Women Farmers' Participation in Agricultural Extension Activities in Ikwuano L.G.A, Abia State Nigeria

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Abstract

The study was aimed at assessing participation of women farmers in agricultural extension activities. A sample size of 150 women farmers, were initially taken for the study but only 110 respondents were analyzed. Simple random sampling technique was used for the sample selection and questionnaire was used to elicit information from the respondents. Both description and inferential statistics were used for data analysis. The results showed that women farmers participated highest in Radio broadcast(4.0), home visit (3.6), crop activities (3.8), farmer educational meeting (3.6), establishing demonstration plots (3.09), method demonstration (3.12), formation of farmer group (3.8) and T.V advertisement (3.7) respectively, while they participated low in activities like reading extension leaflets, newsletter etc. methods of fertilizer application (31%) and planting geometry (28%), ranked the highest in the type of messages disseminated by extension agents. Michael Okara University of Agriculture Umudike (MOUAU), National Root Crop Research Institute (NRCRI) Umudike and friends were the major sources of agricultural information to the women farmers in the study area. The major problems hindering their participation were lack of credit facilities (26.35%), lack of incentives (22.22%) and land tenure system (15.40%). Age, educational level, farm size, household size, household income and farming experiences of the women farmers showed no significant relationship with their level of participation in Agricultural extension activities.

Key Words: Agricultural Extension, Assessment, Farmers, Participation, Women.

1. Introduction

A lot of agricultural development programmes are on ground with the aim of increasing food production and improving the standards of living in Nigeria. Although women farmers are actively involved in the process of food production, processing and marketing, social and economic constraints have placed barriers around their access to scientific and technological information (Daman, 1997). The women folk do not have needed technical knowledge to enable her derive production use of farm input for more optimum yield. Many women however do not participate fully in agricultural programmes due to ignorance, low income (Adekanya, 1988; Inter-America Development Bank., 2000), inaccessibility to credit facilities, poor communication (Nonyelu, 1996; FAO., 2006) etc. these to a large extent limit the wormers effort in their bid to increase food production for the teeming population.

According to Adekanya (1988), Nigerian women constitute 68.8 percent of the labour force and produce about 80 percent of the national food output. Despite the immense contribution of women farmers to the national and economic development, they are yet to be fully recognized and given the necessary agricultural extension services which will help to improve their agricultural output. The marginalization of the women farmers according to Nwansat (2002), is largely due to their seeming inferior position in the male dominated cultures of Nigeria. This has denied them the opportunity of fully benefiting from extension services particularly, when time of delivery of extension services conflicts with other household activities and responsibilities, (Protz, 1977).

Other problems include the lack of knowledge of women's contribution to agricultural production, lack of gender disaggregated data and information, assumption of agricultural policy makers and planners that agriculture is a male domain and the unpaid attention to women's agricultural work (Ekong, 2003).

This study was therefore aimed at determining the extent of women farmers participation in agricultural extension activities identifying their constraints and improving their participation thereby enhancing agricultural productivity.

The broad objective of the study is to assess women farmers' participation in agricultural extension activities in Ikwuano Local Governments are of Abia State.

Specifically to;

    I.   describe the personal characteristics of the women involved;

    II.   determine the level of participation of women farmers in agricultural extension activities in the study area;

    III.   determine the type of messages disseminated by extension agents to women farmers in the study area;

    IV.   determine the sources of agricultural information available to the women farmers in the study area and;

    V.   identify the problems hindering women farmers participation in agricultural extension activities in the study area.

Hypothesis of the study

The following hypothesis is stated for the study.

Ho: There is no significant relationship between women farmers' participation in agricultural extension activities and selected socio economic characteristics of the respondents.

2. Methodology

The study was conducted at Ikwuano local government area (L.G.A) of Abia State located between latitudes 5^0 24^1 - 5^0 30^1E and longitude 7^0 32^1 - 7^0 37^1E in the degraded humid forest of southeast agro – ecological zone of Nigeria (Chukwu and Ebeniro, 2000). It is bounded on the North by Bende and Umuahia North L.G.A, on the South by Umuahia South L.G.A, Isialangwa L.G.A and Akwaibom State on the West and East respectively.   The L.G.A covers about 600km^2 and has a population of 137897 (made 70509, female 67388) (2006 population census final result).

Officially, Ikwuano L.G.A. comprises of four autonomous communities namely, Ariam, Ibere, Oboro and Oloko and is characterized by total annual precipitation of over 200mm, high temperatures (22.3^0) (minimum and 31.0^0 (maximum) and high relative humidity (66-79%) (Chukwu and Ifenkwe, 1996; Chukwu and Asawalam, 2001). The area has a mean annual soil temperature of 28.8^0c and its vegetation is of a typical rain forest. Relatively thick natural forests and forest plantation, of *Gmelina arborea* exist in Ibere.

In Ikwuano L.G.A of Abia State, there are problems of poor knowledge of land resources, declining productively and under utilization (Chukwu and Ifenkwe, 1996). The area occurs on physiographic surface ring from $30 - 152$m above sea level, the soil are characterized by top sequence and are derived from alluvium, shale and coastal plain sands (Chukwu and Ifenkwe, 1996; Chude and Chukwu, 2000; Chukwu and Ebeniro, 2000).

Cocoa (*Theobroma cocoa*) is one of the important cash crop, grown and is the major source of income in Ibere area. About 60% of land is devoted to cocoa production in the area. Other cash crops grown include oil palm (*Elaesis guineensis*), banana and plantain (*Musa spp*). Popular variable crops grown in the area include cassava (*Manihot esculenta*) and maize (*zea mais*).

The existence of inland valley and the hydromorphic nature the area (Chude and Chukwu, 2000; Chukwu and Ebeniro, 2000) as well as the existence of rivers Ehie and Ako Itunta, favour potential use of land visit for irrigation agriculture, sugarcane, fishery and rizipisculture.

The population of this study includes all the women farmers that participated in agricultural extension activities in the study area.

Oboro, Ibere autonomous communities, were purposively selected on the basics of its accessibility for the study. The list of villages in each of the selected autonomous communities were obtained from Ikwuano L.G.A Headquarters. This formed the sampling frame for the selection of the villages. These villages include Obohia, Iberenta, Ntalakwu, Amawom and Amoba.

In each village, the list of women farmers were obtained from the respective village heads from the list, thirty farmers were randomly selected from the villages in Oboro and Ibere communities. This gave rise to a total of 150 respondents for the sampling.

The primary data used include: **Questionnaire,**

A five point Likert Type Scale was used to determine the major views of the respondents they include.

Fully participate (PP) = 5

Averagely participate (AP) = 4

Fairly participate (FP) = 3

Participate little (PL) = 2

Non participate (NP) = 1

Oral interview:- This includes a structured interview scheduled with the women farmers based on the objectives of the study. Secondary data were also used to collect information.

3. Method of Data Analysis

To make the data collected more meaningful, the researchers used descriptive statistics such as frequency distribution of the respondents, percentages and means for objectives (1,3,4 and 5). Objective (2) was however

analysed using a five point Likert Type Scale. Pearson Product Moment Correlation Coefficient (5) was used to test hypothesis.

The dependent variable for this study was participation while the independent variable was the socio economic characteristics of the women farmers involved in agricultural extension activities.

The level of women farmers participation in agricultural extension activities was measured on a five point Likert Type Scale rating of Fully participated = 5, Averagely participated = 4, fairly participated = 3, participated little = 2, non participated = 11.

The summation of all the points was divided by the number of scale as;

$$X = \frac{\sum x}{n} = \frac{5+4+3+2+1}{5} = \frac{15}{5} = 3.0$$

Any mean greater than or equal to 3.0 implies full participation while mean less than 3.0 implied little participation.

4. Results and Discussion

Table 1 shows that socio-economic characteristic of the respondents studied include age, marital status, educational status, household size, household income, farming experience, farm size and farming systems.

The results showed that women within the age bracket of 41-50 years constituted the highest frequency (46-36%). This group was followed by those between 31-40 years who represented 29.09%. The respondents between 51-60 years had a frequency of 13 equivalents to 11.8%. The number of respondents who were less than 30 years old made up about 8.0% while the least (4.5%) comprised those who were over 60 years old. This result showed that, generally, about 83.63% of the respondents were less than 51years of age while 16.37% were greater than 50years. This implies that majority of the respondents are still young and agile farmers with a mean age of 41.7 years. It is expected that majority of the respondents will be more educated and can adopt easily modern communication techniques.

The table also showed that majority (84.5%) of the women farmers in the study area was married. However, widows and divorcees comprised 10 and 3.6% of the respondents, respectively. From the results, it can be inferred that the study area is dominated by married women. The result is not surprise since Chude and Chukwu (2000) confirmed that women farmers are mostly married.

The results of the study showed that about 18.18% of the respondents had a formal education while 37.27% attained primary education. About 32.7 and 11.8% of the respondents attained secondary and tertiary education, respectively. The study area is therefore, dominated by literate female farmers with a mean educational level of 8years. This is not a surprise because over 80% of them are less than 51years (Table 1) and have the opportunity to avail themselves of formal education.

Percentage distribution of the household size of the respondents was in the magnitude of 61.8 > .34.5 > 3.6 for household sizes ranging from 4-6, 7-9 and 1-3, respectively (Table 1). However the mean household size of the respondents is six persons. This suggests a lot pressure on the women for the upkeep of the households, and probably, more hands for farm.

Income distribution of the respondents showed that only about 21.3% had a household annual income of less than #150,000. About 17.02%, 23.4% and 14.89% of the respondents had annual income ranges of #150,000-250,000, #251,000-350,000 and #351,000-450,000, respectively. About 19.14% and 23.4% of the respondents had an annual income ranging from 451000-550,000 and over 550,000 naira, respectively.

The distribution of the respondents according to farming experience showed that about 10 (9.09%) and 78 (70.9%) had less than 10years andn10-20 years of experience in farming respectively. Only 15.45% and 4.5% of the respondents had a farming experience ranging from 21-30years and greater than 30years, respectively. The mean experience is about 17 years implying that the farmers are experienced. The results collaborate the mean age (41years) of the farmers. A farmer who is over 40 years in the rural environment is expected to have a reasonable year of experience in farming.

Table 1 also presents the frequency distribution of the respondents according to farm size. About 12.7% and 9.09% of the respondents had less than 0.25 ha. And 0.5ha respectively while 45.45% had 0.6ha. Only 32.7% had farm size greater than. The mean farm size is about 3.0ha. The study area is therefore dominated by large holder farmers. The result is not a surprise; since Ikwuano is a major coca producing area in Abia State (Chukwu and Chinaka, 2001).Land use for cocoa involves relatively a large holdings.

With regards to farming system, majority of the respondents (63.6%) practice mixed cropping while 28.18% practice mixed farming. Only about 8.18% of the respondents practice sole cropping. Interaction from the respondents and report on agricultural land use in Ikwuano (Chukwu and Chinaka, 2001) revealed that old cocoa and oil palm plantation are sole cropping, while inter cropping is practiced in young plantation. About 10-11 years ago, Chukwu and Ebeniro (2000) and resources of Ikwuano provided opportunities for vegetable, rice, sugarcane, fishery, rise fish culture, forestry and irrigation to enhance rural development. This could have been harnessed as reflected in the present farming system that involved mixed farming and mixed cropping (Table 1). It is concluded from the results that the dominant farming system is mixed cropping.

The distribution of respondents according to their level of participation in agricultural extension activities is shown in Table 2. Results showed that the women participated averagely from that, their participation in farm visits, home visit, crop activities, farmer educational meeting, establishing demonstration plots, method demonstration, formation of farmers group and TV advertisement was fair with a mean score of less than 4 but greater than 3: This shows that they actively participated. Similarly, they participated little in reading extension leaflets, newsletter, extension bulletins, and score of less than 3. Ikwuano is a beneficiary of rural electrification. Consequently, all the

respondents had a radio which can be operated with electricity. This accounted for their highest participation in listening to radio broadcast. Non availability of extension leaflets, newsletters and bulletins accounted for their little participation because over 50% of the respondents had primary education and above (Table 1). So they can read these extension materials if they are made available to them

Table-1. Distribution of the respondents according to socio – economic characteristics, N= 110

Characteristics	Frequency	Percentage (%)	Mean
Age (years)			
< 30	9	8.18	41.7
31-40	32	29.09	
41-50	51	46.36	
51-60	13	11.8	
760	5	4.5	
Marital status			
Single	2	1.8	
Married	93	84.5	
Widowed	11	10	
Divorced	4	3.6	
Household size			
1 – 3	4	3.6	5.8
4 – 6	68	61.8	
7 – 9	38	34.5	
Household income			
< 150,000	1	2.127	
150,000 – 250,000	8	17.02	
251,000 – 350,000	11	23.4	
351,000 – 450,000	7	14.89	
451,000 – 550,000	9	19.149	
>55,000	11	23.4	
Farming Experience (years)			
< 10	10	9.09	
10 – 20	78	70.9	
21 – 30	17	15.45	
> 30	5	4.5	
Farming size (hectare)			
< 0.25	14	12.7	3
0.5	10	9.09	
0.6	50	45.45	
> 1ha	36	32.7	
Farming system			
Mixed farming	31	28.18	2.35
Sole cropping	9	8.18	
Mixed cropping	70	63.6	

Source: Field Survey, 2011.

Tables 3 and 4 shows the frequency distribution of respondents according to types of messages disseminated and how effective the messages are, respectively. In table 3, the frequency distribution of messages disseminated was in order. Method of fertilizer application > planting system > post harvest technology > message on animal husbandry >yam minisett technology>method of pest control. The highest frequency of method of pest fertilizer application buttressed the need for adequate attested to the reposts by Chukwu and Ifenkwe (1996) and Chukwu and Asawalam (2001) that Ikwuano soils suffer multi nutrient deficiencies.
Hence, extension has to respond to their suggestion for fertilizer use to increase crop yield and farmers income.

Table 4 shows that about 65.4% and 34.5% of the respondents indicated that the messages were highly effective and effective respectively. The mean score value was 4.65 which was greater than 3.0 implying that the messages boarded on the felt heads of the women who responded as expected. This is not a surprise because the messages were among the most important challenges women farmers in all L.G.As in Abia State emphasized, based on a study by Chukwu and Ebeniro (2000).

Table-2. Distribution of Respondents According to their Level of Participation in Agricultural Extension Activities. N = 110.

Extension activities	Fully Participate (>70%)5	Averagely Participate (51-60%)4	Fairly Participate (41-50%)3	Participate Little (<40%)2	Non Participate (0%)1	Mean score
Individual activities						
Farm visits	95	164	141	4	1	3.68
Home visits	60	192	144	4	-	3.6
Crop activities	24	5	42	4	-	3.86
Farmers education meeting	18	48	49	5	2	3.6
Establishing demonstration plots	30	96	174	36	4	3.09
Method demonstration	8	20	53	18	1	3.12
Formation of farmers group	27	48	24	8	3	3.8
Farmers field days	6	30	37	23	14	2.9
Mass media activities						
Extension leaflets	2	19	47	24	18	2.66
Newsletter	2	20	53	27	8	2.8
Extension bulletin	5	22	55	26	5	2.9
Slides	3	15	40	41	11	2.6
Firm presentation	2	26	54	19	9	2.9
TV advertisement	20	53	26	9	2	3.7
Radio broadcast	30	54	23	1	2	4.0

Source: Field Survey, 2011.

Table-3. Distribution of Respondents According to Types of Messages Disseminated

Variables	Frequency	Percentage (%)
Methods of fertilizer application	74	31
Method pest control	15	6.3
Message on animal husbandry	26	10.9
Yam miniset technology	22	9.2436
Post harvest technology	33	13.865
Planting geometry	68	28.57

Data in table are multiple choice responses
Source: Field Survey, 2011.

Table-4. Distribution of Respondent According to the Effectiveness of The Messages. N = 110

Variable	Frequency	Percentage%	Ranking	Mean
Highly effective	72	65.45	5	4.65
Effective	38	34.5	4	
Fairly effective	-	-	3	
Ineffective	-	-	2	
Highly ineffective	-	-	1	
Total	110	100	-	

Source; Field Survey, 2011.

From Table 5, the NRCRI Umudike ranked as the highest (29.28%) source of agricultural information. This was followed by friends (19.6%), MOUA, Umudike (14.28%), radio and T.V. The state ADP was the least source of information. The results can be explained by the fact that NRCRI Umudike started as a provincial farm in 1924 and metamorphosed into a research institute in 1976. The people are already used to the institute in terms of reaching and training and consultations. Similarly, MOUA, Umudike has adoption village extension services that penetrate the communities in Ikwuano. The least contribution of the ADP as a source of information is due to the wide extension agent, farmer's rations of 1:490 in the state against 1:800 recommended by World Bank (2001). The result supported the observation by Chukwu and Chinaka (2001) that given the wide ratio, many of the grass root women might not be reached by extension agent.

The low percentage of women farmers having extension agents as their source of agricultural information could be that male farmers have more access to agricultural information through extension agents than female farmers as reported earlier by Adekanya (1988). The results also agreed with the findings of Adekanya (1988) that women farmers usually get agricultural information from their husbands, friends and mass media.

From Table 6, the result from this shows that majority (26.38%) of the respondents indicated lack of credit facilities, followed by lack of incentive (22.2%), and land tenure system (13.4%) as the three most important problems hindering their active participation in agricultural extension activities. However 11.8%, 8.68% and 7.29% of the respondents indicated that ineffectiveness of extension services, husband's negative influence and lack of information, respectively are other challenges that serve as a drawback to their active participation in agricultural extension activities. Only 5.2% of the respondents indicated lack of interest as the problem hindering their participation.

The rating of lack of credit facilities first among the challenges supported the World Bank (2001) and FAO. (2006) that women farmers have no access to the credit and capital required to increase the production. The result also supported the report by Chukwu and Asawalam (2001) that women farmers in Abia ranked lack of fund highest (26%) among the seven production constraints they identified to hinder agricultural development.

Table-5. Distribution of Respondents According Sources of Agricultural Information. N = 110.

Varibles	Frequency	Percentage (%)	Ranking
Radio	29	10.357	4
ADP	6	2.1408	9
NRCRI, Umudike	82	29.28	1
TV	29	4.28	8
MOUA, Umudike	40	14.28	8
Extension agent	12	4.28	-
Posters	13	4.6	7
Friends	55	19.6	2
Agric shows	14	5	6

Data in the table are multiple choice responses
Source; Field Survey, 2011.

Table-6. Distribution of Respondents According to Problems Hindering their Participation in Agricultural Extension Activities. N = 110

Variables	Frequency	Percentage (%)
Lack of credit Facilities	76	26.38
Land tenure system	53	15.4027
Lack of interest	15	5.208
Ineffective of extension services	34	11.8
Husbands negative influence	25	8.68
Lack of information	21	7.29
Lack of incentives	64	22.223

Data in the table are multiple choice responses
Source: Field Survey, 2011.

Table-7. Correlation between Socio-economic Characteristic, of The Respondents and Their Participation in Agricultural Extension Activities.

Variable	Correlation	Decision
Age	-0.01128	NS
Education	0.10679	NS
Household size	-0.03572	NS
Household income	0.22309	NS
Farming experience	-0.00342	NS
Farm size	0.08872	NS

NS = Not significant at 10%

The correlation between socio economic characteristics of the respondents and their participation in agricultural extension activities is shown in Table 7. The result from this table shows that age, household size, farming experience had a negative correlation of -0.01128, -0.03572, and -0.00342 respectively but it was not significant. Educational level, household income and farm size has a positive correlation of 0.10679, 0.22309 and 0.8872 respectively but was not significant. The implication of that increase in educational level household income and farming experience will had to an increase in the level of participation while an increase in age, household size and farming experience will lead to a decrease in participation. Thus the null hypothesis is accepted since there is no significant relationship between socio economic characteristics of the respondents and their participation in agricultural extension activities.

5. Conclusion

The study shows that majority of the women farmers in the area participated actively in individual activities of extension except farmer field days while the women's participation in mass media activities, were relatively low except in TV advert and Radio where they participation actively. The major types of message dissemination to the women agricultural information to the respondents were NRCI Umudike, friends, MOUA Umudike radio and TV. The state ADP was the least source of Agent information. The women farmers did not have the expected access to professional extension agents. There was no significant relationship between socio economic characteristics (Age) Educational level, household size, household income, farming experience and farm size of the respondents and their participation in agricultural Extension Activities.

6. Recommendation

The following recommendations were being made in view of the aforementioned findings of the study:

1. Government should encourage and assist women farmers by giving them special attention in terms of access to needed farm inputs and incentives. New farming implement should be made affordable and available to the women.
2. Women adult literacy education programme is required to help women farmers acquire basic skills and abilities to seek and receive agricultural information through extension agents. This will make them to participate more in reading extension leaflets, bulletin, newsletter etc.
3. Credit facilities should be provided by the government either through various women group and co-operate so as to enable them participate fully in agricultural activities.

4. Finally considering women designated roles in agricultural production effort, agricultural information to farmers should be gender specific and sensitive.

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