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Gender Issues on Poverty Alleviation Programmes in Nigeria; the Case of the National Fadama 1 Development Project in Abia State, Nigeria

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Abstract

This study determined the gender issues on poverty alleviation programmes; the case of the National Fadama 1 Development Programme in Abia State, Nigeria. Multi-stage random sampling technique was used in the selection of the local government areas, communities and sample size of 150 respondents (75 men and 75 females). The instrument for data collection was via well structured and pretested questionnaires. The result of the poverty profiles indicated that the poverty incidence of the male and female fadama farmers was 0.67 and 0.56 respectively. The result on the poverty gap (measures income shortfall) showed that the men required 46.0 percent and the women 48.0 percent of the poverty line to get out of poverty. The result also posted the Gini-coefficient (measures the extent of inequalities in income distribution) of the male and female fadama farmers to be 0.233 and 0.347 respectively. The result of the paired t-test revealed that the farm size and annual fadama farm income were statistically significant at 99.0% and 95.0%. Confidence level respectively. Policy aimed at annulling the land tenure system and replacing it with a gender sensitive system that will redistributive the fadama land equitably. The land tenure system which causes fragmentation of land should be abolished and a policy aimed at redistributing fadama land equitably put in place.

Key words

Gender, poverty alleviation, poverty incidence, National Fadama.

Introduction

Low production and productivity have continued to characterize Nigeria's agricultural sector thereby limiting the ability of the sector to perform its traditional role in economic development. In order to break this cycle and improve the performance of the agricultural sector, the Nigerian government, over the years introduced and implemented several policies and programmes at recuperating the sector (Ajibefun and Aderinola, 2004). A more recent effort towards production and enhancement of farmers' welfare is the introduction and implementation of the National Fadama 1 Development Project funded by the World Bank between 1993 and 1999 which built in the success of pump and wash bore based farming which the Agricultural Development Projects (ADPS) supervised (Blench and Ingawa, 2004)

Fadama – the Hausa name for irrigable land: are flood plains and low-lying areas underlined by shallow aquifers and found along Nigeria's rivers systems. (Qureshi, 1989; Ingawa et al, 2004; Nwachukwu 2006, and Ezeh, 2009). The National

Fadama 1 Development Project (NFDP) was established to ensure all year round growing of crops in all the States of the federation through the exploitation of shallow aquifers and surface water potentials in each State using tube well, wash bore and petrol-driven pumps technology (World Bank, 1992; BSADP 1994).

Evidence had shown that men and women were involved in the National Fadama 1 Development Project (Ezeh, 2004). Women constitute not only the major agricultural labour force but they are often also the farm decision makers, FAO (2004) recognized that the empowerment of the women is key to raising levels of malnutrition, improving the production and distribution of food and agricultural products. Indeed, a gender equitable mode of irrigation farming is likely to be more productive than male dominated fadama farming. This is because small farm enterprises characterized by gender role flexibility were found to have much better survival chances than similar farm enterprises lacking such gender role flexibility (Safilious-Rothschild, 2003). Evidently, such agricultural growth will not only

contribute to gender equity but also to long term poverty reduction.

Meanwhile agricultural production in Nigeria has always been seen as dominated by men. This assumption helps in perpetuation of the vicious cycle of poverty and undermines the women's involvement in agricultural production.

Nwaru (2003) is of the view that gender specific nature of farming seems to be disappearing fast, changing the role of women in farming and that women are increasingly taking over tasks and enterprises which belong to men traditionally. Boserup (1987) opined that nearly all tasks connected with food production or the so called agro-industry are performed by rural women, with the exception of tree cutting and other heavy land preparation which are performed by men. Unfortunately, Durno and Stuart (2005) noted that these women are not recognized as farmers and are not critically involved in the process of farm problem analysis, planning and decision and not provided with the training, credit and support they needed.

They equally noted that development opportunities are usually offered to those who are better educated. These people are usually men. Many extension programmes are focused on the family head that is usually the husbands. The presumption is that women are less economically efficient than men.

It is therefore the central motive of this study to:

- i. determine the poverty incidence and poverty gap of the rural men and women involved in the programme in the state.
- ii. determine the degree of inequalities in income distribution among the rural men and women participants.
- iii. determine and compare the impact of fadama 1 technological packages on rural men and women farmers incomes farm size, labour use and farm output in the state.
- iv. make appropriate policy recommendation based on research findings.

In line with a research objective, the understated null hypothesis was tested.

HO: There are no significant differences in farm income, farm size, use of labour and output between the men and women fadama participants in the state.

Material and methods

The study was carried out in Abia State. The state was chosen because of its involvement in the National Fadama 1 Development Project. Abia State was created out of Imo State on August 27, 1991. It has a land mass of 700 square km with 17 local government areas. The state lies between longitudes 7° 23' and 8° 02' East of Greenwich meridian and latitudes 5° 49' and 6° 12' North of the equator. Abia State is bounded on the east by the Cross River and Akwa Ibom States, on the north by Ebonyi and Enugu States, on the West by Imo State and on the South by Rivers State. Abia consists of three agricultural zones, namely; Aba, Umuahia and Ohafia. The population of Abia State is 2, 833, 999 with 1, 434, 193 males and 1, 399, 806 females.

Multi-stage random sampling technique was used in selecting the local government areas (LGA), autonomous communities and respondents. The three agricultural zones (Aba, Ohafia and Umuahia) were involved in the study. In stage one, one local government area was selected at random from each agricultural zone. The selected L.G.As include Umuneochi in Ohafia zone, Umuahia South in Umuahia zone and Ugwunagbo in Aba zone. In stage two, one Autonomous Community was randomly selected from each of the local government areas. Stage two involved the random selection of 25 males and 25 females fadama 1 participant in each community bringing the sample size to 150. Instrument of data collection was a well structured and pre-tested set of questionnaire.

Per-capital poverty indicators were used to draw conclusion on objective (i) while objective (ii) was analyzed with the use of Gini-coefficient. objective (iii) was realized by the use of paired "t" test.

The following specifications were used to determine poverty level according to Ezech (2007).

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

Where: q = numbers of male and female fadama 1 farmers living below the poverty line.

n = the total number of fadama 1 farmers

H = the head count ratio

$$I = \{(Z-Y)/Z\} \quad (2)$$

Where I = the poverty gap

Z = the poverty line using the mean household expenditure.

Y = the average income of the male and female

fadama farmers.

$$G1 = 1 - \sum^n (XK - XK - I) (YK + YK - I) \quad (3)$$

$k = 1$

Where: $G1$ = Gini coefficient

Xk = the cumulated proportion of the population variables for $K = 0, \dots, n$ with $X_0 = 0$; $X_n = 1$

YK = The cumulated proportion of the income variables, for $k = .n$ with $Y_0 = 0$, $Y_n = 1$

Paired t-test was used according to Koutsoyiannis (1977) thus:

$$T = \frac{\bar{x}_1 - \bar{x}_2}{\frac{s_1}{\sqrt{n_1}} + \frac{s_2}{\sqrt{n_2}}} \quad (4)$$

With $n_1 + n_2 - 2$ degree of freedom

Where $t = "t"$ statistic

\bar{X}_1 = mean values of crop output, farm size, from income, and use of labour of male fadama participants.

\bar{X}_2 = mean values of crop output, farm size, farm income, and use of labour of female fadama participants.

S^2_1 = variance of the male variables

S^2_2 = variance of the female variables

n_1 = number of observation (sample size of males)

n_2 = number of observation (sample size of females)

Results and discussion

The poverty profiles of the male and female fadama 1 farmers in Abia State, Nigeria is shown in Table 1. The result showed that the incidence of poverty also known as the head count ratio for the male and female fadama 1 farmers was 0.67 and 0.56

Respectively. This implies that 67.0 percent and 56.0 percent of the male and female fadama 1 farmers respectively in the study area were poor. This is because their incomes fell short of the mean household expenditure used as the poverty line (N61, 070.00 for the males and N52, 387.00 for the females). This result corroborates with Ayobatele and Amudipe (1999) which found out that 76.4 percent of working women in Ondo State, Nigeria were poor.

The poverty gap also known as the income shortfall is also shown in Table 1. This allows for the assessment of the depth of poverty among the male and female fadama 1 participant in the study area (Ezeh, 2007; Ehiemere, 2008). The result of the study showed that the poverty gap index for the male and female fadama 1 farmers were 0.46 and 0.48 respectively. This showed that the women were at hard hit and at the highest realm of the poverty ladder and required deliberate economic measures to emancipate them from poverty. This means that the males required at least 46.0 percent and the females at least 48.0% of the poverty line to get out of poverty. This result is synonymous with Nwankwo (2004) and Ezeh (2007) who obtained similar results. This showed that the women Fadama I farmers were hard hit at the highest realm of the poverty ladder and required deliberate economic measure to emancipate them from poverty.

The result of the Gini co-efficient signaling the inequality of incomes between the male and female fadama 1 farmers is also shown in Table 1. This result showed that the Gini coefficient for the male fadama 1 farmers was 0.233 while that of their female counterparts was 0.347. This means that the degree of inequality in income was 23.3 percent and 34.7 percent for the male and female fadama 1 farmers respectively. This is an indication that the females were in a higher poverty level having reduced income level than their male counterparts. This result is consistent with Ezeh (2007) who had

Poverty Indicators	Male Fadama J Participants	Female Fadama Participants
Poverty Incidence (Head Count Ratio)	0.67	0.56
Poverty gap (Depth of Poverty)	0.46	0.48
Gini Coefficient	0.233	0.347

Source: Calculations from field Survey Data, 2008

Table 1 The poverty profiles of Male and Female Fadama I Farmers in Abia State, Nigeria.

Variable		Individual Mean	Mean Difference	Standard Error	Value
Fadama farm output (kg)	Males	374.09			
	Females	335.16	39.93	31.78	1.23
Fadama Farm Size (ha)	Males	3.25			
	Females	2.69	0.56	1.66	2.92
Fadama Farm incomes (N)	Males	82,066.67			
	Females	66,333.33	15,733.34	5912.04	2.66
Fadama Farm Labour use (Man days)	Males	8.13			
	Females	8.32	-0.19	0.28	-0.66

***, ** = Variables significant at 1.0% and 5.0% levels respectively

Source: Calculations from field survey data, 2008

Table 2 Paired Samples Statistics for Male and Female Fadama 1 Participants in Abia State.

a Gini coefficient of 0.25 for the rural women in Umunochi Local Government area of Abia State, Nigeria, and Ayobatele and Amudipe (1999) who equally obtained a low GI for women farmers in Ondo State, Nigeria.

The impact of the fadama 1 packages on rural women and men Fadama farmers' income, farm size, labour use and farm output is shown in Table 2. The estimated cultivated mean farm size of the male Fadama 1 farmers was 3.25 ha while that of the farmers was 2.69 ha. The difference in mean between the male and female Fadama 1 farmers cultivated land holding was 0.56 ha. The result of the paired t-test for difference in mean showed that this is statistically significant at 99.0 percent confidence level. This is because the calculated t "value" = 2.917 > the tabulated "t" 0.025 = 1.980. Therefore, the hypothesis of no difference in farm size is rejected. This result compared favorably with Nwachukwu and Ezeh (2007) who obtained similar result.

The mean incomes generated from the sale of various fadama crops (vegetables, rice, maize and okra) from both groups of fadama 1 farmers (males and females) were compared. The result showed that the mean annual farm income of the male Fadama 1 farmers was N 82,066.67 (US\$ 547.11) while that of the females was N 66,333.33 (US\$ 442.22). The mean difference was N 15,733.33 (US\$ 104.88). The result of the paired t test showed that this is

statistically significant at 5.0% risk level. This is because the calculated $t = 2.66 >$ the tabulated $t = 1.982$. Therefore, the hypothesis of no difference is farm income in rejected. Given that the mean values of male participants were higher than those of their female counterparts in mean annual farm income and farm size, it could be inferred that the fadama 1 project impacted more on the males than the female fadama 1 farmers.

Conclusion and recommendation

The research revealed that the incidence of poverty for the males was 0.67 while that of the females was 0.56. It further showed that the poverty gap (poverty depth) index was 0.46 for the men and 0.48 for the women. The Gini coefficient showing the inequality in income distribution was 0.233 for the males and 0.347 for the females. The research also showed that the farm size and farm income of the males were significantly higher than those of the females.

It is therefore recommended that a deliberate policy aimed at increasing the fadama farm size and incomes of the women fadama 1 farmers should be embarked upon by the federal, state and local governments. The land tenure system which as of custom allocates land to the males only should be abolished and a policy that is gender sensitive and redistribute land equitably put in place.

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References

- [1] Ajibefun, I. A. and Aderinola E.A. Determinants of Technical Efficiency and Policy Implication in Traditional Agricultural Production; Empirical Study of Nigeria Food Crops Farmers. Final Report Presentation at Bi-annual Research Workshop of African Economic Research Construction, 2004, Nairobi, Kenya.
- [2] Ayobatele, J. T and Amudipe B. A. Poverty Profiles of Working Women in Akure North and South LGAs of Ondo State, Nigeria. In Y. C. Fabiyi and C.O. Idowu (eds) Poverty Alleviation and Food Security in Nigeria. Nigerian Association of Agricultural Economists (NAAE), 1999, Ibadan, Nigeria.
- [3] Bauchi State Agricultural Development Project (BSADP) Annual Report of the National Fadama I Development Project. 1999, Bauchi PME Unit.
- [4] Blench, R.M. and Ingawa S.A. A Practical Guide to National Fadama Development Project II on Conflict Management. The World Bank PCF/ Government of Nigeria PCU Fadama II, 2004.
- [5] Boserup, E. Women's Role in Economic Development, 1978, New York; Martins Press.
- [6] Durno, J. and Stuart R. Gender Issues in Sustainable Agriculture. In overholt C. (ed). Gender Roles in Development Studies. 2005, New Delhi I Fox Publication;
- [7] Ehiemere, I.O. Gender Issues In Poverty Alleviation Programmes: The Case of National Fadama I in Abia State. Unpublished B.Agric project. Department of Agriculture Economics and Extension, Abia State University Uturu, 2005, Nigeria.
- [8] Ezeh, C.I. A Comparative Study Fadama and Non Fadama Crop Farmer in Osisioma Ngwa LGA, Abia State, Nigeria. Journal of Sustainable Tropical Agricultural Research 13; 2005, 26-31.
- [9] Ezeh, C.I. Poverty Profiles and Determinants of Expenditure of Rural Women Households in Nigeria. Nigerian Journal of Development Studies 6 (1), 2007, 187-204.
- [10] Facilitating Project Implementation Manual for Second National Fadama Development Project. Federal Ministry of Agriculture and Rural Development Abuja.
- [11] Food and Agricultural Organization (FAO) Sustainable Development and Management Wetlands; Wetland contribution to livelihoods in Zambia. 2004, FAO Rome.
- [12] Ingawa, S.A; A. Oredipe; AA K I dafor ad C. Okafor (eds), 2004.
- [13] Koutsoyiannis, A. Theories of Econometrics, Second Edition, London, 1977, Macmillan Press Ltd ELBS.
- [14] Nwachukwu, I.N. Efficiency of Vegetable Production in Imo State; The case of fadama Teifairia occidentalis M.Sc Thesis. Department of Agricultural Economics Michael Okpara University of Agriculture Umudike, Abia State. 2006, PP.1-5.
- [15] Nwachukwu, I. N. and Ezeh C.I. Impact of Selected Rural Development Programmes on Poverty Alleviation in Ikwuano LGA Abia State, Nigeria. AJFAND Online Journal Kenya, 2007.
- [16] Nwankwo, I. I. M. The Impacts of Community Banks on Women Farmers Poverty Levels in Rural Abia State. Nigeria. M.Sc Thesis, Department of Agriculture Abia State University Uturu, 2004.
- [17] Nwaru, J.C. Gender and Relative Production Efficiency in Food Crop Farming in Abia State, Nigeria. The Nigerian Agricultural Journal 34:1-10. 2003.
- [18] Qureshi, M. Water Management in Fadama Crop. A Paper Presented at the National Workshop on Fadama and Irrigation Development in Nigeria held at Zaranda Hotels, Bauchi, Bauchi state, 1989.
- [19] Safilios – Rothschild, C. Gender Role flexibility and Smallholder Survival. International Journal of Agricultural Resources, Governance and Ecology 2003, 2(2); 187-200.
- [20] United Nations Development Programme (UNDP), 2007, Human Development Report 2007/2008.

- [21] World Bank, Staff Appraisal Report. National Fadama Development Project Kano, Nigeria, 1992. Available at www.undp.org. (Accessed 3 February, 2008).