

**DETERMINANTS OF LEVEL OF PARTICIPATION OF RICE FARMERS  
IN GROUP ACTIVITIES IN FADAMA III AF IN ANAMBRA STATE,  
NIGERIA**

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**ABSTRACT**

The study accessed the level of participation of rice farmers in group activities in Fadama III AF in Anambra State, Nigeria. The study evaluated the rice farmers participation at different stages of the project development; sources of information, level of participation of the respondents in the project; the effects of some socio-economic characteristics on their level of participation in groups; and identify constraints faced by the respondents. A multistage random sampling technique was employed in selecting 120 respondents for the study. Primary data were collected through the use of structured interview schedule. Descriptive and inferential statistics were employed as analytical tools for the study. The result revealed that majority (98.33%) and (83.33%) were highly involved in project implementation and identification respectively. Greater proportion (28.33%) sourced their information on Fadama III AF through radio, indicating a gap in facilitators and extension delivery systems which calls for intensified efforts. Also the result showed that except in project monitoring and evaluation, the rice farmers were highly involved and committed in the ideologies of Fadama III AF. The regression analysis on the determinants of rice - farmer in group activities in the project indicated that some variables considered were positively correlated and significant at 1% for household size and 5% for educational level and extension contact respectively. The study identified constraints faced by the rice - farmers in group activities in Fadama III AF to include, untimely disbursement of farm inputs; lack of credit facilities, high cost of production, and high counterpart contribution from the beneficiaries. The study suggest the encouragement of the farmers to maintain regular and active participation in projects initiated by government. Government should ensure timely provision of farm inputs and at affordable rates as well as accessibility of credit facilities by the beneficiaries.

**Keywords:** participation, rice-farmer, group activities, fadama III AF

## **INTRODUCTION**

Agricultural development in Nigeria is undoubtedly a major tool in the development of the sector. This is because “the state of agriculture in the country is however that of enormous untapped potentials as attested to by the percentage of uncultivated arable land and wasting irrigable land mass” (Omotesho and Ogundele, 2016). Ammani, Auta, and Aliyu (2010) succinctly observed that the poor level of commercialization of agriculture, small and fragmented nature of farm lands as well as continued dependence on family labour, are high evidences of the resource – poor nature of the average farmer in Nigeria. Etwire, Wiredu, Martey, Etwire, Owusu and Wahaga (2013) opined that the performance of agricultural sector has a direct bearing on the livelihood, environment, poverty and malnutrition of the populace. They further stated that to enhance the performance of the sector, specifically the performance of agricultural projects, there is the need to identify factors which hinders farmers participation in agricultural projects.

Fadama III Additional Financing (Fadama III AF) came on board as a result of successes recorded by fadama 1, II and III projects to meet the urgency of the Agricultural Transformation Agenda (ATA) of Federal Government of Nigeria, as well as build on the existing well performing implementation arrangement of fadama III project (Anambra State coordinating office Awka (ANSCOA), 2017). Fadama III AF has the development objective of increasing the income of the farmers in the prioritized staple crop processing zones (SCPZS) on a sustainable basis. The main difference between Fadama III and Fadama III AF is that fadama III AF have a narrow geographical focus on farmers who operate within the catchment of the selected SCPZs and other production clusters but only concentrating on production and farm gate processing of cassava, rice, sorghum and horticulture (ANSCOA, 2016). Thus, it hopes to improve the inherent rural poverty level of the small-scale farmers and increase food security, as well as contribute to the achievement of the Millennium Development Goals (MDGs).

Idris (2013) observed that fadama III AF, adopts a demand-driven approach whereby all the users are encouraged to develop participatory and socially-inclusive local development plans to be approved and financed by the implementing agency. However, in Nigeria whenever positive development programme is introduced, it often does not stand the test of time as soon as the external support ceases (Muhammad, Umar, Abubakar and Abdullahi, 2011). This is evident from various programmes sponsored by foreign agencies such as Agricultural Development Programme (ADP), International Fund for Agricultural Development (IFAD) among others. This calls for people-oriented programme, where intervention is adequately designed to improve the existing needs of the people that should begin and end with targets of change among the beneficiaries.

The term “farmer-groups, farmers’ association, and farmers’ cooperatives have been used interchangeably by various authors to describe group of farmers that share common interests and come together to share experiences” (Asante, Sefa, and Sarpong, 2011). Omotesho and Ogundele (2016) stated that being a member of farmer-group helps small-scale farmers in enjoying economies of scale in production, processing, transportation and marketing of their products.

Participation according to Nxumalo and Oladele (2013) “is the involvement of individuals and groups in development processes with the aim of ensuring self-reliance and better standard of living”. This shows that there is a relationship between farmer’s participation in a project and economic development and poverty alleviation, hence without, there will be no development. According World Bank (2014) participation is the process through which stakeholders influence and share control over priority setting, policy making, resource allocations and access to public goods and services. This is an indication that individual’s participation in farmer-group activities is very important in the realization of group goals and objectives.

In spite of the numerous advantages inherent in group activities, participation of farmers in groups has not received adequate recognitions, especially in many rural areas in developing countries as observed by (Nwaobiala, Ogbonna and Egbutah, 2014). Poor participation of farmers may be one of the factors responsible for the failure of some projects initiated by government. Thus, awareness of the level of participation of farmer-groups will provide an insight for extension and policy makers in strengthening the existing farmer-groups and their participation in a project. In order to address the determinants in respect of farmer-group participation in Fadama III AF, the study was designed to assess the respondents participation at different stages of project development; identify sources of information of the respondents; ascertain the level of participation of the respondents; estimate the influence of some selected socio-economic variables on their level of participation in groups; and identify constraints faced by the respondents in group activities in Fadama III AF in the study area.

## **METHODOLOGY**

The study was conducted in Anambra State, Nigeria. The state has an estimated population of 4,182,032 and occupies an average land mass of 4.416 square kilometers. The state is located between latitude  $6^{\circ}45^{11}$  and  $5^{\circ}44^{11}$  N and longitude  $6^{\circ}36^{11}$  and  $7^{\circ}29^{11}$  E. (National population commission (NPC), 2006). Agriculture is the predominant occupation in rural areas in the State, engaging more than 70 percent of the rural population. The major crops cultivated are yam, cassava, rice, Okro, maize, cocoyam, plantain/banana, oil palms, beans and leafy vegetables (Nenna, Ugbajah and Ugwumba, 2012). Anambra State has four agricultural zones namely; Aguata, Anambra, Awka and Onitsha. It has 21 extension blocks and 177 circles or town

communities. Anambra State is among the selected six pilot States benefiting in Fadama III AF. The major rice producing areas of Anambra State that are participating in Fadama III AF within the 50 kilometer radius of the staple crop processing zones (SPCZs) are Anambra East, Anambra-West, Awka-North, Ayamelum, Orumba-North, Orumba-South and Ogbaru Local Government Areas (LGAs). Anambra State Fadama III AF has 79 production clusters formed and registered, comprising 473 production groups registered. These groups were made up of 4,720 rice farmers, comprising 1,985 (42.1%) adult males, 1,418 (30.0%) adult females and 1,317 (27.9%) youths (ANSCOA, 2017).

The population for the study comprised all rice based farmer-groups in Fadama III AF in the study area. The study focused on rice farmer-groups in order to maintain homogeneity in the nature of activities of the respondents. A multi-stage random sampling techniques was employed in the study. The first stage involved random selection of two agricultural zones of Awka and Aguata. The second involved random selection of one block from Awka and too from Aguata Agricultural Zones, giving a total three blocks. The selection was informed of the intensity of rice based farmer-groups involved in Fadama III AF in the area. The third stage involved random selection of two production clusters from the three selected blocks, giving six production clusters. The fourth stage involved random selection of two production groups from the six selected production clusters, giving a total of 12 production groups (one production groups consists of 10 rice farmers). The 12 production groups, yielded 120 rice farmers for the study. The data for the study were collected from primary sources, using structured interview schedule. In the analysis of data collected, descriptive and inferential statistical tools were employed.

To access the respondents participation at different stages of project development and identify their sources of information, frequencies and percentages were used. To ascertain the participation of the respondents in fadama III AF, a list of possible statements which depict level of involvement of the rice farmers in group activities was posed at the respondents on 4 points liket-scale on the degree of their involvement. The responses were rated as highly involved = 4, involved = 3, occasionally involved = 2, and not involved = 1. The mean score of 2.5 was adopted as a measure of the level of involvement in the project activities.

To identify the constraints faced by rice farmer-groups activities in fadama IIIAF, a list of possible constraints was presented to the respondents on a three points likert-scale on the degree of seriousness of the problems, hindering them from full participation in rice production activities. The response categories are very serious = 3; serious = 2; and not serious = 1. The mean score of 2.0 was adopted as the measure of the level of constraint on their group activities in Fadama III AF project.

Multiple regression analysis was used to estimate the factors influencing rice farmers' level of participation in group activities in the project. The explicit form of multiple regression model was given as:

$$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, \dots, \epsilon_1)$$

Where,

Y = Rice farmers' level of participation in group activities

X<sub>1</sub> = Age of the rice farmers measured in years

X<sub>2</sub> = Sex measured as dummy variable, male = 1, otherwise 0

X<sub>3</sub> = Marital status dummy variable, married = 1, otherwise 0

X<sub>4</sub> = Educational level. Number of years spent at school.

X<sub>5</sub> = Farm size measured in hectares (Ha)

X<sub>6</sub> = Farming experience measured as number of years spent in farming

X<sub>7</sub> = Annual income measured in naira (₦)

X<sub>8</sub> = Access to training, number of times attended training in a year.

X<sub>9</sub> = Extension contact, number of extension contact in a year

## **RESULTS AND DISCUSSION**

### **Rice Farmers' Participation in Group Activities in Project Development Stages.**

Participation concerns the involvement of individuals and communities in decisions about things that affect their lives. The result in table 1 showed that participation of rice farmers in group activities took different forms at different stages in the development and execution of fadama III AF project in Anambra State, Nigeria. The result revealed that majority (98.3% and 83.33%) of the respondents were highly involved in the project identification and implementation respectively. This may not be unconnected with the fact that it is the duty of the rice farmers to identify within their decision what area to cultivate rice, to give them the maximum yield, to enhance their living standard. This is in line with the observation of Muhammad, Umar, and Abdullahi (2011) that farmers were highly involved in identification and prioritizing of problems as well as implementation of chosen projects. The result also indicated that the participation of the respondents were low for project evaluation (7.50%), decision making (6.67%), and monitoring (4.17%). This is not surprising as most projects' decisions making, monitoring and evaluation are carried out mainly by the project officials with little or no consultation with the beneficiaries.

**Table 1: Distribution of the respondents in group activities in project development stages.**

<b>Stage of project development</b>	<b>Percentages (%)</b>
Project identification	98.33
Decision making	6.67
Implementation	83.33
Monitoring	4.17
Evaluation	7.50

Source: Field Survey, 2017

Multiple responses recorded.

### **Sources of Information**

The results of the rice farmer's sources of information on fadama III AF are as shown in table 3. The result showed that radio (28.33%) was the major source of information. This could be as a result that majority of the respondents had radio within their disposals as well as wide coverage of radio as mass media channel of information flow. However, this is a dearth on the project facilitators. This is because the facilitators according to the design of the project are expected to live within the areas selected for the project and should be able to interact and inform people around, the recent development with regards to Fadama III AF initiative and its benefits as observed by (World Bank, 2008). They facilitators are also expected to guide the fadama III AF beneficiaries to develop local development plan, choose subprojects and provide technical training and market information. Also the position of fellow farmers (25%) and friends (13.33%) as the second and third major sources of information among the participants, indicates a gap in extension service delivery system, which can be increased through extension efforts. Another possible explanation could be that the level of social participation and interaction among the rice farmers increased their awareness and innovativeness due to group dynamic effects.

**Table 2: Distribution of respondents according to sources of information.**

<b>Source of Information</b>	<b>Percentages (%)</b>
Extension agents	10.00
Radio	28.33
Television	6.67
Fellow farmers	2.500
Facilitators	11.67
Friends	13.33
Newspapers	0.83
Telephone	2.50
Internet	1.67

Source: Field Survey, 2017

**Level of Participation of Rice Farmers in Group Activities in Fadama III AF.**

The level of participation of the respondents in their group activities in rice production under fadama III AF are as presented in table 3. The result showed that out of 14 statements used to access the individual responses on their level of participation, 12 statements showed high level of involvement as their mean scores was above 3.0. This reveals an appreciable level of participation among the respondents in their group activities. The grand mean score of 3.68 also strengthened this position. Also, a close scuriting of the results indicates that except in project monitoring and evaluation, the respondents were highly involved and committed to the ideologies of fadama III AF in increasing the income of the rice farmers and improving their standard of living. The findings corroborates with the results of studies conducted by (Ahmadu, Ahmad and Hamsan, (2012) and Nwachukwu, Okafor, Okafor, and Taiwo (2016) who revealed that beneficiaries participate actively in almost all programmes cycles that centered on their livelihood improvement. Also people freely participate in a programme they directly own, since it gives them the chance of its identification, decision making and implementation as confirmed by respondent's responses (see table 3). This supports the ascertainment made by Kamuiru and Mbwise (2014) that people at the local grassroot level know their needs better than development agencies. It then goes without much asking that needs which are addressed should be those identified by the people and not those imposed on them by the government officials.

**Table 3: Distribution of the respondents on level of participation in group activities in Fadama III AF.**

<b>Group activity</b>	<b>Mean</b>	<b>Decision</b>
Attend meeting regularly	3.83	Involved
Participate in decision making	4.71	Involved
Participate in election of group executives	3.42	Involved
Up to date in financial obligations	4.60	Involved
Involved in group mobilization	3.33	Involved
Participate in training on improved rice production practices	3.50	Involved
Participate in project identification	4.92	Involved
Participate in disbursement of agricultural inputs	4.42	Involved
Involved in conflict mitigation measures among group members	3.10	Involved
Participate in project implementation	4.83	Involved
Participate in project monitoring	1.92	Not Involved
Participate in project evaluation	1.50	Not Involved
Conscious work towards group goals	3.20	Involved
Offer advisory service with respect to productive resources to be provided	4.17	Involved
Grand mean	3.68	

Source: Field Survey, 2017

### **Determinants of Rice Farmer's Group Participation in Fadama III AF**

The results of the regression analysis with regards to the determinants of rice farmers' group participation in Fadama III AF are presented in table 4. The estimated coefficient of all the variables considered, except on age were positively correlated and had influence on rice farmers' level of participation in the project in the study area. The major factors that significantly influenced the farmers' group participation in Fadama III AF were household size (X4), educational level (X5), and extension contact (X9).

With regards to household size, it was positively correlated with the levels of farmers group participation in the project and significant at 1% probability level. This implies that household size has a great role to play in family labour provision in agricultural sector. This suggests that an individual with large household size is likely to be involved and participate actively in project, especially in fadama III AF, where beneficiaries pay 50% of the cost of production while the

remaining is paid by the stakeholders in the programme. Also, Muhammed et al (2011) observed that individuals with large household size are likely to participate in a project because they appeared to have more family burden to contain with, in terms of social and economic service, and therefore need support to meet their family needs. Educational level was also found to have a positive relationship and significant at 5% significance level. This suggests that good level of education, helps farmers to understand the goals and objectives of a project better and quicker than those without good educational backgrounds. This findings supports that of Nnadi and Akwiwu (2008) who observed that good level of education rather increases the likelihood of youth participation in rural agriculture in developing countries, Nigeria inclusive.

The result also indicated that extension contact was positively correlated with level of farmers' participation and significant at 5% probability level. Most development projects partner with agricultural extension service to identify farmers to participate in their projects, hence the likelihood of a farmer being informed and primed to participate in a project increases with extension contacts as observed by (Etwire et al, 2013). This implies that farmers who had access to agricultural extension service are more likely to participate and benefit from an agricultural intervention programme such as Fadama III AF. Also, Nenna (2011) opined that extension services bear great potentials for improving the productivity of natural resources, promoting the right attitude among natural resource managers. The service is equally recognized as an essential mechanism for information delivery and advice as input into modern resource management.

**Table 4: Regression result of determinants of farmers' group participation in Fadama III AF.**

<b>Variable</b>	<b>Coefficient</b>	<b>T-Value</b>	<b>P. Value</b>
Constant	9.735	2.975	1.541
X <sub>1</sub> (age)	- 0.573	- 1.504	0.657
X <sub>2</sub> (sex)	0.785	1.487	0.365
X <sub>3</sub> (marital status)	0.305	1.215	0.461
X <sub>4</sub> (household size)	0.195	0.440	0.041 x
X <sub>5</sub> (educational level)	0.056	2.513	0.001xx
X <sub>6</sub> (farm size)	0.372	1.971	0.473
X <sub>7</sub> (farming experience)	0.519	0.372	0.654
X <sub>8</sub> (annual income)	0.152	1.903	0.537
X <sub>9</sub> (extension contact)	0.065	1.531	0.003 xx

Source: Field Survey, 2017

x = significant at 1%

xx – significant at 5%

**Constraints Faced by Rice Farmers in Group Activities in Fadama III AF.**

The findings in table 5, indicated that a lot of constraints faced the respondents from full participation in Fadama III AF. Amongst the major constraints were untimely disbursement of farm inputs (m=2.83), lack of credit facilities (m=2.73), high cost of production (m=2.52), high counterpart contribution from the beneficiaries (m=2.50), and lack of access to market (m=2.40). This findings gave credence to Girei, Dire, Iliy and Salihu (2014) who observed that “availability and accessibility of inputs for production at affordable cost and at the right time by the farmers improves profitability and reduces risks associated with agricultural production activities”. Evidence from table 5 showed that all the respondents had one constraint or the other to contend with. This implies that more are still needed to be done so as to enable rice farmers under Fadama III AF to overcome their problems that hindered them from full participation in the project.

**Table 5: Distribution of respondents on constraints faced by rice farmers in group activities in Fadama III AF.**

<b>Constraint</b>	<b>Mean (x)</b>	<b>Decision</b>
High counterpart contribution from beneficiaries	2.50	Serious
Land tenure system	2.33	Serious
Untimely disbursement of farm inputs	2.83	Serious
Ineffective of advisory input consultant	1.10	Not serious
Lack of credit facilities	2.73	Serious
Poor mobility for facilitators	0.65	Not serious
Poor experience from past intervention	2.21	Serious
Inadequate government commitment on policies	2.15	Serious
Lack of access to market	2.40	Serious
Conflict between service provider and beneficiaries	1.13	Not serious
High cost of production	2.52	Serious
High cases of credit default	0.02	Not serious
Political interference	0.13	Not serious

Source: Field Survey, 2017

Multiple responses recorded.

**CONCLUSION AND RECOMMENDATION**

Project is a backbone of local development and mainly undertaken to improve the livelihood of the people. However in developing countries, the participatory practice has not yet been cultured

properly as information is hardly disseminated and effective evaluation has not been fully institutionalized to capture the opinions of the real project beneficiaries. Equally, for sustainable economic growth and food security to be a reality, farmers have significant role to play. This will only be achieved through farmers' active participation in programmes and projects initiated by government. This calls for cordial relationship between farmers and government. This is because farmers are the major drivers towards the implementation of programmes while government policies serve as stimulus.

In order to strengthen, the participation of rice farmers in group activities in Fadama III AF, the following recommendation are suggested.

- i. Farmers should be encouraged to maintain regular and active participation in projects initiated by government.
- ii. Government should ensure timely provision of farm inputs and at affordable rates, to enable rice farmers increase their production and productivity.
- iii. Financial institutions should be encouraged to provide financial assistance to farmers in Fadama III AF to enable them to meet up with their counterpart contributions.

## **REFERENCES**

- Ahmadu, S; Ahmad, N; & Hamsan H.H (2012). Perspective on beneficiaries experiences of participation in community based Agriculture and Rural Development Programme in Guba, northern Nigeria, *Asian Journal of Agriculture and Rural Development*. 2 (1): 39-45.
- Ammani, A.A; Auta, S.J; & Aliyu, J.A. (2010) Challenges to sustainability: Applying the problem of tree analysis methodology to Agricultural Development Programme (ADP) system in Nigeria. *Journal of Agricultural Extension*. 14 (2): 35-45.
- Anambra State Coordinating Office (ANSFCO) (2016) A report presented at the 5<sup>th</sup> joint WB/FGN implementation support supervision mission, Awka, Anambra State, Nigeria. 47p.
- Anambra State Coordinating Office (2017). Federal Republic of Nigeria. Third National Fadama Development Project – Additional Financing (Fadama III AF). International borrower mid-term review. Executing Agency. Anambra State Fadama coordinating office, Ministry of Agriculture, Mechanization, Processing and Export, Awka, Anambra State, Nigeria 99p.

- Asaute, B.O; Sefa, V.A; & Sarpong, D.B. (2011). Determinants of small-scale farmers' decision to join farmer based organizations in Ghana. *African Journal of Agricultural Research*. 6 (10): 2273-2279.
- Etwire, P.M; Dogbe, W; Wiredu, A.N. Martey, E; Etwire, E; Owusu, R.K & Wahaga, E (2013). Factors influencing farmers' participation in agricultural project. The case of agricultural value chain mentorship project in the Northern Region of Ghana. *Journal of Economics and Sustainable Development*. 4(10): 36-43.
- Girei, A.A; Dire, B; Iliya, M.M; & Salihu, M. (2014) Assessment of problems associated to Fadama crop farming: An experience of Fadama II beneficiary crop farmers in Adamawa State, Nigeria. *Journal of Agriculture and Veterinary Science*. 7 (1): 18-22.
- Kamuiru, J.K & Mbwisa, H. (2014). Factors influencing community participation in project planning in Kenya: A case study of Mbucana Watie Dam Project. Kiambu country. *The Strategic Journal of Business and Change management* 2 (29): 560-582.
- Idris, O.B. (2013). Fadama III beneficiaries' adherence to project guidelines in Ogun State, Nigeria. *Journal of Agricultural Extension*. 17 (1): 61-68.
- Muhammad, H.U; Umar, B.F; Abubakar, B.Z; & Abdullahi, A.S. (2011). Assessment of factors influencing beneficiary participation in Fadama II project in Niger State, Nigeria. *Nigerian Journal of Basic and Applied Sciences*. 19 (12): 248-252.
- National Population Commission (NPC) (2006). *Census Report*. Abuja, Nigeria.
- Nenna, M.G (2011). The role of extension in technology adoption among rice farmers in Ayamelum Local Government Area of Anambra State, Nigeria. *Journal of Extension Systems*. 27. 30-43.
- Nenna, M.G; Ugbajah, M.O; & Ugwumba, C.O.A (2012) Encouraging farmers' full participation in policy implementation for sustainable agriculture and rural development in Anambra State, Nigeria. *International Journal of Applied Research and Technology*. 1 (6): 35-42.
- Nnadi, F; & Akwiwu, C.D. (2008). Determinants of youth participation in rural Agriculture in Imo State, Nigeria. *Journal of Applied Sciences*. 8 (2): 328-333.
- Nwachukwu, O.F; Okafor, O.P; Okafor, O; & Taiwo; A.O (2016). Effects of Fadama III user groups participation on farmers' income. A case study of selected crop farmers in

Agricultural Zones and Blocks in Anambra State, Nigeria. *International Journal of Community and Computer Studies*. 4 (1): 1-13.

Nwaobiala, C.U; Ogbonna, M.O; & Egburah, E.U. (2014). Assessing level of participation among farmers in IFAD/FGN/NDDC/Community– based Natural Resources Management Programme in Abia State, Nigeria. *Discourse Journal of Agriculture and Food Sciences*. 2 (5): 136-141.

Nxumalo, K.K.S; & Oladele, O.I. (2013). Factors affecting farmers' participation in agricultural programme in Zulu and District, Kwazulu Natala province, South Africa. *Journal of Social Sciences*. 34. (1): 83-88.

Omotesho, K.F; & Ogunlade, 1 (2016). Determinants of level of participation of farmers in group activities in Kwara State, Nigeria. *Journal of Agriculture*. Faculty of Gaziosmanpasa University Zirant Fakultesi Dorgisi. 33. (3): 21-27.

World Bank (2008). Managing land in changing climate: An operation perspective for sub-Saharan Africa. World Bank Mimeo.

World Bank (2014). Participation and Civic Engagement. Retrieved from [http:go.worldbank.org/FKWNE86](http://go.worldbank.org/FKWNE86). Last accessed. March 8, 2018.