ANALYSIS OF THE PARTICIPATION OF RURAL WOMEN IN 'AGRICULTURAL EXTENSION EDUCATION PROGRAMME' IN BWARI AND KWALI AREA COUNCILS OF THE FEDERAL CAPITAL TERRITORY

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Abstract

In order to increase agricultural productivity in Nigeria, this study was undertaken to investigate the participation and adoption of extension services on rural women. Bwari and Kwali area councils of the Federal Capital Territory serve as the case study. Two (2) research questions were asked. The primary data were obtained form one hundred and twenty (120) female farmers from four villages; two villages from each area council were randomly selected. Personal interview (Int) using structured Farmers' Questionnaire (FQ) and Secondary Data (SD) from relevant document were the instruments used. Research assistants helped administer the questionnaire. Simple percentages were used for the data analysis. Findings show that only 35% were full- time farmers. Several women involve their husbands in farming activities. The level of adoption of the agricultural extension services is found to be very low. Possible causes of this result were proferred and suggestions given by way of improvement.

Introduction

The extension service programme is one of the core sub-programme of the Agricultural Development Project (ADP), as Ogunremi, Olaniyan and Idowu (1990) reiterated. Extension is a term which is open to a wide variety of interpretations. Each extension agent probably has his own understanding of what extension is. This understanding will be based on past experience and the particular type of extension service in which the agent is working, thus, various definitions exist.

Oakley and Garforth (1985) refer to extension as an informal educational process directed towards the rural population. This process offers advice and information to help them solve their problems and also aims at increasing the efficiency of the family farm, increasing production and generally increase the standard of living of the farm family. They further defined extension as a process of working with rural people in order to improve their livelihood. This involves helping farmers to improve the productivity of their agriculture and also developing their abilities to direct their own future development.

Agricultural extension according to Adams (1982) is assistance to farmers to help them identify and analyse their production problems and become aware of the opportunities for improvement; He further pointed out that agricultural extension might be described as the process of helping farmers to

become aware of and adopt improve technology from any source to enhance their production efficiency, income and welfare. Various definitions exist and all aim at the same objective, that is, to improve quality and quantity of farm produce through technology and consequently the standard of living of the farm family and the population in general.

According to Benor and Baxter (1984), sustained high level of agricultural production and incomes are not possible without an effective agricultural extension service supported by agricultural research that is relevant to farmers' needs. Oakley and Garforth (1985) identified four (4) main elements within the agricultural development process. These are knowledge and skills, technical advice and information, farmer's organization and motivation and lastly self confidence.

a. Knowledge and Skills

Although farmers have a lot of knowledge about their environment and their farming system, extension services can bring other knowledge and information which they do not have. The application of such knowledge often means that the farmer has to acquire new skills to operate unfamiliar equipment and some new farming practices. Ani (2007) emphasized the necessity for adult learning education in agricultural extension, the outcome of which he mentioned will increase food production. He reiterates further that their desire to learn must be aroused by teachers who are in this case the extension agents.

b. Technical Advice and Information

Extension services provide advice and information to assist farmers in making decisions and generally enable them to take action. This can be information about prices and markets and about the availability of credit and inputs from cooperative societies, agro-industry corporations, seed producers, private sectors wholesalers and retailers, banks and a host of information. The technical advice will probably apply more directly to the production activities of the family farm and the action needed to improve or sustain this production. Much of this technical advice will be based on the findings of agricultural research.

c. Farmers' Organization

In addition to knowledge, information and technical advice, farmers also need some form of organization both to represent their interests and to give them means for taking collective action. Extension therefore, is concerned with helping to step up structure and develop orga to nizations of local farms. These organizations will make it easier for extension agents work with local farms, and will also serve as channel for disseminating information and knowledge. This can be done through individual counseling, group counseling, demonstrations, visits, campaigns, posters, radio and television broadcast, farmers' meetings and agricultural fairs.

d. Motivation and Self Confidence

One of the main constraints to development that many farmers face is isolation and a feeling that there is little they can do to change their lifestyle. Some farmers will have spent all their lives struggling in different circumstances to provide for their families with little support or encouragement. Agricultural extension agents work closely with farmers helping them to become involved in extension activities and convince farmers that they can do things for themselves; that they can make decisions and that they have the ability to break out of their poverty. Agricultural extension therefore provides the indispensable elements that farmers need to improve their agricultural productivity.

Rural Women in Agricultural Extension

Women play a pivotal role in African Agriculture. This is true not only of food production, long recognized as women's activity but also of other agricultural activities such as cash cropping and livestock production.

The International Labour organization estimates that 78% of women in Africa are active in agriculture compared with only 64% of the men. Along with a growing recognition of the importance of women in African agriculture and thus, their crucial role in improving household food security, has come to a realization that household headed by women are increasing throughout Africa. The number of farms managed by women infact is growing rapidly (Gritinger et.al 1990).

In Burkina Faso and Mali for example, an estimate of 93% and 78% respectively of women are actively involved in agriculture. High levels of rural poverty coupled with a fragile agro-ecological environment make the contribution of women's productive activities to the household community a crucial element in the survival of the rural population. As men migrate in search of work, the labour input of women is increasing. Benor and Baxter (1984) stated clearly in their book titled 'Agricultural Extension' that many women are solely responsible for the operation and management of a farm. According to them, women take part in decision on what crops to grow, which food to eat, what seeds selection, planting, weeding, fertilizing, plant protection and harvesting itself should be organized and undertaken. Women often have an active role in the storage, processing and even marketing of farm products and in some areas (like the Plateau State of Northern Nigeria this include land preparation (Akinbode and Akande 1986).

Table 1: Average Daily Hours in Agricultural and non-Agricultural Economic Activities by Gender in some African countries.

	COUNTRIES							
	BURKINA FASO		KENYA		NIGERIA		ZAMBIA	
VARIABLE	Men	Women	Men	Women	Men	Women	Men	Women
AGRICULTURAL	7.0	8.3	4.3	6.2	7.0	9.0	6.4	7.6
NON-AGRICULTURAL	1.7	6.0	3.8	6.1	1.5	5.0	0.8	4.6
TOTAL	8.7	14.3	8.1	12.3	8.5	14.0	7.2	12.2

Source: Saito et al (1992)

Table 1 shows information gathered form the Secondary data about other African countries. It shows the average daily hours in agricultural and non-agricultural economic activities by Gender. In the agricultural section, the average daily hours range from 4.3 – 7.6 for men while that of women is 6.2 – 9.0 indicating that women are more involved in the agricultural sector. Also, in the non-agricultural sector, the range for men is lower than that of women (0.8 – 3.8 V. 4.6 – 6.1), indicating that in both sectors, women spend more hours in economic activities in the rural areas. Specifically, it could be seen that women in the Agrarian communities in Nigeria play a very active role in farming activities irrespective of their age, cultural background and feminine stereo-type activities in the home. Egunjobi (1987) and others observed that in different studies rural women are primary labour force on farms in Africa in general and Nigeria in particular.

Small-scale animal production is a strategy to improve the diet of many Nigerians. Its success depends to a large extent on the assistance and training given to women on their production. Food and Agriculture Organization (FAO 1992) mentioned that women keep domestic animals in most societies. In Nepal, it is said that women are responsible for finding fodder for the buffalo – a massive job, because each animal can consume up to 40 tones of grass and leaves in a year. Elsewhere, women keep poultry, goats, pigs, rabbits, pigeons and other small stock that play an important role in farming nutrition, providing additional protein – rich foods such as meat and milk. Even in the production and rearing of animals, women are in the forefront. In conclusion, it should be noted that women are active in both production and rearing of animals as well as crop farming (food and cash crops).

Statement of the Problem

It is against this background that the study attempts to evaluate women's participation and level of adoption of Agricultural extension services programme in Bwari and Kwali Area Council of the Federal Capital Territory.

Scope of the Study

The study is geared towards evaluating the participation of rural women in Agricultural extension education programme in Bwari and Kwali Area

Councils using Kubwa and Zhiko in Bwari, Kwali and Kailankwa in Kwali Area Council respectively.

Research Questions

The study intends to answer the following questions using rural women in Bwari and Kwali Area Councils as a case study.

1. What is the nature of women participation in agricultural extension services program?
2. What is the level of women adoption of available extension services?

Method

The study utilizes a survey design to evaluate the level of participation and adoption of agricultural extension services by the rural women in Bwari and Kwali Area Councils of the Federal Capital Territory (Abuja).

Based on the information gathered from the Agricultural Development Project (ADP), Abuja, there are about 38 registered female farmers in Kubwa, 72 in Zhiko, 50 in Kwali and 70 in Kailankwa. There are a total of 230 registered female farmers in these area councils. From this number; a total sample size of one hundred and twenty (120) was chosen proportional for the study, Fig 1. shows the breakdown.

Fig. 1 Sample for the Study

Bwari Area Council		**Kwali Area Council**	
Kubwa	25	Kwali	25
Zhiko	35	Kailankwa	35
TOTAL	60	TOTAL	60

Three research instruments used for the study are;

(a) Farmers' Questionnaire (FQ)
(b) Interview (INT)
(c) Secondary Data (SD)
(d) Farmers' Questionnaire (FQ): The questionnaire was developed by the researchers. FQ contains 59 items based on agricultural activities undertaken by the farmers, and level of adoption of extension services.

(a) Interview (INT): Interview method of data collection was used to probe further into questions whose answers were not clear, these were made possible by providing a short training to teachers who administered the questionnaire.
(b) Secondary Data (SD): Relevant documents were obtained from Agricultural Development Project (ADP) section in Abuja, which has its responsibility of extension delivery in the Federal Capital Territory

The FQ items were presented to experts of Ministry of Agriculture and Rural Development and in Agricultural Science Education at the tertiary level of education for content and face validation.

The pupil researcher administered the questionnaire with the help of some teachers based in those localities. Teachers based in those localities help to administer the questionnaire while the pupil researcher supervised the data collection for effectiveness and efficiency. This also helps to overcome the problem of language barrier between the researcher and the respondents. Also, records such as list of female farmers, quarterly and annual reports of extension service were obtained form the Agricultural Development Project (ADP) unit for additional information of extension delivery to female farmers.

Data Analysis

For this study descriptive analysis such as percentages was used to analyze the data.

Results and Discussion

This section attempts to answer the research questions stated in this study.

Research Question I: What is the nature of women participation in agricultural extension services programme?

Table 2: Performance of the Various Farm Tasks

Farm Test	Self		Self with Husband		Family		Hired Labour		Power driven Machinery	
	No.	%	No.	%	No.	%	No.	%	No.	%
Clearing of Land	29	24.2	53	44.2	15	12.5	22	18.3	1	0.8
Ploughing the Land	27	22.5	22	18.3	20	16.7*	50	41.7	1	0.8
Planting	68	56.7*	26	21.7	15	12.5	11	9.2	0	0
Fertilizer Application	38	31.7	59	49.2*	13	10.8	10	8.3	0	0
Weeding	20	16.7	30	25.0	20	16.7	49	40.8	1	0.8
Harvesting	27	22.5	30	25.0	19	15.8	44	36.7	0	0
Marketing farm products	96	80*	13	10.8	6	5.0	5	4.2	0	0
Partial processing	97	80.8*	6	5.0	4	3.3*	13	10.8	0	0
Others	52	43.2	4	3.3	1	0.8	3	2.5	0	0

Research Question 2: What is the level of Adoption of Agricultural Extension Services available to women?

From table 2 it could be observed that women, though active and participate in almost every farm tasks they are not solely involved in these tasks, planting, marketing and partial processing with 56.7%, 80% and 80.8% respectively are the tasks in which a larger percentage of women are solely

involved. Husbands give helping hands in all tasks and especially in clearing (44.2%), fertilizer application (49.2%) weeding and harvesting (25%) respectively. All women subsidize with hired labour in almost all the tasks and especially in ploughing the land 41.7%, weeding 40.8% and harvesting 36.7%. Also, almost all of them utilize labour from the family but a negligible percentage ranging from 3.3% for partial processing to 16.7% each for polughing the land and weeding. This is not surprising because most of the children go to school. It is worthy of note that most do not utilize power driven machinery at all, except in land clearing (0.8%), ploughing (0.8%) and weeding (0.8%), that is, about one farmer in each case.

Table 3: Adoption of Specific Extension Services on Agricultural Activities

	All Respondents		**Eastern Zone**				**Western Zone**			
			Kubwa		**Zhiko**		**Kwali**		**Kilankwa**	
Adoption / No Adoption	**Total N = 120**		**N = 60**				**N = 60**			
			n = 25		**n = 35**		**n =25**		**n =35**	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Land Selection										
Adopted	31	25	3	12	17	48.6	7	28	4	11.4
Not Adopted	47	39.2	20	80	14	40	6	24	7	20
No response	42	35	2	8	4	11.4	12	48	24	68.6
Seed Bed Preparation										
Adopted	6	25.8	3	12	17	48.6	7	28	4	11.4
Not Adopted	37	39.2	20	80	14	40	6	24	7	20
No Response	77	35	2	8	4	11.4	12	48	24	68.6
	All Respondents		**Eastern Zone**				**Western Zone**			
			Kubwa		**Zhiko**		**Kwali**		**Kilankwa**	
Provision of Improved Seed	78	65	22	88	15	42.9	18	72	23	65.7
Adopted	20	16.7	1	4	16	45.7	1	4	2	5.7
Not Adopted	22	18.3	2	8	4	11.4	6	24	10	28.6
No Response										
Seed Rate										
Adopted	18	15	1	4	4	11.4	13	52	0	0
Not Adopted	23	19.2	10	40	13	37.1	0	0	0	0
No Response	79	65.8	14	56	18	51.5	12	48	25	100
Spacing of Plants										
Adopted	36	30	14	56	6	17.1	15	60	1	2.9
Not Adopted	31	25.8	9	36	21	60	1	4	0	0
No Response	53	44.2	2	8	8	22.9	19	36	34	97.1
Weeding										
Adopted	29	24.2	14	56	12	34.3	1	4	2	5.7
Not Adopted	25	20.8	8	32	9	25.7	7	28	1	2.9
No Response	66	55	3	12	14	40	17	68	32	91.4
Fertilizer										

Application										
Adopted	38	31.7	5	20	9	25.7	16	64	8	22.9
Not Adopted	39	22.5	15	60	20	57.1	0	0	4	11.4
No Response	43	35.8	5	20	16	17.2	9	36	23	65.7
Pest and Diseases										
Adopted	45	37.5	3	12	24	68.6	15	60	3	8.6
Not Adopted	31	25.8	17	68	7	20	0	0	7	20
No Response	44	36.7	5	20	4	11.4	10	40	25	71.4
	All Respondents		**Eastern Zone**				**Western Zone**			
			Kubwa		**Zhiko**		**Kwali**		**Kilankwa**	
Harvesting Procedure										
Adopted	4	3.3	1	4	0	0	3	12	0	0
Not Adopted	40	33.3	16	64	17	48.6	7	28	0	0
No Response	76	63.4	8	32	18	51.4	15	60	35	100
Processing of Agric Products										
Adopted	37	30.8	13	52	10	28.6	11	44	3	8.6
Not Adopted	16	13.3	5	20	8	22.6	2	8	1	2.9
No Response	67	55.9	7	28	17	48.8	12	48	31	88.6
Storage of Agric Products										
Adopted	57	47.5	15	60	22	62.9	16	64	4	11.4
Not Adopted	19	15.8	5	20	9	25.7	1	4	4	11.4
No Response	44	36.7	5	20	4	11.4	8	32	27	77.2
Marketing of Products										
Adopted	15	12.5	1	4	2	5.7	5	20	7	20
Not Adopted	19	15.8	9	36	7	20	1	4	2	5.7
No Response	86	71.7	15	60	26	74.3	19	76	26	74.3
Others										
Adopted	1	0.83	0	0	0	0	0	0	1	2.9
Not Adopted	0	0.00	0	0	0	0	0	0	0	0
No Response	11.9	99.17	25	10.0	35	100	25	10.0	34	97.1

Note: Some respondents did not give any response to these questions

From table 3, it could be observed that 25.8% of all respondents adopted seed – bed – preparation system specified by the extension gents; 39.2% did not adopt this system while 35% of them were indifferent in responding. Adoption of seed bed preparation system seems to be considered difficult as it was not adopted in Kubwa at all. Thus, traditional method of seed bed preparation seems to be in practice.

Provision of improved seed is highly adopted (65%). Only 16.7% did not while 18.3% remained indifferent. Spacing of plants, weeding and fertilizer application recorded its adoption rate as 30%, 24% and 32% respectively. Adoption of other extension services like pest and disease control 38%;

harvesting procedure 3%, processing of agricultural products 21%, storage of agricultural products 4% and marketing of products 13%. The findings generally on the adoption of specific extension services show that the adoption rate is still very low. Many factors may be responsible for this pattern which may include lack of capital to purchase some modern farm implements; lack of education on the part of many; and the inability of extension agents to practically carry out these farming activities among other factors. Some respondents did not give any response on these questions. This may be because they do not want to say anything to that effect

Conclusion

Most of them (74.2) utilize family owned land for farming (family and inherited) especially in Kilankwa while a larger percentage (62.5) involved their husbands in farming, most of them still have not adopted the extension service system of farming, leaving more room for improvement by the extension agents. In conclusion and to a larger extent, agricultural practices in Nigeria seem to still rest on the subsistence, small – scale farming, and a lot more needed to be done both on the part of extension agents and the women farmers.

Recommendations

Ani (2007) noted that rural communities require information among others on supply of inputs, new technology, early warning system (drought, pest and diseases), credit, market prices and their competitors. Thus,

1. The use of Information and Communication Technologies (ITCS) cannot be overemphasized. He stressed that active diffusion which determines active adoption require effective communication techniques. The use of media like radio, film and television should be incorporated into the program.
2. Lack of fund is one of the major limitations that women farmers face, they expressed that extension service agencies should look inward to generate funds through new revenue generating mechanisms and motivate farmers to bear some of the service costs such as paying for staff mobility and accommodation allowances.
3 He. also suggested commercial enterprises such as commercial farming, tractors hiring, direct engagement in agro-processing and the like.
4. Lastly, to achieve the objective of this study, which is active adoption and participation, more women extension agents should be trained to overcome lack of knowledge by the women farmers. This is in line with the recommendation of the World Bank (2006).

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