

Gender and Socio-Economic Perspectives to Rural Women Participation in National Programme for Food Security (NPFS) in Ebonyi State, Nigeria

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Abstract – The study assessed gender and socioeconomic perspectives to rural women participation in National Programme for Food Security (NPFS) in Ebonyi State, Nigeria. A combination of purposive and multi-stage random sampling techniques were employed in selection of 180 (one hundred and eighty) women beneficiaries (respondents) for the study. Primary data were collected through field survey using a well structured questionnaire and interview schedule. Data collected were analyzed using descriptive and inferential statistics according to the specific objectives of the study. The result of the socio-economic characteristics of the respondents shows that majority 56.70% and 76.60% were married and fall within age bracket of 21-40 years. Majority 63.30% had no formal education. The household and farm size of most of the respondents 50% and 67.80% ranged between 6-10 persons and 1.1-1.5 hectares. Most of the women 32.20% had been farming between 11-15 years. Self-sourcing was the major source of fund to majority 46.70% whose income per annum ranged between ₦51,000- ₦100,000 with 51.70% response. The result of comparative analysis of participants (beneficiaries) according to gender reveals that in all the L.G.As studied, the percentage of men who participated in NPFS was greater than that of females. The result of multiple regression analysis revealed that the level of women farmers' participation in NPFS was influenced by their socio-economic characteristics as revealed by high coefficient of multiple determination (R^2) of 77 percent. All the independent variables were positively signed and statistically significant. The result of factor analysis identified financial, administrative and institutional constraints as barriers limiting women farmers' involvement in NPFS. It was concluded that gender disparity existed from the planning to actual implementation of the programme in Ebonyi State of Nigeria. The study recommended integrated capacity building programmes for women at grassroots level to empower them for greater participation in farm-based intervention in the state.

Keywords – Gender, Participation, Rural Women, National Programme for Food Security, Ebonyi State, Nigeria.

I. INTRODUCTION

Gender relates to socially assigned roles and behaviours attributed to men and women; it refers to the social meeting of biological sex differences. Gender roles are roles that are played by both women and men which are not determined by biological factors but by socio-economic and cultural environment or situation (ICA-ILO 2001; Mollé and Mtenga 2000). Gender affects the

distribution of resources, wealth, work, decision-making, political power as well as enjoyment of rights and entitlements within the family and in public life (Welch *et al.*, 2000). Women from poor households engage in a variety of income-generating and expenditure-saving activities. In some cases, these activities supplement the contribution by males while in others they are the primary or the sole source of household livelihoods (Kabeer, 2003). Women are twice as likely as men to be involved in agriculture-related activities (Odame *et al.*, 2002). They are involved at all stages of agricultural productions in Nigeria. Olowoye (2000) reported that 50% of Women In Oyo State, Nigeria were involved in planting, 97% in weeding, 35% in harvesting, 91% in transporting, 92% in processing and 79% in marketing. Njar (2001) added that Nigerian women are responsible for about 80% of all food items produced and sold in different parts of the country. The dominant role of Nigerian women in farm production have been discussed/reported by various scholars such as Agu (2002) who reported that Nigerian women provide as high as 70 percent of actual farm work and constitute up to 60-80 percent of the farming population in various parts of Nigeria.

Participation of rural women in food production, processing and marketing is very crucial in order to achieve food security (NEEDS, 2004). Recently, human nutrition experts have taken a hard look at the bioavailability of food and nutrition sources in the country and called for concerted efforts by farmers to enhance the quality of life through food production and sustainability. Owing to lack of adequate nutrients in most food consumed by Nigerians, non-communicable diseases are on the increase among the citizenry (FAO, 2003).

The advent of NPFS in Nigeria is a welcomed development. This programme jointly introduced and implemented by the Federal Ministry of Agriculture and Rural Development (FMARD) and the United Nations (FAO/UN) is committed to ensuring food security, reducing poverty and improving the nation's economy (Clover 2003, FAO, 1996).

As a result, and as a first step towards the Millennium Development goals target of reducing by half the number of hungry people by 2015, the Federal Government of Nigeria operated a pilot project of the NPFS in 3 sites of Kano State (FGN, 2006). Based on the successful experience, a five year nationwide National Special

Programme for Food Security (NSPFS) was launched in 2001 with the objective to increase and stabilize food production rapidly and sustainably through the wide spread dissemination of improved technologies and management practices in areas with high potential, and to create an economic and social environment conducive to food production as well as reaching some 30,000 farming families in each selected area (FGN, 2006).

In meeting this objective, Government decided to implement the programme with its own human and financial resources estimated at US\$45million while Food and Agriculture Organization (FAO) provided technical and managerial support on demand to the Government (FGN, 2006). The components of this programme include activities aimed at improving household food security through water control, such as on-farm irrigation, capacity building, and water management, crop intensification and diversification, soil fertility improvement, livestock improvement, aquaculture, and inland fishery, animal diseases and trans-boundary pest control. The field activities have been launched in all thirty six States. A total of 109 sites were selected to be developed on the basis of one site per Senatorial District. The Priority areas were selected on the basis of existing secondary data relating to potential of bringing about rapid improvement and their representative of major agroecological zones. Subsequently, selection of sites in each state was based on Participatory Rural Appraisal and Needs Assessment conducted by States/local implementation teams. The scale of intervention involves 250-300 farm families in each site (Federal Ministry of Agriculture, 2001). The implementation is in phases. To achieve the above, a Need Assessment Survey was carried out in 2001 in all the thirty six States and the Federal Capital Territory, Abuja, and the results show that all the States required assistance in various enterprises.

Food security as a concept is a situation that exist when all people at all times have physical, social and economic access to efficient, safe and nutritious food that meet their dietary needs and food preferences for an active and healthy life (FAO,1996). Analyzing gender perspective to participation in NPFS will reveal food security situation prevalent among Ebonyi State women farming households. The National Programme for Food Security is a participatory bottom up approach project module, the farmers felt needs form the prime focus and not imposed programme/module on the farmers.

Despite their outstanding contribution in agriculture, women are frequently underestimated and overlooked in development strategies. Food and Agricultural organizational studies demonstrated that while women in most developing countries are in the mainstream of agricultural sector, they have been the last to benefit from prevailing economic growth and development process.

The existing low level of consciousness about the roles played by women in the development of agriculture in Ebonyi State of Nigeria and the deep-rooted cultural beliefs and traditional practices that prevent women from playing their full roles in development processes in Nigeria underscore the need to investigate socio-economic

and gender dimensions to rural women participation in NPFS in Ebonyi State, Nigeria.

The broad objective of this study therefore, is to analyze gender and socio-economic perspectives to rural women participation in National Programme for Food Security (NPFS) in Ebonyi State. The specific objectives are to:

1. describe the socio-economic characteristics of the respondents;
2. comparatively analyze gender (i.e. male and female rural farmers) participation in NPFS;
3. determine the influence of socio-economic characteristics of the rural women on their level of participation in NPFS in Ebonyi State; and
4. identify constraints limiting rural women participation in NPFS in the state.

II. METHODOLOGY

This study was conducted in Ebonyi State of Nigeria, which lies appropriately on latitude $7^{\circ}3'N$ and longitude $5^{\circ}4'E$ and $6^{\circ}4'E$ in the South East geopolitical zone of Nigeria. Purposive and multi-stage random sampling techniques were used to select one hundred and eighty (180) rural women farmers who are beneficiaries of NPFS in Ebonyi State for the study. Firstly, purposive selection of two L.G.As based on NPFS site locations in each of the three agricultural zones was made. Secondly, selection of the three registered NPFS groups/cooperatives from each of the six selected L.G.As was made. Thirdly, selection of 10 (ten) rural women farmers who are participants as well as beneficiaries of NPFS to give a total of 180 (one hundred and eighty) respondents who formed the sample size for the study. A well structured questionnaire and interview schedule were used to collect primary data for the study. However, the list of all participating farmers in the State was obtained from Ebonyi State NPFS office to provide data on gender (Male and Female) distribution of all the participants in the State. Both descriptive and inferential statistics were employed in data analysis. Objectives I and II were analyzed using percentages while objectives III and IV were analyzed with multiple regression and factor analysis respectively. The null hypothesis was tested with F-test at 5% level of significance.

III. RESULTS AND DISCUSSION

The results presentation and discussions were based on the specific objectives of the study.

A. Socio-economic characteristics of rural women farmers.

The socio-economic characteristics of the rural women farmers were considered and presented in Table 1. Result shows that majority (76.6%) were between the age bracket of 21-40 years; while few (1.1%) were less than 20 years. This indicates an ageing farming population which is consistent with the assertions of Ekong (2003) that farming in the rural areas of Nigeria is dominated by older farmers because of the outmigration of youths to urban centres in search of white collar jobs. Ebewore *et al.*

(2013) reported age range of 30-39 years for yam farmers in their study area. Rahman *et al.*(2002) who showed that farmers age may influence adoption in several ways.

The result of the marital status shows that most of the respondents (56.7%) were married; whereas few (8.9%) are still single. This implies that most of the rural women farmers studied were married and have responsibilities to undertake. Ebewore *et al.* (2013) reported that majority (58%) of his respondents were married while Dikito-Wachtmeister (2001), opined that marital status is an important factor in social rural participation and acceptance. The findings of Oderhohwo (2008). Oladoja, Adedoyin and Adekun, (2008) contented that marriage is an important factor in the livelihoods of individuals in our society as it is perceived to confer responsibility on individuals.

Further analysis shows that majority (63.30%) of the respondents had no formal education; while only a few (1.7%) had obtained higher degrees. This implies that the literacy level of the respondents is very low. The low literacy level among the respondents may affect their access to information as previous studies by Singh *et al.* (1997) have indicated relationship between level of education and access to information among rice farmers. This is because access to adequate information is very essential to increased agricultural productivity Mgbada (2006) while Obasi (2005) reported that the level of educational attainment by a farmer would increase his farm productivity but also enhance his ability to understand and evaluate new production technologies.

The household size of most of the respondents (50.0%) ranged between 6-10 persons whereas very few (8.3%) live with more than 16 persons. This implies that the respondents' household size is relatively large. According to Njoku (1991), household with larger size tend to attach greater importance to food security than those that were in small in size.

The result of farm size of the rural women shows that majority (67.8%) possess 0.6-1 hectare while (1.1%) possessed above 2 hectares. This shows that most of the respondents are small scale farmers. This conforms to the work of Edeh (2008) who reported an average farm size of 0.91 hectares among rice farmers in Ebonyi State, Nigeria. Most of the rural women farmers (32.20%) had farming experience of between 16-20 years, which shows that they are experienced; while few (8.90%) had been involved in farming over 25 years. The number of years a farmer had spent in the farming business according to Nwaru and Ekumakama (2002) may give an indication of the practical knowledge he/she had acquired on how to overcome certain inherent farming problems.

Self-sourcing is the major source of funds for majority (46.7%) while very few (4.1%) sourced fund from co-operative societies. Most of the respondents (51.7%) earn between ₦31,000- ₦100,000 while very few (2.2%) earn above ₦350,000. This implies that most of the rural women farmers are low income earners. The result of the annual income indicates that there is a very weak earning power among the respondents. This poses a great threat to

acceptance of NPFS components and as well as innovation adoptions.

B. Gender Participation in NPFS

The result of data analysis in Table 2 indicates that the male farmers participated more in NPFS than their female counterparts. Among the L.G.As studied Abakaliki and Ohaukwu L.G.As' male participation in NPFS were 60.3% and 66.5% and 33.4%. Ivo and Afikpo South L.G.As male participation levels were 65.1% and 57.6% against the females at 34.8% and 42.3%. Moreover, Ezza North and Ikwo had male participation of 63.3% and 57.1% respectively.

The result above indicated that the level of female participation in NPFS state-wide was low compared to their male counterparts. The cumulative result average of the analysis showed a wide disparity of gender participation in the state with 63.2% males and 36.8% females. This result reflects gender imbalance in most interventions targeted at the rural poor in most parts of Nigeria and Africa in general. This implies that actual gender mainstreaming in programmes implementation remains a mirage in most local communities in Nigeria.

C. Influence of Socio-economic Characteristics of Rural Women on their level of Participation in NPFS in the Study Area.

Multiple regression analysis was carried out to determine the influence of socio-economic characteristics of rural women on their level of participation in NPFS in Ebonyi State. The result obtained is shown in Table 3.

A co-efficient of multiple determination R^2 of 0.781 which is equal to 78.1% was obtained using ordinary least square multiple regression analysis. This means that about 78.1% change in the dependent variable was caused by changes in independent variables included in the regression model. This is quite high indicating that the socio-economic characteristics of the women farmers exerted great influence on their level of participation in NPFS in the study area.

The overall influence of the independent variables on the dependent variable was depicted by the value of F-statistics (F-ratio=57.204) which was significant at 1% level of significance. All the independent variables were positively related to the dependent variable as shown by the positive signs of their coefficients.

The age (X_1) of the women farmers was positively signed and statistically significant at 1% level; showing that as the women increased in their age, their level of participation in NPFS increased as well. This agrees with the findings of Osuntogun and Adenomo (2006) who reported that age affected the level of participation of women in Fadama II programme in Oyo State, Nigeria.

Marital status (X_2) was positively and significantly related to the dependent variable, meaning that married women participated in NPFS unlike their single or unmarried counterparts. This is true because married women are laden with numerous family responsibilities as a result they strive to involve in agricultural development programmes as a means of expanding the income base of their households.

The educational attainment of the women farmers (X_3) was positively signed and showed statically significance at 10% level. This shows that the higher the level of education attained by the rural women, the higher their level of participation. This is true and conforms to the prior expectations because women are enlightened and thus would better appreciate and participate in NPFS better than uneducated ones. This is because education enhances the ability to decode, and evaluate useful information for agricultural production. The rate at which one can assimilate and idealize new knowledge largely depend on the educational level of the individual.

The household size of the respondents (X_4) was positively signed and highly significant at 1% level of significance. This means that the higher the household size of the respondents, the higher their participation in NPFS. This is true and conforms to the a priori expectations because women with large household size spend more to meet the needs of their household members. Thus, they diversify their sources of income to meet the challenges of increased household size.

The annual farm income of the respondents (X_5) was positively signed and statistically significant at 1% level of significance. This implies that the higher the annual income of the respondents, the more they participate in NPFS, meaning that rural women farmers with higher annual income participate in the programme more than those with lower annual income.

Farm size (X_6) bore a positive co-efficient and was statistically significant at 1% level of significance. This means that women farmers with higher farm size participate more in the NPFS than those with low farm size. This is true and conforms to the priori expectation because access to larger farm land facilitates adoption of agricultural innovation. The result agrees with the findings of Okoye, *et al.*, (2004) who opined that rice farmers with increased farm size adopted modern production technologies in rice production and as well participated more in agricultural development programmes in Oyo State.

The farming experience of the women farmers (X_7) bore a positive co-efficient, indicating positive relationship with the dependent variable and was statistically significant at 1% level of significance. This implies that more experienced rural women farmers participated in the programme more than those with low level of farming experience. This agrees with the findings of Iheanacho (2000) who indicated that farming experience of farmers to a large extent affects their managerial know-how and decision making in agricultural production. Besides, it influences the farmers understanding of climatic and weather conditions as well as social economic policies and factors affecting farming.

Membership of cooperative society (X_8) was positively signed and highly significant at 1% level of significance. This agrees with the a priori expectation because members of cooperative societies are expected to be more knowledgeable on the need to participate in agricultural programmes due to the benefits derivable from membership. This agrees with the findings of

Onyenweaku (2003) who reported that membership of co-operative society is a means of enlightening farmers on the use of agricultural innovations such as improved seeds, fertilizers, agro-chemicals among others.

The final regression equation is estimated below:

$$Y = 1.326 + 0.019X_2 + 0.02X_3 + 0.458X_4 + 0.007X_5 + 0.395X_6 + 0.467X_7 + 0.011X_8$$

(0.367)* (0.010)** (0.067)*** (0.067)* (0.052)* (0.117)* (0.085)*(0.008)*

D. Test of Hypothesis:

The null hypothesis was tested with F-test at 5% level of significance. Since F-cal (57.204) > F-tab (2.01), the null hypothesis was rejected. This implies that the socio-economic characteristics of the rural women farmers significantly affected their level of participation in NPFS in the study area.

E. Constraints to Participation of Rural Women in NPFS in Ebonyi State

Factor analysis was applied to identify constraints militating against rural women participation in NPFS in the study area. The result obtained is shown in Table 4.

From the data obtained through field survey, three (3) major constraints were extracted based on the responses of the respondents. Only variables with constraint loading of 0.30 at 10% overlapping variance (Ashley, *et al.*, 2006/Madukwe, 2004) were used in naming the factors. The next as reported by Kessler (2006) was giving each constraint a denomination that best describes or characterizes the set of variables contained in it. In this regard, the variables were grouped into three (3) major constraints.

Factor 1 (one) was critically examined and named financial constraints due to the variables that loaded high under it. These were Vo1 (inadequate farm land), Vo8 (lack of processing facilities), Vo10 (lack of water and irrigation facilities) and Vo11 (lack of adequate storage facilities). This conforms to the works of Okwum, (2008) who identified lack of land, capital and credit facilities as barriers to women participation in agricultural activities. According to Akpa (2007), the greatest challenge facing Nigerian women in agriculture is lack of finance.

Factor 2 (two) was considered and named administrative constraint due to the variables that loaded high under it. These were: Vo5 (non-involvement of farmers in the distribution of farm inputs). This affirms the findings of Mwangwela and Duvel (2010) who stated that inadequate resources by service providers are one of the barriers to participation in agricultural projects. Mpandeli *et al.*, (2009) also cited lack of resources as one of the major constraints facing farming communities.

Factor 3 (three) was considered and named institutional constraint due to the variables that loaded high under it. These were: Vo4 (inadequate extension contacts), vo13 (poor government policies) Vo14 (inadequate tractor supply for farm mechanization (0.671) and Vo15 (poor marketing of farm products). This conforms to the findings of FAO (1993), Saito and Wedemann (1990) who identified poor extension staffing and management as

barriers affecting women participation in agricultural development programmes.

IV. CONCLUSION AND RECOMMENDATIONS

It was observed that while rural women in Ebonyi State may compete favourably with their men folks in terms of participation in agricultural activities, gender and socio-economic attributes of the women farmers significantly influenced their participation in NPFS in Ebonyi State. While other socio-economic attributes of the women farmers of Ebonyi State had positive influence on their participation in the NPFS female gender had a negative impact on participation in the programme in the State. As women strive to participate in the programme, they were basically constrained by financial, administrative and institutional factors.

This study, therefore, concludes that gender imbalance in terms of programme planning and implementation has grossly undermined the mandate of NPFS in Ebonyi State of Nigeria. It is recommended that integrated grassroots capacity building programmes be instituted for the women to encourage them participate more actively in farm based interventions.

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Table 1: Percentage Distribution of the socio-economic characteristics of the respondents.

Parameter	Frequency (N=180)	Percentage
Age		
<20	20	1.10
21-40	130	76.60
41-66	30	16.70
61 and above	10	5.60

Marital status

Single	16	8.90
Married	102	56.70
Separated	6	3.30
Divorced	12	6.70
Widowed	44	24.40

Education

no formal education	114	63.30
Primary education completed	24	13.30
Secondary education completed	20	11.10
Ordinary national diploma completed	12	6.70
Tertiary education completed	7	3.90
Post-graduate education	3	1.70

Household size

≥5	32	17.80
6-10	90	50.00
11-15	43	23.90
16 and above	15	8.30

Farm size

≤0.5	21	11.70
0.6-1.0	122	67.80
1.1-1.5	27	15.00
1.6-2.0	8	4.40
Above 2	2	1.10

Farming experience

<5	22	12.20
5-10	35	19.40
11-15	58	32.20
16-20	30	16.70
21-15	19	10.60
Above 25	16	8.90

Major source of fund

Self-sourcing	84	46.70
NGOs	18	10.00
Commercial banks	11	6.10
Community banks	14	7.80
Co-operative society	38	4.10
	15	8.30

Annual farm income (₦)

<50,000	17	9.40
₦ 51,000- ₦100,000	93	51.70
₦ 101,000- ₦150,000	20	11.10
₦ 151,000- ₦200,000	19	10.60
₦ 201,000- ₦ 250,000	14	7.80
₦ 251,000- ₦ 300,000	7	3.90
₦ 301,000- ₦ 350,000	6	3.30
Above ₦350,000	4	2.20

Source: Field Survey, 2014.

Table 2: Frequency Distribution of Participants in NPFS according to their gender

L.G.As	Male Frequency	Percentage (%)	Female Frequency	Percentage (%)
Abakaliki	353	60.3	232	39.6
Ohaukwu	285	66.5	143	33.4
Ivo	711	65.1	381	34.8
Afikpo South	256	57.6	188	41.3
Ezza North	782	68.3	363	31.7
Ikwo	505	57.1	380	42.9
Cummulative Average		63.2%		36.8%

Source: Ebonyi NPFS Records, 2010.

Table 3: Summary of Multiple Regression Result

Variables	Variables Names	Regression Coefficient	Standard Error	T-Value	Level of Significance
B ₀	Constant	1.326	0.367	3.615	*
X ₁	Age	0.000	0.000	0.000	*
X ₂	Marital status	0.019	0.010	1.821	***
X ₃	Educational level	0.002	0.007	0.281	***
X ₄	Household size	0.458	0.052	8.722	*
X ₅	Annual income	0.007	0.009	0.811	*
X ₆	Farm size	0.395	0.117	3.385	*
X ₇	Farming experience	0.467	0.085	5.495	*
X ₈	Membership of Cooperative society	0.011	0.008	1.418	*

Source: Data Analysis, 2014.

*Significant at 1% level

**Significant at 5% level

***Significant at 10% level

$R^2 = 0.781 = 78\%$

Adj $R^2 = 76.8\%$

Standard error of the estimates = 0.366

Durbin – Watson Constant = 1.914

F-ratio = 57.204

Table 4: Varimax Rotated Factor Matrix on Constraints to Participation of Rural Women in NPFS in Ebonyi State, Nigeria.

Constraints	Financial Constraint	Administrative Constraint	Institutional Constraint
Inadequate farm land	0.318	0.214	0.209
Culture and belief	0.267	0.141	0.192
Complexity of the programme	-0.832	0.156	0.019
Inadequate extension contacts	0.181	0.178	0.412
Non-involvement of farmers in planning	0.121	0.670	0.2.11
High cost of implementation	0.401	0.211	0.109
Risk and uncertainties in farming	0.213	0.141	0.129
Lack of processing facilities	0.713	0.239	0.114
Late provision of farm inputs	0.009	0.444	0.129
Lack of water and irrigation facilities	0.438	0.121	0.214
Lack of adequate storage facilities	0.373	0.009	0.008
Political interference in the distribution of farm inputs	-0.332	0.571	0.214
Poor government policies	-0.253	0.102	0.669
Inadequate tractors supply for Farm mechanization	0.234	0.141	0.671
Poor marketing channels	0.211	0.191	0.451

Source: Data Analysis, 2014.