ANALYSIS OF THE SOURCES AND EFFECT OF EXTENSION INFORMATION ON OUTPUT OF WOMEN MAIZE FARMERS IN SOBA LOCAL GOVERNMENT AREA OF KADUNA STATE, NIGERIA

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Abstract

The study was carried out to examine the sources of extension information among women maize farmers and the effect of extensive information on the output of the farmers in the study area. Primary and secondary data were utilized in this study. The primary data were obtained using a structured questionnaire and were analyzed using the instrumentality of descriptive and inferential statistics. The result of the data analysis showed that a large proportion (64.5%) of the respondents indicated that radio was their main source of extensive information, 59% of the respondents indicated that visit by extension agents was their main source of extensive information. The mean output (1946.53kg) for women farmers with access to extensive information was significantly higher than the mean output of women farmers without extension information (1456.94kg) at the 1 percent probability level. Based on the findings of this study, it is recommended that the transfer of extension information to women maize farmers should be strongly strengthened as extension information is significant in enhancing the output of the women maize farmers in the study area.

Keywords: Extension information, Maize farmers, Output, Women

Introduction

Information is one of the basic human needs after air, water, food and shelter; it is one of the necessities of life (Stanley, 1990). Agricultural information can be said to be all published or unpublished knowledge given on all aspects of agriculture and is usually generated through various means (Aina, 1995). These means include, the various agricultural institutes, Universities of Agriculture, Faculties of Agriculture in conventional Universities, Government legislation, agro-based industries and service institutions. No one can categorically claim to know all the information needs of farmers especially in all information dependent sectors like agriculture where there are new and rather complex problems facing farmers every day. It is safe to assert that the information needs of Nigerian small scale farmers revolve around the resolution of problems such as pest hazards, weed control, moisture insufficiency, soil fertility, farm credit, labor shortage, soil erosion (Ozowa, 1995). Agricultural extension strategies traditionally have focussed on increasing production of cash crops by providing men with training, information and access to inputs and services (Ayoade, 2012). This male bias is illustrated in farmer training centers which have been established to provide residential training on technical subjects

According to Ozowa (1995), small scale farmers are among the potential beneficiaries of agricultural credit in Nigeria, but because of their low level of literacy they are mostly unaware of the existing loan facilities. This is even more prominent among women farmers because of the socio-cultural barriers that put women in a disadvantageous situation in the northern states. This problem is compounded by the paucity of women in extension agents especially in a society where cultural and religious taboos make it almost impossible for male extension workers to reach women farmers who outnumber male small scale farmers. In spite of this, women have been found to play significant roles in all spheres of life. Their participation in agriculture covers all facets, production, processing, storage, marketing and distribution of crops and Livestock. Out of the 95% of small scale farmers in Nigeria who actually feed the nation, 55% of them were women (Ozowa, 1995).

Despite the aforementioned invaluable contributions of women to agriculture, they do not have access to extensive information in the Northern part of Nigeria. An analysis of credit scheme in five African countries including Nigeria, where women predominate in food production shows that, women receive less than 10% of the total credit directed to agriculture (FAO, 1996). The implication is that women are less likely to be able to afford inputs recommended by extension agents. Foster (1986) opined that women farmers produce more than 80% of the food in sub-Sahara Africa while FAO (1996), in validating this assertion,

noted that women farmers are responsible for 100% of processing of basic food stuff and 80% of food storage and transportation. Importantly, the dissemination of agricultural information by extension agent is very crucial to agricultural productivity of farmers because it is only through this means that they can learn. Olawoye (1996), in corroborating this assertion, noted that the message (Agricultural Information) passed by the media could enhance agricultural productivity of farmers when they have access to it.

However, there is no depth of knowledge on extent of women access and use of extension information as far as maize production is concerned in the study area. This study therefore, sets out to investigate the sources as well as the effect of extension information on the output of women maize farmers. The objectives were explicitly to:

1. Describe the socioeconomic characteristics of women maize farmers in the study area

2. Examine the various sources of extension information to women maize farmers in the study area

3. Determine the effect of extensive information on the output of women maize farmers in the study area

Methodology
Description of study area
Soba Local Government Area of Kaduna State, Nigeria is the study area. Soba is one of the twenty three (23) Local Government Areas of Kaduna State with a land mass of 2, 234 km^2 and a projected population of 322,597 in 2011. This is projected from the NPC (2006) figure of 293,270 using an annual growth rate of 3.2%. The economy of the local government is highly dependent on agriculture.

Sampling Procedure and Sample Size
A list of women maize farmers was gotten from the eight districts in Soba Local Government Area of Kaduna State which were purposively selected based on their high level of productivity of maize by women farmers. The list was classified according to women maize farmers who utilize extension information and those who do not. A total number of 1203 women maize farmers were obtained as the sample frame of farmers in the study area. Random sampling method was used to select 10% of the frame from each district to obtain a sample size of 121 women maize farmers (that is, 61 for women with extensive information and 60 for women without extension information).

Method of Data Collection
Both primary and secondary data were used for this study. The primary data on the 2010/2011 cropping season of the farmers were collected through a structured questionnaire

administered to the women maize farmers. Data collected include socioeconomic variables such as age, household size, farm size, level of education, marital status, farming experience, membership of co-operation and tenure system. Other variables collected were income of the farmer, output of maize produced, sources of extension information and constraints farmer. Secondary data from journals, books, conference proceedings, past projects/thesis were used for the study.

Analytical Techniques

Descriptive and inferential statistics were employed to analyze the data for the study.

Descriptive Statistics: This involved the use of measures of central tendency such as frequency distribution, percentages and means to achieve objectives one and two of the studies.

Inferential Statistics: The inferential statistics employed in this study are the t-test and this was used to achieve objective three of the study. The t-test is expressed as:

$$t = \frac{\overline{X_1} - \overline{X_2}}{\sqrt{\dfrac{S_1^2}{n_1} + \dfrac{S_2^2}{n_2}}}$$

Where:

$\overline{X_1}$ = mean of the output of women who utilized extension information

$\overline{X_2}$ = mean of the output of women who did not utilize extension information

S_1^2 = standard deviation of the output of women who utilized extension information

S_2^2 = standard deviation of output of women who did not utilize extension information

n_1 = sample size of women who utilized extension information

n_2 = sample size of women who did not utilize extension information

Results and Discussion

The result in Table 1 showed that about 93% and 95% of the farmers with and without extension information were married while only 7% and 5% for the two groups respectively were still single. About 89% and 91% of the women maize farmers with and without access to extensive information respectively were between 30 and 49 years of age. The majority of women farmers (68%) with extensive information had Qur'anic education. This result implies that literacy level among the women maize farmers in the study area is relatively low which makes it very difficult for them to use emerging opportunities to adopt new innovations. The average household sizes for the two groups of farmers were 7 and 6 persons for women farmers with and without extension information respectively. 87% and 71% of the

respondents with access to extensive information and those without extension information respectively had 4 – 7 years of experience in maize production.

Table 1: Distribution of respondents according to their socioeconomic characteristics

Variable	Women farmers with extension information		Women farmers without extension information	
	Frequency	Percentage	Frequency	Percentage
Marital status				
Married	56	93.33	56	94.9
Single	4	6.67	3	5.1
Age (Years)				
20 - 29	2	3.33	2	3.4
30 – 39	26	43.33	22	37.3
40 – 49	28	46.67	32	54.2
≥ 50	4	6.67	3	5.1
Mean	40		41	
Level of Education				
No-formal education	14	23.33	20	33.90
Qur'anic education	41	68.33	21	35.59
Adult education	2	3.33	6	10.17
Primary school	2	3.33	5	8.46
Secondary school	1	1.68	6	10.17
Tertiary school	-	-	1	1.69
Household size				
1 – 5	20	33.33	24	40.68
6 – 10	37	61.67	33	55.93
11 – 15	2	3.33	1	1.70
16 – 20	1	1.67	1	1.69
Mean household size	7		6	
Farming experience				
≤ 3	4	6.67	14	23.73
4 – 7	52	86.67	42	71.19
8 – 11	3	5.00	2	3.39
12 – 15	1	1.66	1	1.70
Mean years	5		4	
Farm size (ha)				
0.1 – 1.0	56	93.33	54	91.53
1.1 – 2.0	2	3.33	-	-
2.1 – 3.0	1	1.67	2	3.39
3.1 – 4.0	-	-	3	5.09
4.1 – 5.0	1	1.67	-	-
Mean farm size	0.89		0.77	

| Total | 60 | 100 | 59 | 100 |

Sources of Extension Information to Women Maize Farmers in the Study Area

The results in Table 2 showed the sources of information available to women maize farmers in the study area. The results showed that 59% of the respondents used farm and home visit by extension agents. About 65% of the respondents used radio. Only 9% and 12% used group discussion and conferences respectively. Ogbona and Neilon (2003) indicated that most of the women farmers in rural Nigeria used television, radio and extension agent as sources of information due to their low level of education. Udameya and Umaru (2008) found low number (13%) of his respondents using News paper which could be attributed to the low literacy level in his study area. Okwu and Umoru (2009) reported low percentage of women farmers having extension agents as their sources of agricultural information and this is in agreement with Matanmi (1991) who observed that male farmers have more access to agricultural information through extension agents than the female farmers do.

Table 2: Sources of extension information among women maize farmers

Sources of Information	Frequency	Percentage
Farm and home visit by extension agent	72	59.5
Own experience	6	4.9
Group discussion	11	9.1
Field days	37	30.6
Conferences	15	12.4
Radio	78	64.5
Total	219*	181*

NB: * Total number of responses greater than n = 121 and Percentage above 100 due to Multiple responses

Effect of extensive information on output of women maize farmers in the study area

The result presented in Table 3 showed the effect of extensive information on women farmers' output. It was revealed that the maximum output of the women with access to extensive information was 6000kg while the minimum output was 700kg. For women farmers without access to extensive information, the maximum output was 6000kg while the minimum was 250kg. The mean (1946.53kg) output for women farmers with access to extensive information was significantly higher than the mean output of women farmers without extension information (1456.94kg) at the 1 percent probability level. This finding is in line with Betz(2009) who noted that agricultural extension was significant in influencing the output of small and large farms in a study on The effectiveness of agricultural extension with respect to farm size: The case of Uganda. Therefore, access to extension by women maize farmers in the study area should be enhanced as it is significant in influencing the output of farmers.

Table 3: Effect of extensive information on output of women maize farmers in the study area

Output(Kg)	Min	Max	Average	Standard Deviation	t-ratio
Women farmers with extension information	700	6000	1946.53	1058.61	2.73*
Women farmers without extension information	250	6000	1456.94	1053.71	2.58

NB: * implies significant at 1%

Conclusion and Recommendation

The study has been able to establish the sources of extension information as well as the effect of extension on the output of women maize farmers in the study area using descriptive and inferential statistical tools to analyze the data collected from the women maize farmers through the use of a structured questionnaire. The result of the data analysis showed that a large proportion (64.5%) of the respondents indicated that radio was their main source of extensive information, 59% of the respondents indicated that visit by extension agents was their main source of extensive information. The mean (1946.53kg) output for women farmers with access to extensive information was significantly higher than the mean output of women farmers without extension information (1456.94kg) at the 1 percent probability level and this implied that access to extensive information by the women maize farmers contributed in enhancing their output. Based on the findings of this study, it is recommended that the transfer of extension information to women maize farmers through the use of radio and extension agents should be consolidated as most of the respondents accessed information using these sources while the use of group discussion and field day needs to be strongly strengthened as they are well known effective media for transferring extension information to farmers.

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