



Evaluation of Participation and Poverty Levels of National FADAMA III Development Project Rural Farm Women in Gombe State, Nigeria

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Abstract

Participation and poverty levels of rural farm women farmers of National Fadama III in Gombe State, Nigeria were studied and evaluated in 2013. Multi-stage random sampling technique was used in the selection of 180 participating rural women farmers. Instrument for data collection was through a structured questionnaire. Data were analyzed with descriptive statistics and poverty gap analysis. The study revealed that 43.33% of participating rural women farmers were aged between 36-45 years, 48.33% acquired secondary education, while 29.44% cultivated on farm sizes ranging between 3.1-4.0 hectares. The result showed that the participating rural farm-women were actively involved in crop and livestock sub-component technology with mean ratings of 2.79 and 2.69 respectively. The poverty gap analyses showed that 68.33% of participating Fadama III rural farm-women was poor and require 36.56% of their poverty line to get out of poverty. The study therefore recommends timely supply of farm inputs by the project to farmers, prompt payment of counterpart funds by relevant agencies and replication of the project to other communities to reduce rural poverty in the state

Keywords: Evaluation, Participation, Poverty, Fadama, Women Farmers

INTRODUCTION

Participation is an important factor to sustain agriculture in rural areas through local, state, Federal Government and donor sponsored programmes. Participation with regard to community development include peoples' involvement in decision making process in implementing programmes, their sharing in the benefits of development programmes (Nwaobiala, 2013). In essence, participation is all about involving a significant number of rural people (project beneficiaries) in one way or the other in situations or actions which enhance their well-being (Ogbonna and Nwaobiala, 2014; Oakely, 2001). Farmer participation issues are the areas of concern at national and local government levels (Subedi, 2008). Without participation there are obviously no partnerships, no developments and no programmes/projects (Aref *et al.*, 2010). Lack of participation in decisions to implement an agricultural policy can lead to failure in the agricultural development. Farmers' (men and women) participation is considered necessary to get community support for agricultural development projects (Cole, 2007). Women in Northern Nigeria are playing active role in agriculture. In a study of women in Muslim and non-Muslim areas of Northern Nigeria, Ehiemere (2008), found that the activities of women include land, preparation, planting, harvesting, food processing, livestock and transportation. Adekanye (1988)

and Banji and Okunade (2005), reported that despite the practice of keeping women in purdah away from the sight of men strangers limited their involvement in farming. He agreed that the women who are farmers grew mainly food crops particularly maize and rice, for subsistence and for sale and they perform almost all farm clearing or ridge making and livestock production. Adisa and Okunade (2011) collaborated this by stating that Nigeria women's role encompasses other sub-sectors of agriculture. They are found to pick forest products like snails, mushrooms vegetable and spices for sale and family consumption. Rural farm women contribute so much in the development process and yet there is little to show for their efforts. This has hindered their effective participation in donor agency programmes. In access to credit by rural farm-women has been identified as a major constraint on the ability of women to increase agricultural output and participate fully to poverty focused credit programmes (Fadama III) in Gombe State (Mahtab, 2006).

Rural farm women generally lack access to productivity raising services such as services of farm produce (credit, cooperatives, agricultural-inputs, training and extension) (FAO, 1990). According to Okunmadewa (2001) more than 40 percent of Nigerians live in conditions of extreme poverty spending less than N320 (\$2) per day. The Northern part of Nigeria is the most impoverished region of the country. National Bureau of Statistics (2010) concluded that five northern states are the poorest in the country with Sokoto state leading the pack with 86.4% poverty rate, followed by states like Bauchi (83.7%), Katsina (82.0%), Adamawa (80.7%) and Kebbi with 80.5%. According to Oyesola and Ademola (2012), the burden of rural poverty is more on women and therefore female-headed households tends to be poorer than male-headed ones. This is basically because of the roles assigned to women by the social and religious institutions prevalent in Nigeria. Many of these norms plug women deep into poverty. Some of these are religious seclusion, marginalized access to income generating resources and opportunities, and the imposed child and home nurturing responsibilities. Other factors that could be responsible for poverty among women include their concentration in low-paid job, limited education, discrimination by many employers of labour, and poor state of health. Most of these programmes centre on community development approach rather than agricultural oriented strategies which have marginalized resource poor farmers especially women, thus causing them to be eluded from active participation in development programmes which has affected their poverty status negatively (Ogbonna and Nwaobiala, 2014; Anonymous (2012)). Sequel to these problems and to fill this research gap, which is intended to raise the standard of living of the people, several Nigerian governments adopted and implemented various poverty alleviation programmes such as the National Fadama Development Project (NFDP). The programme main objective is to eradicate extreme poverty and hunger, promote gender equality and empower women to develop a global partnership for development (GSFCO, 2012).

The specific objectives of the study were to:

- i. describe the socio-economic characteristics of participating rural farm-women in the study area.
- ii. ascertain the levels of rural farm-women's participation on each sub-project component of the project (crops, livestock, gathering, marketing and processing) in the study area
- iii. determine the poverty levels of rural women participating farmers in the programme.
- iv. describe the problems militating against effective participation of rural farm- women in the project in the study area.

Hypothesis

Ho: Poverty levels of participating rural women farmers in the project were below poverty gap and poverty line

Methodology

This study was carried out in Gombe State, Nigeria. The State is located between Latitudes $9^{\circ}30'1$ and $12^{\circ}30'1$ North and Longitudes $8^{\circ}45'1$ and $11^{\circ}45'1$ East. It lies in the centre of North East geopolitical zone of Nigeria and shares boundaries with all other states in the zone; Adamawa and Taraba in the South-south, Bauchi in the West, Bornu in the east and Yobe in the North-east. According to NPC (2006), the population of Gombe State in 2006 Census stood at about 2,365,040 while women constitute 1,120,812 and the State has an average population density of $130/\text{km}^2$ (Wikipedia, 2012). Multi-stage random sampling technique was used in the selection of local government areas, Fadama Community Associations (FCAs), Fadama Users Groups (FUGs) and participating rural farm women and non-participating rural farm women. First, six (6) Local Governments Areas (LGAs) were randomly selected out of the eleven (11) LGAs that make up Gombe State. Second, two (2), FCAs each were randomly selected from the selected LGAs to give a total of 12 FCAs. These are: Kwaya Banganje FCA and Billiri south B FCA in Billiri LGA, Jillahi and Tongo youth

and women FCAs in Funakaye LGA, Jaka-Dafari and Nasarawo FCAs in Gombe LGA, Bambam Yiri and Kamo FCAs in Kaltungo LGA ,Nafada East and Birini Fulani East FCAs in Nafada LGA and Kwadon and Dadin kowa FCAs in Yamaltu-Deba LGA . Also three (3) FUGs were randomly selected from each FCA to give a total of 36 FUGs. From the selected FUGs, five (5) participating rural farm-women were randomly selected to give a sample size of 180 participating rural farm women. Participation in the project technologies measured comprising arable crops, livestock, post harvest, marketing and gathering/bee keeping as high, medium, low and never was scored as 4, 3, 2 and 1 respectively. Midpoint of 3.0 and above was regarded as participation and below, non participation. Objectives i, ii and iv were realized with descriptive statistics as frequencies, percentages and mean counts, while objective iii was captured with poverty gap analysis.

Model Specification

Poverty Gap analysis was used to determine the poverty levels of rural women-farmers in accordance with Nwaobiala (2013a).

$$H=q/n \dots\dots\dots(1)$$

Where;

H = Head count ratio

q = number of poor rural women-farmers participating in the project.

n = total number of rural farm-women participating.

$$I = [(z-y)/z] \dots\dots\dots (ii)$$

Where,

I = Poverty gap

Z = Poverty line-estimated using the mean household expenditure

Y = Average income of the poor rural farm-women participating.

The poverty Line used in determining poverty among participating farmers is expressed thus;

$$Z = 2/3 (Y)$$

Where,

Z = poverty line measures in Naira (₦)

Y = mean of per capita household expenditure measured in Naira (₦)

Given;

$$\text{Mean capita household expenditure} = \frac{\text{Total per capita household expenditure}}{\text{Total number of households}}$$

$$\text{Per capita expenditure} = \frac{\text{Total monthly household expenditure}}{\text{Household size}}$$

Results and Discussion

The socio-economic characteristics of Fadama III women farmers are shown in Table 1. The result reveals that a fairly good proportion (48.33%) fell within the age range of between 36-45 years. This implies that the farmers are in their productive ages. This segment of the respondents is rational decision makers and time is still at their disposal to establish indelible reputation within the community (Akpa, 2007). This will impact positively on agricultural production because, this segment of the population can effectively withstand the rigours, strain and stress involved in agricultural production and will erase the notion that agriculture is left in the hands of the old and weak people. A fairly good proportion (48.33%) of the respondents acquired secondary education while, their major occupation was farming (58.33%). The level of education attained by a farmer not only increases his/her farm productivity but also enhances ability to understand and evaluate new production technologies (Obasi, 1991; Ajibefun and Aderemola, 2004). The ability to read and write would enable both groups of farm women to better utilize effectively and efficiently whatever resources exist in the area. The predominance and preponderance of the Fadama III women farmers in farming explained why over 90% of the food produced in the country comes from the rural sector (FAO, 2004). This further agrees with ECA (2005) which asserts that farming is the major occupation and source of income for rural dwellers especially the women in developing countries. The farm size of the respondents showed that a moderate proportion (29.44%) of rural women farmers had farm size ranging between 3.1-4.0 hectares with ₦181, 000.00 as annual farm income. This implies that the Fadama III farmers had access to large farm size. Nwaobiala, 2010 affirms that size of a

Table 1. Distribution of Fadma III Participating Women Farmers According to Selected Socio-economic Variables in Gombe State, Nigeria

Variables	Frequency	Percentage	
Age (years)			
15 – 25	11	6.11	
26 – 35	62	34.44	
36 – 45	78	43.33	Mean= 40.50 years
46 – 55	22	12.22	
56 – 65	7	3.89	
Education (years)			
No formal	10	5.56	
Primary	69	38.33	
Secondary	87	48.33	
Tertiary	14	7.88	
Primary Occupation			
Farming	105	58.33	
Trading	39	21.67	
Civil Service	21	11.67	
Artisan	15	8.33	
Farm Size (hectares)			
0 – 1.0	29	16.11	
1.1 – 2.0	47	26.12	Mean = 2.05 hectares
2.1 – 3.0	51	28.33	
Annual farm income (₦)			
1000-200,000	105	58.33	
201,000-400,000	52	28.89	Mean = ₦181,00.00
401,000-500,000	23	12.78	

N = 180

Source: *Field Survey Data, 2013*

farm is a determinant to the output derived in relation to revenue. Despite the fact that these amounts are significant for the average farmer, all mean annual incomes below ₦50, 000.00 were classified as belonging to low income group (Okorji, 1999).

Levels of Rural Farm Women Participation on Each Sub Component of the Fadama III project

The distribution of farmers according to the level of participation in different technology components of the project in Gombe State is shown in Table 2. The result shows that a fairly good proportion (44.4%) of the rural farm women in the state had high participation level in crop technologies with Fadama Technology Component Raw scores (FTCRS) of 503 and mean of 2.79. Since the critical point score (2.5) is less than the calculated mean score (2.79), it implies that the participating rural farm women in the state actively participated in crop technologies of the programme. Aniedu and Aniedu, 2013 emphasized that more than 90.0% of rural farm women in Nigeria are involved in arable crop production, especially cassava.

Rural farm women farmers also participated in livestock technology component of the project. The table revealed that a good proportion (48.3%) of the rural farm women in the study area had a medium level participation in livestock technology component of the project. The Fadama Technology Component Raw scores (FTCRS) was 485 with a mean of 2.69. The mean score of the participating rural farm women in livestock technology component of the project was greater than 2.5 which is the critical point and implies that the women farmers participated actively in the technology component of Fadama III project. This result is in line with the findings of Nwaobiala, 2013 who found that farmers involved in livestock production is influenced by the need for animal Protein and as an income generating strategy.

Table 2. Distribution of Rural Farm Women According to their level of Participation in Fadama III Development Project in Gombe State, Nigeria

Technology Packages	High	Medium	Low	Never	FTCRS	Mean
Arable crop	320 (44.4)	96 (17.8)	38 (10.6)	49 (27.2)	503	2.79*
Livestock	108 (15.0)	261 (48.3)	100 (27.8)	16 (8.9)	485	2.69*
Post harvest	12 (1.7)	129 (23.9)	110 (30.6)	79 (43.89)	330	1.83
Marketing	60 (8.3)	132 (24.4)	158 (43.9)	42 (23.33)	392	2.17
Bee keeping	4 (0.6)	9 (1.7)	20 (5.6)	166 (92.22)	199	1.11

(n= 180)

Decision Rule 2.5 and above = *Participation

Decision Rule <2.5 = non participation

Figures in parenthesis are percentages

FTCRS= Fadama Technology Component Raw scores

Source: Field Survey Data, 2013

Determination of the Poverty Profiles of the Participating Rural Farm Women in Fadama III Project

The poverty indicators of the participating rural farm women in Fadama III Project in Gombe State are shown in Table 3. The table shows that the poverty line (mean monthly household expenditure) of the Fadama III participating rural farm women was ₦16, 488.0 per month or otherwise called the head count ratio (Ezeh, 2007; Ezeh *et al.*, 2012) was 0.6833 for the Fadama III participating rural farm women, this implies that 68.33% the Fadama III participating rural farm women farmers in Gombe State were poor because their incomes fell short of the mean household expenditure used as poverty line. This result compared favourably with Ezeh (2009) that obtained 53.67% for Fadama III participants in Imo State Nigeria. The coefficient of poverty depth (gap) also known as the income shortfall was 0.3658 for the Fadama III participating rural farm women. This implies that the poor participating rural farm women in Fadama III project in the State required 36.56% of the poverty line to get out of poverty. This amounts to ₦6, 031.31 per participating rural farm women per month or ₦72, 375.73 per annum. This result corroborates with Ezeh *et al.*, (2012) that obtained a poverty gap index of 0.48 for female Fadama III farmers in Abia state.

Table 3. Poverty Indicators of Participating Rural Farm Women in Fadama III Project in Gombe State, Nigeria

Poverty indicators	Fadama Rural Farm Women
Poverty line (₦)	16488.00
Poverty incidence	0.6833
Poverty gap (Poverty Depth)	0.3658

Source: Field Survey Data, 2013.

Problems of Effective Participation of Rural Farm Women in National Fadama III Development Project

The Problems militating against the active participation of rural farm women in the project technology component of Fadama III in Gombe State is shown in Table IV. The table shows that a good proportion (53.33%) of the participating rural farm women ascribe late arrival of farm input as a major problem. This is because majority of the farmers depend

Table 4. Distribution of the Problems of Rural Farm Women Participation in National Fadama III Development Project in Gombe State, Nigeria

Category of Problems	Frequency	Percentage
Administrative bottlenecks and bureaucracy in release of capital funds	38	21.11
Late arrival of farm inputs	96	53.33*
Infrequent visit of Extension Officers	32	17.78
Inadequate training and retraining of participating rural farm women	58	32.22*
Ineffective leadership of FCA and FUG	42	23.33
Nonpayment of counterpart funds by state and LGAs	89	49.44*
Lack of infrastructural development by the project to evacuate or process the produce	28	15.56

Source: *Field Survey Data, 2013*

*Multiple responses recorded

30% and above = Associated Problems solely on sourcing these improved varieties on crops, livestock and fingerlings from the programme. Also, 49.44% of the participating rural farm women averred that non-payment of counterpart funds by State and Local Governments hampered their participation in the project. This supports the view of Nwaobiala, (2013a) that non-participation of stake holders in community-based programmes is due to non-payment of counterpart funds by government at the State and Local government levels. Furthermore, a fairly good proportion (32.22%) of participating women farmers complained of the problem of inadequate training and re-training of participating farmers by the programme facilitators. This is contrary to the views of Nwaobiala, (2013b) that staff training and re-training of farmers has led to increased participation of farmers in any agricultural development programme, thereby exposing them to the latest improved technology packages, risk aversion and farm budgeting procedures.

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CONCLUSION AND RECOMMENDATIONS

The study has proved that Fadama III project in Gombe State has complementary role in extension delivery and technology dissemination in the State. The high level of participation had shown that the technology sub components of the project transferred to the rural farm women were beneficial to them. The study has revealed poverty line, poverty incidence and poverty gap of beneficiary women farmers, which indicate that the project impacted on their living standards. Despite this, the project identified late arrival of farm inputs, non prompt payment of counterpart funds and inadequate training and retraining of women as pertinent problems affecting the project.

The following recommendations were proffered;

1. The Fadama office should consider compensating a group that participated well and encourage them to safe guard their fund and see it as their own capital.
2. Problem of late arrival of farm inputs, such as, fertilizers, seeds and other agro-chemicals, should be improved upon by distributing them to the FCAs earlier especially during the off-season when the inputs are cheap for transmission to FUGs early enough since the use of inputs are time specific.
3. Governments at all levels (Federal, State and Local) should pay their counter-part funds on time in order to sustain and improve the participation level of the rural farm-women and to enable them and the development partner achieve the goals of the project.
4. Finally, considering the impact made by the project in the areas studied, the project should be replicated in other communities to help reduce rural poverty.

References

- Adekanya T. (1988), Women in African Agriculture African Notes, Institute of African Studies, University of Ibadan, Nigeria. Special no. 3.
- Adisa, B and E.O. Okunade (2011). Adoption and Diffusion of the Concept of Women in agriculture in Agricultural Extension Society of Nigeria (AESON) Second Edition Pp. 90 – 100.
- Ajibufun, L.A. and Aderimola, E.A (2004) Determinants of Technical Efficiency and Policy Implication of Report Preservation of Bi –Animal Research Workshop of African Economic Research Consortium.
- Akpa, EC (2007) A Comparative Analysis of the Impact and Technical Efficiency of Fadama II and Non Fadama II Arable Crops Farmers in Imo State, Nigeria”. B. Agric. Thesis. Dept of Agricultural Economics and Extension, Abia State University Uturu.
- Amalu, U.C. (2005). Poverty Alleviation and Agriculture in Sub-Saharan Africa: The Nigerian Experience. *Journal of Food, Agriculture and Environment*; 3(2): 230 – 235.
- Aniedu, C and Aniedu, OC. (2013). Gender Mainstreaming in Agricultural Development. *Agricultural Extension and Rural Development*: In Ike Nwachukwu (eds) Promoting Indigenous Knowledge.
- Anonymous (2012). Poverty Reduction through Empowerment Third National Fadama Development Project (NFDP, III) Ogun state Fadama Coordination Office.
- Aref, F. Marof, R. and Sarjit, S.G. (2010). Community Capacity Building. A Review of its Implications in Tourism Development. *J.Am. Sci.* 6(1): 172-180.
- Banji, O.A. and E.O. Okunade (2005). Women in Agriculture and Rural Development. Agricultural Extension Society of Nigeria (AESON) pp. 69 – 71.
- Economic for Africa (ECA) (2005). Emerging Issues in Science and Technology for Africa’s Development, Science, Technology and Innovation for Meeting Key MDG’s Addis Ababa ECA Sustainable Development Division.
- Ehiemere, IA. (2008). Gender Issue in Poverty Alleviation Programme: The Case of National Fadama I in Abia State. A Research Project Submitted to Abia State University Uturu (Unpublished).
- Ezeh, CI. (2003). Credit Worthiness and Determinants of Loan Repayment of Smallholder Farmers in Abia State, Nigeria. *J. Sustainable Tropical Agric. Res.*, 2003; 5: 10 – 13.
- Ezeh, C. I. (2007). Poverty Profiles and Determinants of Expenditures of Rural Women Households in Nigeria. *The Niger. J. Dev. Stud.* 6 (1): 187 – 204.
- Ezeh CI (2009). The Impact of the National Fadama II Development Project in Alleviating Rural Poverty and Improving Agricultural Production in Imo State, Nigeria, *Agro-Science: J. Tropical Agric., Food, Environ.Ext.* 8 (3): 139 – 144.
- Ezeh, CI. (2012). Midline Impact Study of the National Fadama III Development Project in Abia State, Nigeria. Paper Presented to Abia State Fadama III Coordinating Office, Abia State Office, Umuahia.
- Food and Agricultural Organization (FAO) (2004). Sustainable Development and Management Wetlands; Wetland Contribution to Livelihoods in Zambia. Food and Agricultural Organization (FAO), Rome, Italy.
- Gombe State Fadama Coordination Office (GSFCO) (2012). Gombe State Fadama III Project. Be Part of the Success Story.
- Mahtab, M. (2006). Poverty Alleviation to Women’s Empowerment: The Challenges of Microfinance. *The Financial Express*. Vol. No. 1589: 1- 10.
- National Population Commission (NPC) (2006). Nigerian Census Figures for States and Federal Capital Territory.
- Nwaobiala, CU. (2013a). Appraisal of Farmers’ Participation in IFAD/FGN/NDDC/Community Based Natural Resource Management Programme in Abia and Cross River States Nigeria. A PhD Thesis Department of Agricultural Economics and Extension Abia State University Uturu.
- Nwaobiala, C.U. (2010). Effect of Green River Project on Cassava Farmer’s Production in Ogba/Egbema/Ndoni Local Government Area of Rivers State, Nigeria, *Global Approaches to Extension Practice (GAEP) Journal*, 6(2): 26 - 31.
- Nwaobiala, C.U. (2013b). Effects of Institutional Extension Services on Seed Yam Farmers Production in Ishiagu, Ivo Local Government Area of Ebonyi State, Nigeria. *International Journal of Applied Research and Technology (IJRT)*, 2(5): 22-28, www.esxpublishers.com (Online).
- Oakely, EA. (2002). Projects with People. The Practice of Participation in Rural Developments Geneva ILO Pp. 98-112.
- Obasi, OO. (2005). Women in Rural Development: The Nigerian Experience in Nwachukwu, I. and Onuekwusi G.C. (eds) *Agricultural Extension and Rural Sociology in Nigeria*
- Ogbonna, M. O. and Nwaobiala, C. U (2014). Analysis of Poverty Profiles of Participating and Non - Participating Rural Farm Women in Fadama III Development Project in Gombe State, Nigeria. *Int. Jo. Agric.Rural Dev.* (IJARD) 17(2):1762-1767.
- Okorji EC (1999). Dimensions of Rural Poverty and Food self-sufficiency Gap in Nigeria”. In: *poverty Alleviation and Food Security in Nigeria*. Fabiyi, YL. and EO. Idowu (eds.). Nigerian Association of Agricultural Economists (NAAE) pp. 52 – 58.

- Okunmadewa, FY (2001). *Poverty Reduction in Nigeria: A Four-Point Demand*. Living Book Series: Abuja, Nigeria.
- Oyesola, O.B. and Ademola, A.O. (2012). Gender Analysis of Livelihood Status among Dwellers of Ileogbo Community in Aiyedire Local Government Area of Osun State, Nigeria. *American Journal of Human Ecology*, 1(1):23–27
- Subedi R (2008). Women Farmers' Participation in Agricultural Training in Kaure District of Nepal Laren Stein University of Applied Science, Kathmandu.
- Wikipedia, the Free Encyclopaedia (2012). Agricultural Education <http://en.wikipedia.org/wikiedu>. Retrieved. May 6.