Assessment of Rural Women's Involvement in Fadama III Additional Financing Project in Anambra State, Nigeria

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Abstract
The study assessed rural women's involvement in Fadama III – Additional Financing in Anambra State, Nigeria. A multi-stage involving purposive and random sampling techniques were used to select one hundred and twenty (120) respondents used for the study. Primary data were collected through validated structured questionnaire and the data generated were analyzed using descriptive (frequency, means and percentage) and inferential (multiple regression) statistics which were all conducted using IBM SPSS, version 23.0. The result indicated that the rural women farmers were highly involved in production group formation ($\bar{x}$ = 2.85), training ($\bar{x}$ = 2.76), input disbursement ($\bar{x}$ = 2.70), development of business plan ($\bar{x}$ = 2.58) and need assessment ($\bar{x}$ = 2.35). Out of the six independent variables included in the regression model, three (age, educational level and farming experience) statistically and significantly influenced the level of rural women's involvement in the project. While the rural women farmers indicated inadequate storage facilities ($\bar{x}$=2.91), untimely provision of inputs ($\bar{x}$=2.88), poor road network ($\bar{x}$=2.85), insufficient technical-know-how ($\bar{x}$=2.78) and poor communication ($\bar{x}$=2.73) as the major constraints to active involvement in the project activities. Based on the findings of the study, it is worthy to note that consistency in agricultural development projects is important and as such, appropriate authorities should provide improved agricultural inputs, ensure timely provision of the inputs and grant regular and unlimited access to advisory service. These will at the long run improve farmers production techniques, increase their production output and income.

Keywords: *Fadama III Additional Financing; Rural women; Involvement*

Introduction

The potential role of agriculture in any country is to reduce poverty and drive economic growth for countries whose economies are agricultural-based. It is fascinating to note that more people are realizing day-by-day that among the various sectors of economies in Nigeria, agriculture is becoming the most profitable and has been identified as the largest employer of labour (Amaechi and Okafor, 2018). However, to boost the sector further, there is a need to increase level of food production as against the level of food demand through a sustainable

agricultural development projects and programmes which requires involvement of both male and female genders. Hence, it is worthy to note that one of the reliable strategies that any government can use to encourage its citizens' involvement in agriculture is by creating avenues where they can access agro-inputs such fertilizers, seeds and seedlings, grants and loans as access to capital is crucial at every stage of farming (Amaechi and Okafor, 2018). On this basis and in an effort to increase food production through provisions and access to best agronomic practices, agricultural inputs and financial aids, various successive Nigerian governments have been able to initiate series of agricultural policies, projects and programmes (Usman, 2013).

These projects and programmes which supposedly to have involved citizenry (both male and female) according to Nwoye and Nwalieji (2019) included the Third National Fadama Additional Financing Programme (Fadama III-AF). Fadamas are low-lying lands along the banks of rivers, streams or depressions prone to seasonal flooding and waterlogging. These low-lying plains are rich in alluvial deposits and always wet for crops to be cultivated almost all round the year (Onugu, Gbughemobi and Okonkwo, 2016). The project was intended to reduce rural poverty among rural dwellers, increase food security and contribute to the achievement of key millennium development goal since the source of livelihood for majority of people in the rural areas is primarily dependent on farming (Prince, Custodian, Nimiye and Victoria, 2016). The project placed beneficiaries on the driver's seat and allows them to oversee the design and implementation of the project and as well, empower them through skills and capacity building in order to improve their livelihoods (Iwala, 2014). Also, during the project implementation the participating community members were empowered to develop participatory and socially inclusive Local and Development Plans (LDPs) with the help of Fadama facilitators.

According to Umeh, Chukwu and Oselebe (2014), the extent of achievement in any agricultural development programme or project depends largely on the level of involvement or participation desired and attained by the participants. However, level of involvement and active participation on the part of women in various activities of the economy have not been visible due to several traditional practices limiting them, especially in agriculture. This is evidenced in most African countries who regard women as housewives and homemakers. Who are meant to remain at home and coordinate all household activities and while at home, they engage in menial processing of different kinds of foods in addition to their housekeeping responsibilities (Oladejo, Olawuyi and Anjorin, 2011). These limiting factors as indicated by Damisa, Samndi and Yohanna (2007) have entrenched the women in a vicious cycle of poverty that places them at a less advantageous level of income and resources. Undoubtedly, the situation might not be unconnected to gender biased agricultural policies, engineered and implemented by policy makers who are predominantly men that assume that women should play certain key roles categorized as feminine roles.

However, currently, with the emergence of western education and paid employment opportunities which were brought about by civilization and industrialization, most women have drifted into the modern sectors of the economy through their agitation for gender equality. Hence, resulting to visible changes in women attitude, their perception for inclusiveness in the various sectors of the economy and formation of formidable cooperative organizations for the liberalization of women. On the other hand, various researches conducted on the contributions of women in agricultural development suggested that despite the dominance and essential roles of women in agriculture, they hardly gain access and attention in agricultural production activities (Mohammed, 2014) and its related benefits such as improved production technologies, training, loans and grants from different government and non-government agencies. Hence, the need to assess women's level of involvement in the

various project activities. In view of the foregoing, the research assessed rural women involvement in Fadama III AF project in Anambra State, Nigeria. Specifically the study:

i. determined the level of rural women's involvement in the various project activities;
ii. determined the effects of rural women's socio-economic characteristics on their level of involvement in the project; and
iii. identified constraints to rural women's involvement in the project

Materials and Method

The study was conducted in Anambra State, Nigeria. Multi-stage involving purposive and random sampling techniques were used to select one hundred and twenty (120) respondents used for the study. Stage I involved a purposive selection of three (3) agricultural zones as against the four existing agricultural zones, which included Awka, Anambra and Aguata agricultural zones because of high concentration of project beneficiaries. Stage II involved a simple random selection of two (2) extension blocks each from the selected zones to give six (6) blocks. In stage III, two (2) circles were selected from each of the selected blocks using simple random sampling technique to give twelve (12) circles. Stage IV involved random selection of ten (10) rural women farmers who were involved in the project in each of the selected circles, giving 120 respondents used for the study. Data for the study were collected through primary source using validated structured questionnaire and the data generated were analyzed using descriptive (frequency, means and percentage) and inferential statistics (multiple regression) which were all conducted using IBM SPSS, version 23.0.

A reasonable number of variables were deployed in the study and were measured as follows:

To ascertain the rural women's level of involvement in the various activities of the project, the rural women were asked to indicate their level of involvement in Fadama III –AF project on a four (4) point Likert-type scale and their responses were categorized as follows; To a Great Extent (TGE) = 3, To an Extent (2), To little Extent (TLE) = 1, and To No Extent (TNE) = 0. The values were added to obtain a value of 6, which was divided by 4 to get a mean score of 1.5. This implies that any variable with a mean score equal to 1.5 and above was regarded as active or high level of involvement while any variable with mean less than 1.5 was regarded as a low level of involvement in Fadama III – AF project.

To ascertain the determinants of the rural women level of involvement in the various Fadama III – AF activitie, multiple regress analysis was used. The multiple regression model specified for the study was implicitly given as:

$Y= a+b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6$

Where Y = dependent variable, a = constant, x_1, x_2……..x_n are different independent variables.

The socio-economic factors of the respondents considered included age (AGE), marital status (MAS), educational level (EDU), household size (HOS), Farm Size (FAS), farming experience (FXP) whereas the multiple regression equation is given as follows:

$LI = F (AGE + MAS + EDU + HHS + FAS + FXP + e_i)$

Where:

LI = Level of rural women's involvement in Fadama III – AF project

a = constant

b_1, b_2……b_n indicate the intercepts or coefficients of the independent variables.

AGE = age of the farmers (measured in years)

MAS = marital status (single =1; 2 = married; 3 =divorced; 4 = widowed)

EDU = level of education (measured in years of formal schooling)

HHS = household size (measured by the number of persons living in the household)

FAS = farm size (measured in hectares)

FXP = years of farming experience (measured in years)

All analysis was at 5% ($\alpha = 0.05$) level of significance.

To identify the major constraints to rural women involvement in the project, the rural women were asked to indicate on a 4-point Likert-type scale, how serious each of the various shortlisted constraints militates against their involvement in the project. Their responses were categorized as very severe (VS) = 3; severe (S) = 2; Somehow Severe (SS) = 1 and not severe (NS) = 0. These values were added to obtain a value of 6, which was divided by 4 to get a mean score of 1.5. The respondents' mean were obtained on each of the items. Any mean score ≥ 1.5 was regarded as a major constraint; while any mean score < 1.5 was considered as minor constraint.

Results and Discussion

Level of rural women's involvement in the various Fadama III – AF project activities

The distribution of rural women according to their level of involvement in the various activities of Fadama III – AF project in Anambra state is shown in Table 2. The result shows that fairly good proportion of the rural women recorded high level of involvement in most of the Fadama III - AF project activities in the state. The respondents were highly involved in production group formation ($\bar{x}$ = 2.85, 1st), training ($\bar{x}$ = 2.76, 2nd), input disbursement ($\bar{x}$ = 2.70, 3rd), development of business plan ($\bar{x}$ = 2.58, 4th), need assessment ($\bar{x}$ = 2.35, 5th), advisory services ($\bar{x}$ = 1.95, 6th), and conflict resolution ($\bar{x}$ = 1.60, 7th). The result further indicated that the rural women were not actively involved in project activities such as formation of farmer-off taker linkage ($\bar{x}$ = 1.48, 8th), formation of farmer-financial institution linkage ($\bar{x}$ = 1.41, 9th) and project monitoring and evaluation ($\bar{x}$ = 1.26, 10th). The study indicated that the rural women were highly involved since the critical point score (1.5) is less than the calculated mean scores (2.79). This implies that the rural women in the state were actively involved in the various project activities. The high level of involvement as shown by the respondents in most of the project activities was a clear indication of the rural women's determination in achieving the project's goals. The finding is in agreement with the findings of Nwachukwu (2013), who reported that rural women contributes significantly to the nation's food security and participate in different agricultural production activities.

Table 2: Level of rural women's involvement in the various Fadama III – AF project activities in Anambra State, Nigeria

Activities of Fadama III-AF Project	Level of involvement (n = 120)					
	TGE	TE	TLE	TNE	Mean ($\bar{x}$)	Rank
Production group formation	106(88.33)	10(8.33)	4(3.33)	0(0.00)	2.85*	1st
Training	102(85.00)	11(9.17)	3(2.50)	4(3.33)	2.76*	2nd
Input disbursement	93(77.50)	20(16.67)	5(4.16)	2(1.67)	2.70*	3rd
Business plan development	87(72.50)	19(15.83)	11(9.17)	3(2.50)	2.58*	4th
Need assessment	78(65.00)	22(18.33)	4(3.33)	16(13.33)	2.35*	5th
Advisory services	60(50.00)	25(20.83)	5(4.17)	30(25.00)	1.95*	6th
Conflict resolution	42(35.00)	29(24.16)	8(6.67)	41(34.17)	1.60*	7th
Formation of farmer-off taker linkage	30(25.00)	38(31.66)	12(10.00)	40(33.33)	1.48	8th
Formation of farmer-financial institution linkage	21(17.50)	29(24.17)	49(40.83)	21(17.50)	1.41	9th
Monitoring and evaluation	31(25.83)	19(15.83)	21(17.50)	49(40.83)	1.26	10th

Source: Field survey, 2019.

Keys:
TGE - To a greater extent
TE - To an extent
TLE - To little extent
TNE - To no extent
Figures in parenthesis are percentages
Decision Rule: ≥ 1.5 = *High level of involvement
Decision Rule: < 1.5 = Low level of involvement

Determinants of the rural women's level of involvement in the various project activities

The multiple regression analysis was used to determine the influence of the rural women's socio-economic characteristics on their level of involvement in Fadama III - AF project. Data collected on the concerned variables were fitted into four functional forms (linear, semi-log, double-log and exponential) of the regression model and ran using the MINITAB statistical package. The predictors variables fitted into the regression model were age (AGE), marital status (MAS), educational level (EDL), household size (HHS), farm size (FAS) and farming experience (FXP). Among outputs of the four functional forms tried with the data, the linear regression output was the best based on the number of significant independent variable, magnitude of the coefficient of multiple determinations and conformity of the signs of the significant regression coefficient to *a priori* expectation and as such was chosen as the lead equation.

The result in Table 2 revealed that out of the six independent variables included in the model, three (age, educational level and farming experience) statistically and significantly influenced the level of rural women's involvement in the Fadama III – AF project while the remaining three (marital status, household size and farm size) were not statistically significant. Therefore the null hypothesis is rejected and alternate hypothesis accepted. The result on coefficient of the rural women's age was significant but negative at 1% level of probability. This implies that there is an inverse relationship between age of the rural women and their level of involvement in Fadama III – AF project. In other words, as the rural women's age increases, their level of involvement in the project tend to drop because of the tedious nature of agricultural production. This suggests that younger farmers in the area are more willing to

get involved in Fadama III – AF project activities than the older farmers in the study area. Hence, level of rural women's involvement in Fadama III – AF project in Anambra state is age dependent. This finding is in consonance with Danjuma, Oruonye and Ahmed (2016) who reported that younger farmers are more willing to participate in agricultural development projects than their older counterparts.

The regression coefficient for educational level of the respondents was positive and significant at 1% as it relates to their level of involvement in Fadama III – AF project in Anambra state. This implies that the rural women's level of involvement in Fadama III - AF project in Anambra state increases as educational level of the farmers increases. This suggests that the learned rural women farmers in the area are more willing to get involved in the project due to the benefits they derive from projects than those with low level of education. Therefore, the rural women's level of involvement in the Fadama III - AF project in Anambra state is dependent on the educational level of the farmers. This corroborates the findings of Ominikari, Onumadu and Nnamerenwa (2017) whose studies shows the dominance of educated farmers in agricultural projects.

Table 2: Determinants of rural women's level of involvement in Fadama III - AF project

Predictor	Linear	Exponential	Semi-log	Double-log
Constant	44329	50142	39928	30129
	(7.02)	(28.85)	(0.19)	(10.21)
AGE	-524.20	1.2141	321005	-.3281
	(-9.41)***	(31.40)***	(11.05)***	(-1.29)
MAS	2478	1.3529	020296	-1.3792
	(0.48)	(1.29)	(0.61)	(2.36)**
EDL	804.9	1.28125	12976	1.2165
	(3.41)***	(2.02)**	(1.98)**	(0.98)
HHS	251.2	1.02819	62.0	1.31537
	(1.63)	(0.98)	(0.986)	(2.01)
FAS	4018	1.01973	20143	0.0331
	(0.69)	(1.21)	(0.98)	(1.25)
FXP	302.8	1008113	2994	0.018761
	(1.87)*	(1.02)	(0.23)	(2.39)**
R^2	95.4	89.9	95.1	92.7
R^2 adjusted	89.8	88.0	93.9	90.6
F-statistic	1005.50	1132.0	1198.7	1010.20
D-W Statistic	1.79	1.72	1.81	1.69

Source: Field survey, 2019. Note: * = significant at 10%, ** = significant at 5%, *** = significant at 1% probability level. D-W statistic = Durbin-Watson statistic

More so, the result indicated that farming experience have a positive and significant influence on the rural women's level of involvement in the project at 10%. The implication of the result is that the rural women's level of involvement in Fadama III - AF project in the state increases with increase in the farming experience of the respondents. This indicates that the more experienced rural women under the project are the more they get involved in the project due to the benefits derived from the projects than their inexperience counterparts. Therefore, the rural women's level of involvement in the project is dependent on their farming experience. This finding aligns with Ezeh (2012) and Ironkwe (2011) whose studies shows dominance of long experienced farmers in agricultural projects than beginners in farming activities. On the other hand, the overall goodness of fit of the equation as indicated by the

coefficients of the multiple determinations (R^2 = 95.4) indicates that the explanatory variables included in the model explained about 95% of the variation in the level of rural women's involvement in the project while the remaining 4.6% was due to random disturbances. The Durbin-Watson statistic value of 1.79, which lie within the benchmark of 2.0, signified the absence of autocorrelation among observations of the regressors. In addition, the F-statistic value of 1005.50 indicated that the socio-economic characteristics of the rural women, significantly determined their level of involvement in the project and as such, confirming the significance of the entire model.

Constraints to rural women involvement in Fadama III - AF project

The constraints militating against rural women's involvement in Fadama III - AF project in Anambra state is shown in Table 3. Inadequate storage facilities ($\bar{x}$=2.91), untimely provision of input ($\bar{x}$=2.88), poor road network ($\bar{x}$=2.85), insufficient technical-know-how ($\bar{x}$=2.78), poor communication ($\bar{x}$=2.73), poverty ($\bar{x}$=2.71), literacy ($\bar{x}$=2.66), poor attitude to work by Fadama staff ($\bar{x}$=2.65) and irregular advisory services ($\bar{x}$=1.80) were among the constraints indicated by the rural women farmers in the study area. In addition, inadequate access to farm land ($\bar{x}$=1.74), corruption amongst Fadama staff ($\bar{x}$=1.66), incident of pests and diseases ($\bar{x}$=1.58), poor access to credit facilities ($\bar{x}$=1.55) and inadequate disbursement of farm inputs ($\bar{x}$=1.53) were equally identified as major constraints to rural women's involvement Fadama III - AF project in the area. On the other hand, the result further revealed that lack of improved farm implements ($\bar{x}$=1.44), high labour cost ($\bar{x}$=1.37), high cost of inputs ($\bar{x}$=1.30) and poor marketing facilities ($\bar{x}$=1.27) were not identified as part of the major constraints to rural women's involvement in the project.

Considering the major constraints identified by the rural women in the project in Anambra state, the rural women's level of involvement in the project was limited by so many factors. The finding on inadequate access to farm land by women corroborates Enwelu, Morah, Dimelu and Ezeano (2014) who reported that men are five times more likely to own land than women. This re-affirms the report of Food and Agriculture Organization (FAO) (2011b) that access to farm land remains a major constraint for women farmers in Africa, Nigeria inclusive and land reform policies and programmes have led to the transfer of land rights to male counterparts. According to Ajadi, Oladele, Ikegami and Tsuruta (2015) and Mucavele (2015), culture has a very stronger role to play on women's access and control of productive resources and as such, lack of access to land remains a major constraint for women in developing countries. The result corroborates the findings of Agada and Ameh (2017) who reported that rural women farmers were faced with the problems of limited access to land, lack of access to credit, lack of access to inputs (improved seeds, fertilizers, agro-chemicals), lack of appropriate agricultural technologies and lack of storage facilities.

Table 3: Constraints to rural women involvement in the project

Constraints	Mean score ($\bar{x}$)	Rank
Inadequate storage facilities	2.91	1st
Untimely provision of inputs	2.88	2nd
Poor road network	2.85	3rd
Insufficient technical know-how	2.78	4th
Poor communication	2.73	5th
Poverty	2.71	6th
Literacy	2.66	7th
Poor attitude to work by Fadama staff	2.65	8th
Irregular advisory services	1.80	9th
Inadequate access to farm land	1.74	10th
Corruption among Fadama staff	1.66	11th
Incidence of pests and diseases	1.58	12th
Poor access to credit facilities	1.55	13th
Inadequate disbursement of farm inputs	1.53	14th
Lack of improved farm implements	1.44	15th
High labour cost	1.37	16th
High cost of inputs such as fertilizer	1.30	17th
Poor marketing facilities	1.27	18th

Source: Field survey, 2019.

Conclusion and Recommendations

The study concluded that the rural women's socio-economic characteristics such age, educational level and farming experience statistically and significantly influenced their level of involvement in the Fadama III – Additional Financing project. Hence, the rural women's level of involvement in the project increases as age, educational level and farming experience increases. However, they were constrained by inadequate storage facilities, untimely provision of input, poor road network, insufficient technical-know-how, poor communication, literacy, poor attitude to work by Fadama staff, irregular advisory services, inadequate access to farm land, corruption amongst Fadama staff, poor access to credit facilities and inadequate disbursement of farm inputs. Based on the findings of the study, the constraining factors as identified by the rural women farmers in the study area such as corruption amongst Fadama staff and poor attitude to work by Fadama staff should be looked into by the project administrators by enlightening them on the project's needs, goals and aspirations. Also, in view of the fact that access to farm land remains a major issue to women farmers in Nigeria and Africa at large; policy makers' should come up with flexible land reform policies and programmes that can limit gender based issues in order to enable women venture and fully participate in agricultural income generation activities. On the other hand, it is worthy to note that consistency in agricultural development projects and programmes is imperative and as such, appropriate authorities should provide improved agricultural inputs, ensure timely provision of the inputs and grant regular access to advisory service. These will at the long run improve farmers production techniques, increase their production output and income.

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