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Gender-Based Evaluation of World Bank Assissted Fadama III Farm Inputs Distribution Programme among User Groups in Delta State, Nigeria

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Abstract

Gender discrimination and its effect on agricultural development in emerging economies has occupied central position in international debates. This study investigates gender access and utilization of Fadama III farm input distribution programme among user groups in Delta state, Nigeria. Structured questionnaire was used to collect primary data from selected Fadama III group members. The method of data analysis include descriptive statistics and chi-square statistics. The result of the study revealed that both male and female respondents had access to one or more farm inputs; but female accessed more than males. Female farmers also utilized more of the accessed inputs than the male farmers. The test of hypothesis using chi-square statistics, shows that there is significant association between gender and access to credit, herbicides, farm implements and sustainable land management ($P < 0.05$). The results also revealed that the major constraints that affected Fadama III farm input utilization in the study area were land tenure, inadequate fund, inadequate labour supply, conflict among the user group members and inadequate storage facilities. It was therefore recommended that the group approach currently adopted should be sustained to enhance gender equality and the actualization of Goal number 3 of the Millennium Development Goal.

Keywords: Gender, Access, farm inputs, utilization, Fadama III Package User Groups

1. Introduction

Nigeria agriculture is mainly rain-fed and characterized by low labour productivity. The country is endowed with underground and surface water reserves, rich pastures, and favourable agroecological conditions in the country's low-lying plans with alluvial deposit called Fadama.

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(Global environment facility, 2008). Fadama is an Hausa word used to describe low-lying alluvial lands partially or completely flooded during wet season they are most productive and fertile where legumes, cereals and vegetables are largely grown. (Ibironke, 2009). Satisfying the increasing food demand of the populace has become a fundamental problem faced by Nigerians in recent times. This problem has manifested itself in the form of food production instability, indespreal malnutrition, and poverty among the populace. The unstable rainfall pattern may correlate with unsteady food supply. The need for all year round food production in Nigeria why is it inevitable is an important challenge. The seasonal rainfall agriculture, which correlates with seasonal food supply, cannot bridge the food supply-demand gap in Nigeria. Dry season (Fadama) farming becomes a panacea. The Fadama development scheme adopts a community-driven development approach with extensive participation of fadama user group.

Traditionally, farms were owned and managed by men as heads of the farm families. However, due to economic pressure and greater awareness, arising from education, the traditional gender pattern of farming is increasingly breaking down. As a result, women are increasingly involved in farming in general and food crop production in particular. (Chukwuji and Oyaide, 2005).

In Africa and across all societies, gender is one of the most common marks of inequality. (Awoniyi, 2010). In many Nigerian communities, economic roles of rural women are extension of their domestic roles until recently that little definite effort were made to evolve policies that will increase rural women's access to educations, technologies, training, credit, land, resource necessary for agricultural development. (Alshatu 2002). Fadama project gedu sensitive.

The National Fadama development project is a major instrument for achieving agricultural development and poverty reduction objective in the rural farming communities in Nigeria. This is in line with the Millennium Development Goal of poverty reduction. Its beneficiaries are the private economic agents including farmers achieving their livelihood directly or indirectly from the exploitation of the natural resources.

These farmers are members of Fadama Community Association (FCAs). Through this, they are able to access the resources and the needed training and technical assistance/support to properly manage and control these resources for their own development. (Global environmental facility, 2008).

It is assumed that the success of the Fadama Programme will depend to a large extent, on the effectiveness or otherwise of the group approach and gender consideration. It is therefore important to analyse the effect of gender on access and utilization of Fadama package.

Before now, the effect of gender on implementation of fadama III among user groups in the study area have not been investigated, especially in relation to their access and utilization of the package. This could reveal some facts that could be attributed to the fadama III project implementation. Some members of the user group could be discriminated against on the basis of gender in accessing fadama packages such as credits, planting materials, herbicides, fertilizers, sustainable land management, farming implements. Determining gender differences in user's access to fadama package and associated factors becomes imperative in the study area.

Besides, one clear measure of effectiveness of the implementation of Fadama III in Isoko North in Delta State is through the response of the user group to access and utilization of the packages. Hence there is the need for preliminary gender analysis of access and utilization of Fadama III package since the inception of the project in Delta State, Nigeria. It is important to ascertain whether gender difference in access to and utilization of the Fadama III package is a major problem area in the project implementation in the study area. It is believed that the findings of this study will be useful to National Fadama Development Project (NFDP) by identifying problem areas, prospects and potential areas of reviewed and improvement.

The specific objectives of the study were to: (i) describe socio-economic characteristic of respondents, (ii) determine gender difference in users access to Fadama packages,(iii) ascertain gender differences in Fadama III package utilization among user group, (iv) identify constraints to Fadama III package utilization among user groups in the study area.

H_o: This is no significant association between gender and accessibility to Fadama III package.

2. Theoretical Framework

This study was predicated on the theory of gender analysis. Gender equality refers to the ability of men and women to have equal opportunities and life chances. It refers to an equitable distribution of production as well as consumption of resources between men and women. Therefore any factor that inhibits either men's or women's access to resources of any type constitutes gender based constraints (Chukwuji and Oyaide,2005). In Africa and across all societies, gender is one of the most common marks of inequality (Awoniyi, 2010). In many Nigerian communities, economic roles of rural women are extension of their domestic roles until recently that little efforts were made to evolve policies that will increase rural women's access to education, technology and credit.

The theory of gender analysis thus create a window for women involvement in agricultural programmes, including Fadama Programme. Including gender concept in Fadama Programme implementation will translate to success. The emphasis of debates on gender analysis is a consequence of either of the following assumptions or a combination of both:

- That human problems are the same and so there is no justification to treat women as a special subject of study. This is a wrong assumption as men and women have different concerns and therefore inhabit different worlds.
- Men may not be competent to articulate and analyse the social problems women encounter (e.g house work, domestic violence or sexual harassment) hence women studies should await the emergence of competent women sociologists.

That there are anatomical and physiological differences in the make-up of males and females has been of very little controversy but how those differences have shaped social relationships between the sexes have raised dust storms. Studies of human societies over the world have revealed that some degree of male domination characteristics social organization. This has given rise to the tendency of some societies to believe that the male sex is superior to the female. This is termed sexism and has been the ideological underpinning of the treatment of women as second class citizens in most cultures of the world.

Cixous (1981) maintained that women must rise up to assert themselves in learning and discoveries so as to unblock in society a sexuality that is just as much feminine as masculine.

The conflict school of thought holds that gender implies not only how people think and act, but also inequities in the distribution of wealth, power and privileges between the two sexes (Ekong, 2003).

3. Methodology

This study was carried out in Delta State Nigeria. The area lies between longitude $60^{o}2^{1}$ and $6^{o}15^{1}$ and $50^{o}45^{1}$ North of the equator. This area was chosen because of its participation in the National Fadama III development project. The Fadama user groups in the area are mainly small holders that own about 0.5-2.5 hectares of cassava farm. The major agricultural problems faced include: land fragmentation, flood, poor soil, low farm returns, continuous cropping, unsteady rainfall pattern which has led to unsteady food supply. Hence they embrace Fadama (dry season) farming system. The study was comprised of 120 respondents selected from among the Fadama user group in the communities using systematic sampling technique in order to avoid selectivity bias the target population were Fadama farmers that are members of the Fadama user group in the study area. Data collected related to the socio-economic characteristics of the farmers, their access and utilization of Fadama package and the constraints to the utilization of the package accessed.

Data generated were analysed using descriptive statistics. Descriptive statistics used include percentage, frequency table. Chi-Square (x^2) statistics was also used to test the association between gender and accessibility to Fadama III package.

4. Results and Discussion

4.1 Gender Analysis of Socio-Economic Characteristics of Respondents

The gender analysis of socio-economic characteristics of respondents is presented in Table 1.0

The socio-economic characteristics of respondents include:

Age: Result showed that the age group that participated more in the user group is within 40-49 (3.4.17%) 50-59 (3.2.50%) 60 and above is (17.5%), 30-39 (9.17%) and less than 30 (6.67%).

The implication of the findings is that most of the respondents (males and Females) are in their active and productive ages and thus capable of undertaking the labour demanding tasks characteristics of fadama farming system.

Gender: Out of the 120 respondents, 40% were males while 60% were females. This shows that females farmers dominated the Fadama user group in the study area and so the issue of gender discrimination does not arise. This agrees with Ani (2001) and Chukwuji and Oyaide (2005). According to Ani (2001), two third 2/3 of all farm activities are carried out by women. Chukwuji and Oyaide (2005), reported that women are increasingly involved in farming activities.

Marital status: About 65% were married, 10% single and 25% divorced. This might corroborate the stand that the married institution is still cherished and it is an indication of economic responsibilities of the respondents in caring for dependants.

Educational Attainment: Highest level of educational attainment was secondary education 33.33%. No formal education 28.33%, Acluct classes 17.5% primary education 12.5%, tertiary education 8.33%. This result implies that illiteracy is not likely to be a major constraint to Fadama III development in the study area. About 30% are illiterate. It is likely to have an impact. The result showed that the primary occupation of respondent is farming 90%, trading 8.33% and transporting 1.67%. This agrees with Ekong (2003) that rural dwellers are mostly involved in farming and farming related activities. 41.67% of the farmers had farming experience of 10-19 years, 30.83% had experience of 20-29 years, 16.67% had experience between 30 and above and 10.83% had experience of 0-9 years. This implies that the respondents had long term experience in farming.

Land tenure: 41.67% acquired their land holding through inheritance. 25% rented their, 18.33% through communal system, 9.17% borrowed, 2.5% got their through gift and 3.33% purchased theirs. This result corroborate with the notion that inheritance is the most important method of land acquisition in Isoko North Local Government Area of Delta State. This land acquisition system tends to favour male farmers at the expense of female farmers. This system is therefore a limitation to female farmers. Ezeh and Mbanasor (2004), that Fadama farmers are small holder farmers.

Access to credit: 76.67% had access to credit while 23.33% had not. The high percentage of loan could be the reason of increase in membership of the fadama user group, according to Ezeh and Mbanasor (2004), Fadama loan package attracted both small and large-scale farmers through registration with Fadama users Asociation.

Source of Labour: 55% of the farmers engaged in family and thired while 23.33% used family labour and 21.67% engaged in the practice of using hired labour only. This implies that family labour is highly utilized therefore reducing cost of production.

4.2 Gender Difference in Users Access to Fadama III Farm inputs

The gender difference in users group access to Fadama III package in the study area was measured with descriptive statistics such as frequency table and percentage as shown in table 2. It was observed that both male and female had access to one or more package and the proportion of female farmers that access is more than that of male. This could be due to the fact that the user groups is composed of more female farmers compared to male. According to Chukwuji and Oyaide (2005), due to economic pressure and greater awareness arising from education, the traditional gender pattern of farming is increasingly breaking down resulting to more women increasing involved in farm in general and food crop production particular. Improved seed/seedlings was the highest package accessed by female 43.33%, male accessed credit with 36.67%, female credit was 40%, males improved seed/seedlings 28.33%, sustainable land management male 19.16%, female 30%, farm implement female 14.17%, male 12.50%, herbicide female 13.33%, male 12.50% fertilizer male 13.33%, female 26.67%. It is important to note that Farmers membership of Fadama user group made them all had access to the package. Group approach adopted by government and world bank is effective in channeling technology to the farmers. The female folks in the groups were not discriminated against. This could be due to the fact that members of the same group share the same objective, goal and interest. According to Ekong (2003), members of the same group share certain characteristics, qualities and interest in common.

4.3 Gender Difference in Fadama III Farm inputs Utilization

This was measured using descriptive statistics as shown in table 3. It was observed that fertilizer was utilized to the maximum. Male farmers accessed 13.33% of fertilizer and utilized 13.33%; female Farmers accessed 23.33% of fertilizer and utilized 22.50% for improved seed/seedlings male accessed 28.33% and utilized 26.67% for sustainable land management, male accessed 19.16% and utilized 15.83% female accessed 30.00% and utilized 23.33% for farm implement, female accessed 14.17% and utilized 10.83%, male accessed 12.50% and utilized 8.33% for Herbicide, male accessed 12.50% and utilized 6.67% and female accessed 13.33% and utilized 8.33%. Credit male accessed 36.67% and utilized 15.83%, female accessed 40.00% and utilized 28.33%. On the average, when compared the female utilization to that of the male, female utilized more their packages unlike the male respondents. This corroborate with the findings of Chukwuji and Oyaide (2005) that women had better input utilization behaviour than their male counterparts, that they generate higher income than men per unit of resources (loan) used.

4.4 Constraints to Fadama Farm inputs Utilization

The constraints to Fadama package utilization among the user groups in the study area include land tenure, inadequate fund, and inadequate labour supply, conflicts among user group, inadequate storage facilities and poor road network as represented in Table 4. 56.67% of female farmers and 36.67% of male suffered land tenure this could be as a result of land fragmentation and female farmers not allowed to inherit land in Isoko North Local Government Area. It could also be attributed to poor road Network, with female 47.50% and male 30.83% in that they roads were in difficult non motorable conditions, thereby causing difficulties in accessing the lands and transportation of inputs to and outputs from farms. Another constraint was inadequate fund female 31.67% and male 4.17%. The credit provided to the fadama user group is shared among group members so that at the end the money shared to an individual will not be enough for him/her to capitalize their fadama enterprises. Adequately storage facilities also was another important constraint with male 24.17% and female 18.33%. This constraint is prominent during the time of harvest, when all packages accessed is utilized, thee is bound to be bumper harvest this will create glut in the market due to the fact that many of the farmers do not have storage facilities for their products, thus leading to very low returns per hectare of creps.

This will discourage the farmers from getting involved in farm activities, just as noted by Karikari (1989) that demotivation is a characteristic of lack of efficient storage system.

The conflict among the user groups also constituted a problem to Fadama package utilization. About 19.17% of male and 25% of female indicate that conflict among users constitutes a problem to fadama III programme. Conflicts arises in the distribution of the packages. No member will want to be discriminated against. Inadequate labour supply posed as a problem too with male respondents 10.00% and female 34.17%. According to Fakayode *et al* (2009), labour problems perhaps explains why respondents cultivate small farm plots. This will lead to inadequate utilization of the fadama package.

All of these constraints stated above agrees with the findings of Ibironke (2009) and Oladoja and Adeokun (2009) that the major constraints to Fadama package utilization is land tenure, credit facilities, non accessible road network, lack of storage facilities, conflicts among users group and inadequate labour supply.

5. Conclusion

Gender discrimination has been a topical issue in agriculture, especially when distribution of technologies is involved. This problem necessitated this study. From the study it is obvious that female farmers in fadama user groups were not discriminated against in the distribution of fadama III package. It was therefore established in this study that the use of group approach by stakeholders in the agricultural sector as a strategy for technology distribution will be very effective in taking care of gender discrimination. World Bank and Federal Government should continue to adopt group approach in the Fadama programme. However, the success of the programme will depend on how well some constraints such as land tenure, inadequate fund, inadequate labour supply, conflicts among user group, inadequate storage facilities and poor roads network are taken care of World bank and Federal Government should therefore include land for acquisition and storage facilities especially for women farmer in Fadama package. The amount of loan given to Fadama user groups should be reviewed upward. All these will translate to sustainable food security and poverty alleviation which is the intended goal of Fadama programme in Delta State.

Reference

Aishatu, M. S (2002): Gender and Sustainable Development. National Center for Economic Management and Administration (NCEMA), Ibadan.

Ani, A.O. (2001): Increasing Nigerian Agricultural Productivity by involving Rural Women in Extension Planning and Delivery. Seminar Paper Presented at Faculty of Agriculture University of Makurdi, Benue State, Nigeria.

Awoniyi O.A. (2010): Gender Differentiations in Access to productive Resources and its Effect on poverty status among yam farmers in Kwara State.

Chukwuji, C. O and Oyaide W.J. (2005). Gender Analysis of Technical Efficiency in Food crop production in Delta State, Nigeria. In Ogisi O. D., Okuneye, P. A., Oyaide, W.J., (Eds) Economic reforms and Management of Nigerian Agriculture. Proceedings of the 19th Annual Conference of Farm Management Association of Nigeria (FAMAN) pp 227-236.

Chukwuji C. O. (2010) Gender Analysis of Rural Non-Farm Employment and Poverty Alleviation in Delta State, Nigeria.

Cixous H., (1981), "Castration or decapitation" in Signs

Ekong E.E. (2003), An Introduction to rural Sociology. Ugo: Dove Educational publishers pp 372-375.

Ekong, E. E., (2003). Rural Sociology An Introduction and analysis of Rural Nigeria. Dolle educational publishers, 80 wellington Bassey way Uyo Nigeria ISBN 978-36932-0-4

Ezeh, C. I and Mbanasor .J.A., (2004) Economic Analysis of Dry season Telfaria production of Abia State. Volume 2. Number 1 pp 66-75

Fakayode, S. B Omotesho, D. A., Olorunsaya, E., Babatunde, R. O and Obafemi, A. A (2009) Economic Assessment of Fadama maize production in Kwara State Nigeria pp 57-65

Ibironke, A. O., (2009), Factors Associated with Fadama Production of vegetables by small-scale farmers in Ondo State Nigeria. In journal of food, Agricultural and Environment 7 (3 & 4) 551-555.

Karikari, S.K., (1989). Harvesting, Handling and storage of major fadama vegetable crops A paper presented at the Sokoto Agricultural and Rural Development Authority Sokoto A.D. P

Oladoja, M. A., and Adeokun, O. A (2009) An appraisal of the National Fadama Development Project (NFDP) in Ogun State, Nigeria. Agricultural journal 4 issues (3), pp 124-129.

Appendix I

Table I: Socio-Economic Characteristics of Respondents

S/N	Characteristics	Frequency	Percentage
1	**Age in years**		
	Less than 30	8	6.67
	30-39	11	9.17
	40-49	41	34.17
	50-59	39	32.5
	60 and above	21	17.5
	Total		
2	**Gender**		
	Male	48	40
	Female	72	60
	Total		
3	**Marital Status**		
	Single	12	10
	Married	78	65
	Divorced	30	25
	Total		
4	**Level of Educational Attainment**		
	No formal education	34	28.33
	Primary Education	15	12.5
	Secondary Education	40	33.33
	Tertiary Education	10	8.33
	Adult Classes	21	17.5
	Total		
5	**Primary Occupation**		
	Farming	108	90.00
	Trading	10	8.33
	Transporting	2	1.67
	Total		
	Farming Experience		
6	Below 9 years	13	10.83
	10-1920-29	50	41.67
	30 years and Above	37	30.83
	Total	20	16.67
7	**Source of farm land**		
	Family	50	41.67
	Purchase	4	3.33
	Gift	3	2.50
	Community land	22	18.33
	Rented	30	25.00
	Borrowed	11	9.17

	Total		
8	**Farm size**		
	Less than 0.5	22	18.33
	0.5-1.0	43	35.83
	1.1-1.5	23	19.17
	1.6-2.0	21	17.5
	2.1 and Above	11	9.17
	Total		
9	Type of Labour		
	Farming labour	28	23.33
	Hired labour	26	21.67
	Family and Hired labour	66	55.00
	Total		
10	**Access to Credit**		
	Number that accessed credit	92	76.67
	Numbers that did not access	28	23.33
	Total		

Source: field survey 2010**.**

Appendix II

Table 2: Gender difference in users Access to Fadama Package

S/N	Package	Gender Differences			
		Frequency		Percentage	
		Male N= 48	Female n= 72	Male n =48	Female n =72
1	Credit	44	48	36.67	40.00
2	Improve seeds/Seedling	34	52	28.33	43.33
3	Herbicides	14	16	12.50	13.33
4	Fertilizer	16	28	13.33	23.33
5	Farm Implement	15	17	12.50	14.17
6	Sustainable land	23	36	19.16	30.00
7	Management				

Multiple Responses were recorded
(Source: Field Survey 2010)

Appendix III

Table 3: Gender difference in Fadama Package Utilization

S/N	Package	Gender Differences			
		Frequency		Percentage	
		Male N= 48	Female n= 72	Male n =48	Female n =72
1	Credit	19	34	15.85	28.33
2	Improve seeds/Seedling	32	50	26.67	41.67
3	Herbicides	8	10	6.67	8.33
4	Fertilizer	16	27	13.33	22.50
5	Farm Implement	10	13	8.33	10.83
6	Sustainable land	19	28	15.83	23.33
7	Management				

Multiple Responses were recorded
(Source: Field Survey 2010)

Appendix IV

Table 4: Constraints to Fadama Package Utilization

S/N	Package	Gender Differences			
		Frequency		Percentage	
		Male n= 48	Female n= 72	Male n =48	Female n =72
1	Land tenure	44	68	36.67	56.67
2	Inadequate fund	5	38	4.17	31.67
3	Inadequate labour supply	12	29	10.00	24.17
4	Conflicts among the user group Inadequate storage facilities	23	30	19.17	25.00
5	Poor road network	29	22	24.17	18.33
6		37	57	30.83	47.50

Multiple Responses were recorded
(Source: Field Survey 2010)