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Constraints of Women Farmer’s Access to Information and Communication Technologies (ICTs) for Agricultural Information in Oyo State, Nigeria

Adebisi G.L* Martins M.O

Department of General Studies and Agricultural Extension and Management. Federal College of Animal Health and Production Technology, Ibadan, Nigeria

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ABSTRACT

The study investigated constraints of women farmers access to ICTs for agricultural information in Oyo State. A total of 120 respondents were sampled. Data were retrieved using interview schedule and were analysed using descriptive and inferential statistics. Statistics reveal respondents average age, average household size and average monthly income as $x = 45.8$, $x = 10.6$ and $x = ₦7,800.34$ respectively, majority (86.7%) were married, 58.3 % representing respondents with primary education. Mobile phone ($x=0.98$) was the most available among the respondents while poor ICTs infrastructure ($x=1.55$) and difficulty in the utilization of ICTs gadgets ($x=1.62$) ranked highest as constraints access to ICTs for agricultural information. Significant relationship existed between respondents average monthly income ($r= 0.492, p=0.000$), educational level ($\chi^2= 4.726, p= 0.021$) and the constraints access to ICTs for agricultural information. Scaling up the ICTs infrastructure base around farming clusters and capacity building like training on ICTs to access agricultural information retrieval is advocated for women farmers.

1. Introduction

Agriculture is an important sector with the majority of the rural population in developing countries depending on it for their livelihoods. Agricultural sector in Nigeria depends upon the women farmers who constituted the farming population and even responsible for farm work. According to the United Nations Report on status of the world’s women, women are twice as likely to be involved in agricultural related activities as men [9]. Several studies have indicated that

women in agriculture contributed some 60-80% of the labour input in African Agriculture, this is especially so for the production, processing and trade in food commodities [7,10]. Women farmers in their own right growing several crops and keeping livestock and what constitutes development in agriculture is the extent to which these farmers have access to accurate and reliable information. Information is an essential ingredient in agricultural development that every individual engaged in agriculture should have access to. Information access

*Corresponding Author:

Adebisi, G.L,

Department of General Studies and Agricultural Extension and Management. Federal College of Animal Health and Production Technology, Ibadan, Nigeria;

Email: adebisigbadebo2014@gmail.com

is a pre-requisite and a valuable resource for agricultural development [8]. Therefore, agricultural information access remains pertinent at which agricultural productivity can be attained. Agricultural information is a key component in improving small-scale agricultural production and linking increased production to remunerative markets, thus leading to improved rural livelihoods and food security [4]. Through agricultural information, women farmers can adopt new technologies or farming systems, know when to plant and harvest, which crop to produce and which animal to rear and where to sell, know where to acquire bank loans and other farming inputs, as well as how to control pests and diseases. Also, agricultural information is considered as one of the most important resources in agricultural and rural development that assists the women farmers to make decisions and take appropriate actions for further farming-related development. Adequate and relevant information is one of the key requirements for increased productivity and increased income which could ultimately lead to poverty reduction among the food producers [5]. Agricultural information access remains a promising strategy for increasing agricultural output and information and communication technologies (ICTs) have been considered as the tools where information can be obtained for rapid development in agriculture. Information and communication technologies (ICTs) play vital role in enhancing agricultural development, thus, they constitute a method of notifying farmers of new developments regarding their agricultural production activities which lead to better methods of farming and increase in food and cash crop production [3]. ICTs play important roles in the circulation of knowledge; teach ideas and skills that are essential for the creation of a better life for the farmers.

Among other sources of agricultural information, ICTs like radio and television constitute the highest preference for information access and they are regarded as critical resources for agricultural development because it empowers people to make informed choices for attaining better livelihoods [6]. According to Adeniyi and Yekinni [1], ICTs like radio, television and mobile phone are the most available and accessible in the rural communities.

ICTs are capable of capturing, coordinated, and processing and disseminate developmental information to larger percentage of population including women farmers at a given period of time. Despite the significant contribution of women farmers to agricultural production in rural area of Oyo state, they are not considered productive due to their limited access to information communication technologies (ICTs) for agricultural information. The study conducted by Olowu *et al* [7] revealed that despite the capacity of ICTs to assemble,

process and share information among agricultural information providers, seekers and users in an interactive manner, women farmers who perform most of the agricultural tasks have limited access to ICTs which further widens their information gap. It is difficult for women farmers to access ICTs for agricultural information probably because of their poor technical know-how on the use of ICTs, poor rural infrastructural base, illiteracy and poor economic conditions. It is against this background that the study investigated constraints of women farmers access to ICTs for agricultural information. Also, the study ascertained the socioeconomic characteristics of the respondents, examined the available ICTs and hypothesized that no significant relationship existed between the selected socioeconomic characteristics of the respondents and constraints access to ICTs.

2. Methodology

The study was conducted in Oyo State. The climate is equatorial, notable with dry and wet seasons and relatively high humidity, average daily temperature ranges between 25°C (77.0°F) and 35°C (95.0°F) almost throughout the year. It is located between latitude 7°45'N and longitude 4°15'E which covers a total area of 28,454 square kilometers. The area is comprised of different ADP Zones with majority located in urban centre. The population of the study comprises of women farmers and two stage sampling procedures were used to determine the sample size. The first stage involved the purposive selection of all Agricultural development zone in Oyo State which were Ibadan/Ibarapa ADP Zone, Saki ADP Zone, Oyo ADP Zone, Ogbomosho ADP Zone while the second stage involved the selection of registered women farmers using proportionate random sampling technique which resulted to 120 women farmers.

Table 1. Registered Women Farmers, ADP Zones, and 15% of Women Farmers in each Zones

ADP Zones	Registered Women Farmers	15% of Registered Farmers
Ibadan/Ibarapa	300	45
Saki	150	23
Oyo	196	29
Ogbomosho	150	23
Total		120

3. Data Analysis

Data were analyzed with the use of descriptive statistics such as frequency, percentage and inferential statistics

such as Chi-square and Pearson Product Moment Correlation (PPMC) at 5% level of significance.

4. Result and Discussion

4.1 Respondents Socioeconomic Characteristics

The result of analysis in Table 2 below shows that 2.5% of the respondents are between ages of 20 to 30 years and 67 to 70 years respectively, 10.0% of them are between ages of 31 and 40 years, 13.3% of them are between ages of 51 and 60 years while 71.7% of them are between ages of 41 and 50 years. The implication of this result is that majority (71.7%) of the respondents are in their productive ages. This finding is similar to the research finding of Akinbile ^[2] that reported that most of the female farmers are more than 40 years and that only a few farmers are older than 50 years of age. On the respondent's religious affiliations, the result showed that 47.5% of the respondents were Christians, 46.7% of the respondents were Muslim and 5.8% of them practice traditional religion. This means that the Christianity is popular than any other religion among the respondents. As shown in Table 2, majority (86.7%) of the respondents were married, 3.3% of them were divorced while 10.0% of them were widowed. Available data revealed that 8.3% of the respondents have between 1 and 4 persons in their families, 60.9% of them have between 5 and 8 persons in the families while 30.8% of the respondents have between 9 and 12 persons in their families. This implies that women farmers have larger families to cater for. Also, 16.7% of the respondents involved in crop cultivation, 20.0% of them involved in animal husbandry while 63.3% of them involved in both crop and animal husbandry. In terms of income earning, the study revealed that 13.3% of them were earning below N5000, 17.5% of the respondents were earning between N5000 and N7000, 25.0% of them were earning between N7001 and N9000 while 44.2% of them were earning above N9000. The implication is that majority of the respondents are of low income. Respondents level of education indicated that 33.3% of the respondents had no formal education, 58.3% of them had primary education, and 1.7% of them had secondary education while 6.7% of the respondents had tertiary education. The implication is that educational level of the women are very low. Findings also show that 6.7% of them engaged in civil service besides farming, 80.0% of them engaged in trading, 10.8% involved in hair dressing while 2.5% of them were employed in private business besides farming. Farming as a business is not a major activities of women farmers in the study area

Table 2. Distribution of respondents by socioeconomic characteristics

Variables	Frequency	Percentage	Mean
Age (years)			
20-30	3	2.5	45.8
31-40	12	10.0	
41-50	86	71.7	
51-60	16	13.3	
61-70	3	2.5	
Religion			
Islam	56	46.7	
Christianity	57	47.5	
Traditional	7	5.8	
Marital status			
Married	104	86.7	
Divorced	4	3.3	
Widowed	12	10.0	
Household size			
1-4	10	8.3	10.6
5-8	73	60.9	
9-12	37	30.8	
Type of Agriculture involved			
Crop cultivation	20	16.7	
Animal husbandry	24	20.0	
Both crop and Animal husbandry	76	63.3	
Income/Month (Amount in N)			
< 5,000	16	13.3	7,800.34
5000-7000	21	17.5	
7001-9000	30	25.0	
>9000	53	44.2	
Other occupation			
Civil service	8	6.7	
Trading	96	80.0	
Hairdressing	13	10.8	
Private employed	3	2.5	
Education Level			
No formal education	40	33.3	
Primary education	70	58.3	
Secondary education	2	1.7	
Tertiary education	8	6.7	

4.2 Availability of ICTs Among the Respondents

Table 3 shows that 97.5% of the respondents indicated the availability of radio, 98.3% of them indicated the availability of mobile phone, 85.0% of them indicated the availability of television. Also, Extension bulletin poster (55.0%), newspaper (23.3%), computer and CD-

ROMs (3.3%) respectively, internet (1.7%) were the ICTs available among the respondents in the study area. The implication of this findings is that mobile phone is the most popular ICTs among the respondents in the study area.

Table 3. Distributions of respondents according to the availability of ICTs

ICTs tools	Frequency	Percentage	Mean
Radio	117	97.5	0.97
Television	102	85.0	0.85
Mobile phone	118	98.3	0.98
Extension bulletins/posters	66	55.0	0.45
Computer	4	3.3	0.02
Internet	2	1.7	0.01
Newspaper	28	23.3	0.19
CD-ROM	4	3.3	0.02

4.3 Respondents Constraints to ICTs to Access Agricultural Information

Table 4 reveals that majority of the women farmers 70.0%, 66.7%, 65.0%, 60.0% indicated that they experienced serious constraints on high cost of ICTs gadgets, poor ICTs infrastructure, inability to read and comprehend English Language, high cost of electricity while most of the respondents 35.8%, 32.5%, 27.5%, 25.0% indicated no constraints to ICTs in terms of inability to understand the language of presentation, faulty equipment, inappropriate program schedule, loss of signals from sources during program and lack of local content.

Table 4. Distribution of respondents by constraints to ICTs to access agricultural information

Constraints	Serious constraints	Mild constraints	not a constraint	mean
High cost of ICTs gadgets	84(70.0)	26(21.7)	10(8.3)	1.62
High cost of electricity	72(60.0)	30(25.0)	18(15.0)	1.45
Difficulty in operating ICTs gadgets	63(52.5)	50(41.7)	7(5.8)	1.47
Faulty equipment	41(34.2)	40(33.3)	39(32.5)	1.02
Loss of signals from source	52(43.3)	38(31.7)	30(25.0)	1.18
during program				
Inappropriate programme schedule	40(33.3)	47(39.2)	33(27.5)	1.06
Shortage of time allotted to Agricultural programme	32(26.7)	60(50.0)	28(23.3)	1.03
Inability to understand the language of presentation	47(39.2)	30(25.0)	43(35.8)	1.03
Lack of local content	28(23.3)	62(51.7)	30(25.0)	0.98
Inability to read and comprehend	78(65.0)	26(21.7)	16(13.3)	1.52
English language Poor ICTs infrastructure	80(66.7)	26(21.7)	14(11.6)	1.55

4.4 Relationship between Respondents Socioeconomic Characteristics and Constraints Access to ICTs

The result of correlation analysis and chi-square in table 5 shows that there was significant relationship between the women farmers income and the constraints access to ICTs ($r=0.492$; $p=0.000$) which implies that income determines the accessibility of ICTs that is the higher the income the greater the access to ICTs for relevant information. Respondents with higher income will have more access to ICTs compared with the respondents with the lower income. Also, chi-square results shows that there was significant relationship between the educational level of the respondents and their access to ICTs for agricultural information ($\chi^2=4.726$; $p=0.021$). The implication of this result reveals that educational level of respondents determine their access to ICTs for agricultural information. Respondents education influence ICTs connectivity for agricultural information

Table 5. Result of correlation analysis and chi-square result of socioeconomic characteristics of the respondents and their constraints to ICTs for agricultural information

Variables	χ^2	DF	r-value	p-value	Decision
Age			0.045	0.211	NS
Religion	2.486	2		0.248	NS
Marital status	3.026	2		0.227	NS
Household size			0.066	0.376	NS
Type of Agriculture Involved	2.061	2		0.303	NS
Income			0.492	0.000	S
Other Occupation	3.446	3		0.134	NS
Educational level	4.726	3		0.021	S

5. Conclusion and Recommendations

This study attempted to assess the constraints of women farmers access to ICTs for agricultural information in Oyo state and it was revealed that majority of the respondents are in their productive years, married, had household size between 5 and 8 persons in their families, engaged in both crop production and animal husbandry. Majority of the respondents had formal education at different level and other occupations respondents engaged with besides farming was trading. The most available ICTs in the study area among the respondents were radio and mobile phone, however, high cost of ICTs gadgets and poor ICTs infrastructure were revealed as the major constraints to access ICTs for agricultural information in the study area. Significant relationship exists between the respondent's income, educational level and constraints access to ICTs. It is recommended that there should be an improvement

in the provision of ICTs infrastructure in the study area by the government at all level, stakeholders in extension communication should expose the women farmers to the new ICTs tools and capacity building like training on ICTs to access agricultural information retrieval is advocated for women farmers.

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