

**ASSESSMENT OF GENDER PARTICIPATION IN AGRICULTURAL TRANSFORMATION
AGENDA (ATA) FOR INCREASED AGRICULTURAL PRODUCTION IN IMO STATE, NIGERIA.**

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Abstract

Agricultural Transformation Agenda (ATA) was established in 2011, with the aim of increasing farmers' productive capacity and aggregate food production in Nigeria. However, the extent to which gender role impacted on the project seems unnoticeable. It is on this backdrop that the study assessed gender participation in agricultural transformation agenda (ATA) for increase agricultural production in Imo State, Nigeria. Specifically, the study described the socio-economic characteristics of the respondents; ascertained the level of awareness of men and women in ATA programme; examined the respondents' level of participation in ATA programme. Sample size comprised eighty male and female beneficiaries, respectively. A multistage and purposive random sampling technique was used in the selection of respondents. Well-structured questionnaire was the main tool for data collection. Data collected were analyzed using descriptive statistical tools and multiple regression analysis. Mean age was 45.31 and 53.10 years for female and male, respectively. Majority (71.25% and 52.50%) of female and male were married, respectively. A sizeable proportion (48.75% and 45.00%) of male and female had secondary education. Beneficiaries cultivated on an average farm size of 1.28ha and 1.23ha for male and female respectively. The mean likert rating of level of awareness of the male and female beneficiaries on ATA project were $\bar{x}=3.26$ and $\bar{x}=3.53$, respectively. In a similar vein, result showed that female ($\bar{x}=3.52$) participated more in ATA project than male ($\bar{x}=3.32$). Estimated multiple regression analysis revealed that there was significant relationship at 1% level of probability between male and female socio-economic characteristic and participation in ATA project in the area. The F-ratio was (4.091 and 32.892), for male and female beneficiaries indicating the overall significance of the regression model at 1% level of probability. It was therefore recommended that the government at all levels should intensify effort on information dissemination through strengthened rural development extension service system.

Keywords: Agricultural Transformation Agenda (ATA), gender, agricultural production, Imo state

Introduction

Agriculture is an important sector of the Nigerian economy with high potentials for employment generation, food security, and poverty

reduction. Agricultural sector in 1960s provided the main source of employment, food security, income, and foreign earnings for Nigeria. The aforesaid was due to focused regional policies based on commodity comparative advantage (Azih, 2011). Agriculture has generated employment through fish production by rural farmers to achieve self-sufficiency in fish production, provision of appropriate infrastructure to enhance production and utilization by the private sector.

In Nigeria the rural areas are the food and fiber producing center. According to (FAO, 2004), Nigeria cassava production is the largest in the world, followed by Brazil ; and this shows that cassava production generate income to the rural poor farmers and as well as means of foreign exchange earning to Nigeria by exporting cassava product to other countries. It is also the easiest source of income to farmers in the rural areas. Since 1960 till date, there has been several Agricultural projects and programmes which include: National Special Programme for Food Security (NSPFS) 1963; Agricultural Development Programme (1975); Operation Feed the Nation (OFN) initiated in 1976; River Basin Development Authority (RBDA)1976; Green Revolution (GR) 1980; Directorate of Food, Road and Rural Infrastructure (DFRRI) 1986 and National Fadama Development Project (NFDP) 1992. The aim of all these programmes was to increase Agricultural productivity, job creation and income generation for farmers in Nigeria. Unfortunately these aims have remained largely not achieved notwithstanding the numerous programmes Federal Government of Nigeria (FGN, 2008).

The meaning of gender varies from one culture to another in time and location. Gender (social identity); and its participation could be seen as a set of characteristics, roles, behavioural patterns distinguished between men and women socially, culturally and relations of power (Young, 2013). These characteristics, roles, behavioural patterns and power relations are dynamic because they have constant shift and variation in cultural and subjective meanings of gender (Hirut, 2004). In Nigeria, women lag far behind than men in most indications of socio-economic development. With 52% of rural women living below the poverty line, women constitute the majority of the poor, unemployed, and socially disadvantaged (Ogo, 2008).

According to Idachada (2012) Agricultural Transformation Agenda (ATA) was inaugurated in 2011 on the inspiration of making farming a competitive business for optimal financial gains

along the value chains and not just a development intervention scheme bearing exclusiveness and less desirability in many youths. It has policies designed to encourage stakeholders, government, private sector farming operators and intending farmers in agricultural business to improve agricultural production sustainably raise household food security and increases farmers income by providing direct subsidy through discounted seeds fertilizers agrochemicals and farm machinery equipment on hire through growth enhancement design of electronic wallet (e-wallet).

It is bore out of concern by the federal government to eradicate the corrupt government, dominated fertilizer procurement and distribution to farmers through its agro input corporation agencies in the states of the country. According to Nweke (2003); the programme started in 2012 and up till date, its area of major food production focus remains cassava production its resilience to harsh climatic condition constituting drought and diseases in the face of climate variation.

The ATA is an agricultural policy implemented to redress spotted failed attempts of past agricultural policies through treatment of agriculture as a business sustainably driven through public private partnership. Irrespective of mere government developmental programme for rural areas habiting old and young deprived of no other means of livelihood but farming as erroneously conceived in the past (Orewa, *et al.*, 2009). It is implemented to deliver subsidized farm inputs to accredited farmers by government certified and accredited agro-dealers bring the seed and fertilizer companies to sell directly to the farmers, blocking the saboteur effort of middle men in agro inputs dealership and corrupt government officials. This study is designed to investigate the assessment of gender participation in ATA programme in Imo State, Nigeria.

Objectives of the Study

The broad objective of the study was to assess gender participation in ATA programme in Imo State, Nigeria. The specific objectives were to:

- describe the socio-economic characteristics of the respondents
- ascertain the level of awareness of men and women in ATA programme and
- examine the respondents' level of participation in ATA programme.

Hypothesis of the Study

- The study hypothesized that there is no significant relationship in socio-economic characteristics of the respondents' and the level of participation in ATA programme.

Methodology

The study was carried-out in Imo State, Nigeria. The State is located in the rainforest zone of Nigeria and shares common boundaries with Abia State on the East, Rivers State on the South, Anambra State on the north and and Delta state on the West (Imo State Agricultural Development Project (Imo-ADP, 2013). The state lies between Latitudes 5°45' and 6°35' North of the equator and Longitudes 6°35' and 7°28' East of the Greenwich Meridian (Chineke *et al.*, 2011). Imo State covers an area of about 5,067.20 km², with a population of 3,934,899 persons with many subsistence farmers (National Population Commission (NPC, 2006); National Bureau of Statistics (NBS, 2007). Agriculture is the major occupation of the State. The crops grow in the area includes; oil palm, okra, cassava, pepper, maize, fluted pumpkin, cocoyam etc. oil palm thrives well in the rainforest zone in which Imo is one of the State in rainforest zone.

The sample for the study was drawn from the male and female ATA beneficiaries in the study area. A multi-stage and purposive random sampling technique was used in selection of the respondents for the study. Purposive random sampling was used to capture only beneficiaries of ATA programme in the area. Firstly, two zones were randomly selected from the three agricultural zones from the state (Owerri and Okigwe) then two Local Government Areas (LGAs) were randomly selected from each agricultural zone. In each LGAs, two communities with ATA beneficiaries were propositively selected. Three villages were selected from each of the selected communities. Ultimately, out of the sixteen villages selected six male and female beneficiaries were selected, respectively, giving a sample size of eighty male and female ATA beneficiaries, respectively.

Data were analysed using simple descriptive statistics such as mean, percentage and frequency distribution.

The null hypothesis was tested using multiple linear regression models. The implicit model is given as follows: $Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, +ei)$

Where Y = Level of Participation in ATA (4-point Likert Rating) for male and female respondent respectively

X_1 = Age (years)

X_2 = Farm size (Hectare)

X_3 = Educational level (years)

X_4 = Farming experience (years).

X_5 = Household size (Number of persons) Farm size (Hectare)

X_6 = Farm income (₦)

X_7 = Membership of Social Organisation (Member = 1, otherwise = 0)

X_8 = Extension Contact (Number of Visit per month)

e_i = error term

RESULTS AND DISCUSSION

Socio-economic Characteristics of the Respondents

The result of male and female respondent distribution based on age is presented in **Table 1**. It revealed that greater proportion (58.75% and 51.24%) of female and male respondents fell within the age bracket of 41-50 years and 51-60 years, respectively. The mean age was 45.31 and 53.10 years for female and male respectively. The finding implies that the women are young, active and are more likely to participate actively in agricultural transformation agenda than male in the area.

The respondent distribution based on educational level is compiled as shown in the Table. It revealed that sizeable proportion (48.75% and 45.00%) of male and female respondents had both secondary educations. The mean educational level of male and female were 13.43 and 11.51 years respectively. The result shows that male had higher education than female. This could be as a result of socio-cultural factors that hinder women from attending school such as early marriage, household chores, and poverty. It is also expected that the higher level of education will contribute significantly to decision making and in understanding the importance of agricultural transformation agenda on their livelihood activities. Education will also enhance their active participation in the programme.

The distribution based on marital status of the respondents is presented in the Table. It shows that majority (71.25% and 52.50%) of the female and male respondents were married. The finding implies that agricultural transformation agenda is a project of married individuals who are seen to be responsible according to family and societal standards. The studies of Lawanson (2010) asserted that married individual tends to have easy significant access to land and large family size which are traditionally owned and which will increase their access in participation in rural development effort.

The Table showed that majority (65.00%) of the women and men (58.75%) had been farming for 10-19 years, the mean experience in farming activities was 21.10 and 18.31 years for male and female respondents, respectively. In a similar way

Nwaiwu (2013) reported that higher farming experience improves women access in decision making and active participation in community development project.

The distribution based on household size indicates that greater proportion (72.25% and 63.75%) of the male and female respondent had household size of 6-10 persons, respectively. The mean household size was 5.0 persons for male and female respectively. On membership of social organization, the greater proportion (77.50% and 61.25%) of the female and male respondent in the area belongs to one form of social organization or the other. The studies of Ephraim (2013) reported that membership of social organization affords beneficiaries the opportunity of sharing information, project a collective demand and network together about different rural community development projects in their area. A reasonable proportion (92.50 and 91.25%) of the female and male received 1-2 extension visits per month. The mean number of visits for both male and female farmers per month was 2.0 times.

The average monthly farm income as presented in the Table shows that the mean monthly farm income was ₦65,500.00 and ₦53,650 for male and female respectively. The result implies that both male and female in the area have a relatively high farm income which would increase their access in participation in agricultural transformation agenda in the area. It is expected that farmers who have a high farm income is expected to participate actively in agricultural transformation agenda than farmers with a low farm income. The finding implies that the male and female respondent in the study area are mainly smallholder farmers operating on less than or equal to 1.5 hectares of farmland. It is expected that women with a reasonable farm size will participate actively in agricultural transformation agenda than women with smaller farm size. The result of the respondent distribution based on occupation shows that majority (61.25% and 45.00%) of the female and male respondents in the study area had farming activities as their major occupation respectively. The finding implies that both genders have other income generating which is expected to increase their access to participation in agricultural transformation agenda in the area.

Table 1 : Socio-economic characteristics of Respondents (Mean=80)

	Male		Female	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Age (Years)				
Less than 30	2	2.5	9	11.25
31-40	15	18.75	19	23.75
41-50	22	27.50	47	58.75
51-60	41	51.25	5	6.25
Total mean		53.10		45.31
Educational Level				
No formal education	7	8.75	9	11.25
Primary	31	38.75	27	33.75
Secondary	39	48.75	36	45.00
Tertiary	11	13.75	8	10.00
Total Mean		13.43		11.51
Marital Status				
Married	42	52.50	57	71.25
Single	27	33.75	9	11.25
Widowed	11	13.75	14	17.50
Farming Experience				
01-10	12	15.00	9	11.25
10-19	47	58.75	55	68.75
20-30	21	26.25	16	20.00
Total Mean		21.10		18.31
Household size				
1-5	29	63.75	22	72.50
6-10	51	28.25	58	27.50
Total Mean		5.0		5.0
Social Organization				
Member	49	61.25	62	77.50
Non-member	31	38.75	18	22.50
Number of Visit (Per month)				
1-2	73	91.25	74	92.50
3-5	7	8.75	6	7.50
Total Mean		2.0		2.0
Monthly Farm Income				
Less than 20,000	7	8.75	5	6.25
21,000-40,000	18	22.50	24	30.00
41,000-60,000	26	32.50	39	48.75
80,000-100,000	29	36.25	12	15.00
Total Mean		₦53,650		₦65,500
Farm Size				
Less than 1.0	9	11.25	11	13.75
1.0-1.5	59	73.75	63	78.75
1.6-2.0	12	15.00	6	7.5
Total Mean		1.28ha		1.23ha
Occupation				
Farming	36	45.00	49	61.25
Civil service	9	11.25	7	8.75
Trading	18	22.50	13	16.25
Artisan	17	21.25	11	13.75

Source: Field Survey, 2016**Level of Awareness of Men and Women on ATA Programme**

Table 2 displayed the result of the respondent distribution based on level of awareness in agricultural transformation agenda. From the table, using a discriminating index of ≥ 2.5 for highly aware and ≤ 2.5 for unaware. The grand mean of 3.26 for male and 3.53 for female indicated that the respondents were highly aware of ATA program.

From the result, it could be drawn that the awareness level of both gender is significant and highly accepted. The satisfactory high level of awareness recorded in the area may be connected to the relatively high level of education and efficient information system in the area.

Table 2: Distribution of Respondent by Level of Awareness of ATA Programme

Gender	Level of Awareness				Total	GM	Remark
	HA (4)	A(3)	NA (2)	U (1)			
Men	49 (61.25)	12 (15)	10 (12.5)	9 (11.25)	80	3.26	Accepted
Female	55 (68.75)	15 (18.75)	7 (8.75)	3 (3.75)	80	3.53	Accepted

Keys; HA: Highly Aware; A: Aware; NA: Not Aware; U: Uncertain GM: Grand Mean: Cut off point ≥ 2.5 Accepted; *Figures in parenthesis are percentages.

Source: Field Survey Data, 2016

Level of Participation of Men and Women on ATA Programme

The result of the respondent distribution based on level of participation in agricultural transformation agenda is displayed in Table 3. The grand mean of the level of involvement of male and female were 3.26 and 3.53 showing a positive and

significant participation level. From the result, it could be drawn that the level of participation of both gender is significant and highly accepted. This is in line with the findings of Ukoje, (2008) who reported that agriculture in some Sub-Saharan Africa remains mainly a gendered occupation with male and female engaged in all the farming processes.

Table 3: Distribution of Respondent by Level of Participation of ATA Programme

Gender	Level of Participation				Total	GM	Remark
	HI (4)	I(3)	NI (2)	U (1)			
Men	42 (52.5)	29 (36.25)	3 (3.75)	5 (6.25)	80	3.32	Accepted
Female	51 (63.75)	22 (27.5)	5 (6.25)	2 (2.25)	80	3.52	Accepted

Keys; HI: High Involved; I: Involved; NI: Not Involved; U: Uncertain GM: Grand Mean: Cut off point ≥ 2.5 Accepted; *Figures in parenthesis are percentages.

Source: Field Survey Data, 2016

Test of Hypothesis

Estimated effect of male and female Socio-economic characteristic on their Participation to ATA

The tests of the hypothesis were presented in Table 4 and 5. The result of the male and female distribution based on estimation of socio-economic characteristics and their participation in ATA project in the study area is presented in the Tables. A multiple regression analysis was estimated in four functional forms (linear, semi log, double log, and exponential forms). Based on the statistical significance of the coefficients, goodness of fit and the economic theory that supports socio-economic model, the exponential regression function was chosen as the lead equation. Based on the value of

R^2 (0.758) and F-Ratio value (6.591) for male and R^2 (0.621) and F-Ratio value (32.892) for female, (conformity of the signs with *a priori* expectations of the model and has the highest number of significant explanatory variables). The coefficient of multiple determinations (R^2) was found to be 75.80% for male and 68.10% for female and was statistically significant at 1% level of probability. This implies that the male and female socio-economic characteristic had a significant influence on their participation in ATA project and that the regression model has a very high explanatory power. This is an indication that 75.80% and 68.10% of the variation in participation of male and female was explained by the explanatory variables. The marginal effect is presented as follows:

Table 4: Estimated Influence of Male Socio-economic Characteristic on their Participation in Agricultural Transformation Agenda (ATA)

Explanatory Variables	Exponential	Semi-Log	Linear	Double-Log
Constant	52.947 (5.909)***	2.337 (3.823)***	3.294 (2.555)***	15.908 (6.662)***
Age (X ₁)	-1.000E-013 (-2.440)**	0.053 (0.195)	0.001 (0.083)	0.015 (0.195)
Farm Size(X ₂)	0.125 (2.539)***	0.161 (2.555)***	0.100 (3.711)***	0.046 (2.555)***
Educational Level (X ₃)	5.407E-007 (1.643)*	0.263 (1.728)**	0.015 (1.509)*	0.076 (6.728)***
Farming Experience (X ₄)	4.478E-010 (0.586)	0.169 (1.218)*	0.014 (4.470)***	0.049 (2.218)**
Household Size (X ₅)	0.001 (0.527)	0.096 (0.411)	0.017 (0.482)	0.027 (4.411)***
Farm Income (X ₆)	-7.946E-007 (-2.009)**	-1.094E-006 (-0.378)	-8.463E-007 (-0.316)	3.147E-007 (2.578)***
Membership of Social Organization (X ₇)	-0.318 (-0.874)	0.228 (3.300)***	-0.165 (-1.217)*	0.066 (3.400)***
Extension Contact (X ₈)	0.160 (1.984)*	0.116 (0.978)	0.071 (1.166)*	0.033 (5.978)***
R ²	61.80	70.10	65.00	75.80
F-Ratio	2.580***	4.091***	2.945***	6.591***

Source: Computer Printout of SPSS (2016); values in Parenthesis are t-values *Statistically Significant at 10%; **Statistically Significant at 5%; *** Statistically Significant at 1%

Table 5: Estimated Influence of Female Socio-economic Characteristic on their Participation in Agricultural Transformation Agenda (ATA)

Explanatory Variables	Exponential	Semi-Log	Linear	Double-Log
Constant	53.125 (4.353)***	2.842 (5.602)	3.521 (7.481)***	1.053 (3.352)***
Age (X ₁)	1.000E-013 (1.880)**	0.151 (0.640)	0.004 (2.678)***	0.044 (0.640)
Farm Size(X ₂)	0.082 (2.787)***	0.128 (3.748)***	0.046 (1.738)**	0.037 (2.748)***
Educational Level (X ₃)	6.678E-007 (2.106)**	0.011 (5.094)***	0.006 (0.369)	-0.003 (0.094)
Farming Experience (X ₄)	1.465E-011 (0.660)	0.117 (4.900)***	0.004 (0.518)	0.034 (2.900)***
Household Size (X ₅)	0.032 (0.906)	0.046 (2.306)**	7.877E-005 (3.200)***	0.013 (3.306)***
Farm Income (X ₆)	2.328E-005 (0.197)	3.834E-007 (4.122)***	7.742E-007 (0.237)	1.103E-007 (1.122)***
Membership of Social Organization (X ₇)	2.761 (4.630)***	0.106 (6.508)***	-0.157 (-0.745)	0.031 (1.508)**
Extension Contact (X ₈)	0.002 (0.444)	0.039 (2.550)***	0.008 (1.220)*	-0.011 (-0.350)
R ²	59.10	68.10	56.40	63.10
F-Ratio	9.434***	32.892***	12.405***	10.892***

Source: Computer Printout of SPSS (2016); values in Parenthesis are t-values *Statistically Significant at 10%; **Statistically Significant at 5%; *** Statistically Significant at 1%

Conclusion and Recommendation

The mean likert rating of level of awareness of the male and female beneficiaries on ATA project were $\bar{X}=3.26$ and $\bar{X}=3.53$, respectively. In a similar vein, result showed that female participated more in ATA project than male. Estimated multiple regression analysis revealed that there was significant relationship between male and female

socio-economic characteristic and participation in ATA project in the area. The F-ratio was (4.091 and 32.892), for male and female beneficiaries indicating the overall significant of the regression model at 1% level of probability. The study therefore concludes that the awareness and participation level of both male and female in the ATA program is highly encouraging and therefore recommends that;

- i. Government at all levels and non-government organisation should intensify effort on information dissemination through strengthened rural development extension service system.
- ii. Extension agency should encourage the formation and membership of social organization among the beneficiaries as these would enhance their participation and contribution of counterpart demand positively in the rural development project
- iii. Government and non-governmental organizations should properly streamline each rural development project and eliminate too much bureaucratic process as this would enhance women access to the project easily.

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