingness of an individual to make investment and set up any enterprise. This will hinder the participating farmers from expanding their farm business away from subsistence level.

High risks and uncertainties are inevitable situations. Farming is risky, farmers in the area live with risks and make decision every day that affect their farming operations. Many of the factors that affects farmer's decision cannot be predicted with 100 percent accuracy, weather conditions changes, price and the time of harvest could drop, hired labour may not be available at peak times, machinery and equipment could break down when most needed, government policy can change overnight. All these changes are example of risks that farmers face in managing their farms business, which affect their farm profitability.,FAO, (2013)

Also from the table it was revealed that inadequate capital (57.8%) , problem of marketing farm produce (61.2%), non-involvement of farmers in decision making (74.2%) , non-involvement of farmers in the planning of the programme (55.6%), non-involvement of farmers in programme evaluation (74.4%) , inadequate monitoring and evaluation of the programme (78.4%), weak institution and inadequate logistics (73.4%) strongly disagree with these challenges.

Investigation during the study revealed that the participants were given financial grants, input support and infrastructural development by the Fadama programme. Inputs such as seeds, fertilizers, chemicals etc; assets such as sprayers, power tillers grinding machines, oil extraction machine etc. and met infrastructural development such as market stalls, stores, feeder roads, culverts, and even guest houses were provided,(NFDO, 2007). Rural infrastructure support the creation of economic infrastructure and local public goods to improve the productivity of Fadama user households. Investigation from the result revealed that the participating farmers were involved in every milestone of the programme and were adequately coordinated with the resources to the desired direction.

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Table 3 : Distribution of Respondents Based on Problems Faced. (N = 180

SN	Problems	Strongly agree freq. %	Agree freq. %	Undecided freq. %	Strongly disagree freq. %	Disagree freq. %	Mean score	Std. dev.	Ranking
1	Inadequate capital	70(38.9)	6.(3.3)	-	4(2.2)	100(55.6)	2.6778	1.93658	9th
2	High cost of farm inputs	91(50.6)	2(1.1)	3(1.7)	5(2.8)	79(43.9)	3.1167	1.95558	8th
3	Late arrival of farm inputs	171(95.0)	5(2.8)	-	1(06)	3(1.7)	4.8889	.57789	2nd
4	Inadequate information dissemination	78(43.3)	30(16.7)	13(7.2)	10(1.1)	49(27.2)	3.4333	1.69488	7th
5	High risk and uncertainties	158(87.8)	14(7.8)	3(1.7)	4(2.2)	1(.6)	4.8000	.62891	4th
6	Non availability of credit facilities	160(88.9)	14(7.8)	4(2.2)	1(.6)	1(.6)	4.8389	.53025	3rd
7	Late disbursement of credit facilities	165(91.7)	11(6.1)	-	2(1.1)	1(.6)	4.9389	.48150	1st
8	Incidence of pest and diseases	152(84.4)	19(10.6)	2(1.1)	1(.6)	6(3.3)	4.7222	.81230	5th
9	Problem of marketing farm produce	54(30.0)	14(7.8)	2(1.1)	19(10.6)	91(50.6)	2.5611	1.79747	11th
10	Inadequate extension staff	32(17.8)	103(57.2)	6(3.3)	10(5.6)	29(16.1)	3.55000	1.30069	6th
11	Non-involvement of farmers in decision making	24(13.3)	7(3.9)	-	15(8.3)	134(74.4)	1.7333	1.42836	14th

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Table 3 : Distribution of Respondents Based on Problems Faced. (N = 180 … (continued)

SN	Problems	Strongly agree freq. %	Agree freq. %	Undecided freq. %	Strongly disagree freq. %	Disagree freq. %	Mean score	Std. dev.	Ranking
12	Non-involvement of farmers in planning of the programme	32(17.8)	47(26.1)	1(.6)	16(8.9)	84(46.7)	2.5944	.66696	10th
13	Non-involvement of farmers in programme evaluation	20(11.1)	9(5.0)	-	17(9.4)	134(74.4)	1.6889	1.36308	15th
14	Inadequate monitoring and evaluation of the programme	15(8.3)	14(7.8)	10(5.6)	14(7.8)	127(70.6)	1.7556	1.33128	13th
15	Weak institution and inadequate logistics	15(8.3)	15(8.3)	18(10.6)	12(6.7)	120(66.7)	1.8500	1.35562	12th

Grand mean (x) 3.27 Agree
Source: Field survey 2022

Test of Research Hypothesis

Based on result of descriptive statistics on testing the stated hypothesis, the result indicated significant relationship between Fadama III AF project and crop production, animal rearing, poultry production, non-farm activities and agro- processing. Therefore the null hypothesis was rejected Fadama III AF project has no significant effect on livelihood activities of participants in the study area

Conclusion

The study evaluates the effect of Fadama III AF project on livelihood of small holder farmers in Kebbi State. The age, educational level, income, household size, farm size, membership to FUG, year of farming experience were major factors (socio-economic characteristics of the farmers) that influence farmers livelihood. The livelihood activities engage in by participants farmers, identified were crop production, animal rearing, and poultry production, agro-processing and non-agricultural activities.

In the same vein majority of the challenging problems faced by the Fadama III participating farmers were found to include:- late arrival of farm inputs, non availability of credit facilities, late disbursement of credit facilities, high risk and uncertainties, incidence of pest and diseases, inadequate extension staff and inadequate information dissemination,

Recommendations

Based on the findings of this research, the following recommendations are made to improve the food security status in the study area.

i..Government should provide adequate funds for the projects, timely disbursement of farm inputs as well as providing quality extension service delivery to further strengthen the existing positive attitude of the farmers towards Fadama project. This will enhance the adoption of policies and programmes among farmers.

ii. There is need for Fadama III participants to have access to credit as financial assistance from Fadama project cannot meet their demand for inputs.

iii. All stakeholders including farmers should be involved in planning execution, monitoring and evaluation of the programme.

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