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RESEARCH ARTICLE

Barriers to Effective Extension Agents and Smallholder Farmer Communication in Gwagwalada Area Council, Abuja, Nigeria

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ABSTRACT

Effective communication is the most effective tool in every human relationship, most especially between extension officers and their clientele. This survey was carried out to examine the constraints of effective communication among farmers in Gwagwalada Area Council of federal capital territory, Nigeria. Purposive sampling technique was used for sample selection while questionnaires and interview schedule were adopted for data collection. A total of 50 farmers were sampled for the study. The data were analyzed using descriptive statistics. Results of the survey showed that majority of the farmers in the study area were not well learned enough to communicate fluently in English. Majority of the farmers were holders of SSCE with 38%, having a farming experience of 6–10 years. About 40% cultivated tubers and 50% speak only Hausa language and 66% rely solely on farming as their only source of income. The study therefore recommended among others that the use of internet and internet services be employed in communication between extension officers and farmers. About 64% were medium income earners and 72% do not have access to internet or internet facilities and cannot operate computer by themselves.

Key words: Barriers, effective, communication, extension, agents

INTRODUCTION

Communication is the process through which one person transmits impulses to another in order to alter that person's behavior. Effective communication is essential to creating and sustaining the kind of social and professional networks that enable individuals to influence their environment (Sennuga *et al*., 2020a; Anas *et al*., 2022). To impart agricultural knowledge to farmers, extension staff must employ efficient communication strategies. Extension agents are committed to disseminating research station findings to farmers and research station and institute problems. Effective communication

between researchers, extension personnel, and farmers is necessary to do that (Sennuga *et al*., 2020b; Makcit *et al*., 2022).

Field observations show that the intended results have not yet been attained, suggesting that extension agents' communication tactics for informing farmers are unsuccessful. Lack of understanding of farmer needs and the environment in which they work is the cause of the ineffectiveness (Codjoe *et al*., 2013; Desmond *et al*., 2022). According to Agbamu (2011) agriculture advances and becomes more sophisticated, agricultural extension workers must increase their knowledge and skill sets. Many people with less education work as village extension agents, where they are in charge of educating farmers and disseminating agricultural extension information. The bulk of extension agents still have low educational levels, which contributes to the poor quality of

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extension services provided to Nigerian farmers. The staff's inadequate pre-service training before joining the extension service is another important aspect that has contributed to poor service delivery and low-quality employees. In Nigeria, the universities, colleges, and polytechnics that train agricultural extension officers lack the infrastructure necessary to develop recent agricultural graduates and teach them information and communication technology skills (Ogunlade *et al.*, 2014; Ngozi *et al.*, 2022).

To boost farmers' production, agricultural extension has been in the forefront of providing them with the necessary information. Delivering agricultural extension services around the world has focused on sharing research findings and better agricultural practices with farmers (Yegbemey *et al.*, 2014; Tuedon *et al.*, 2022). To maintain food security and the economic growth of the agrarian community, agricultural extension services are tasked with distributing innovation that could revolutionize agricultural output (Apantaku and Oyegunle 2016; Oduwole *et al.*, 2022). Agricultural extension and consulting services, per (Agoda *et al.*, 2017), played a significant part in agricultural development and can improve the welfare of farmers and other local residents. To appropriately and promptly meet farmers' demands for information, experience, and technical procedures at the field level, agricultural extension and consulting services were implemented (Ebenehi *et al.*, 2018; Flourence *et al.*, 2022).

Agricultural extension aims to educate farmers on how to make better decisions, convey knowledge from the global knowledge base and local research to farmers, and promote desirable agricultural development. Farmers are also given the opportunity to clarify their own goals and potential (Man *et al.*, 2019; Janet *et al.*, 2022). As a result, extension services offer inputs that develop human capital, such as information flow that can enhance rural wellbeing. In addition, according to (Oladele, 2015), agricultural extension focuses primarily on developing human resources and disseminating technology and knowledge from agricultural research institutes to rural farmers. Extension agents are experts who work in the extension system and are in charge of fostering community development. The number of farmers per extension worker, however, is a major weakness of traditional extension models, according to Sennuga (2019),

as they are unable to visit all smallholder farmers efficiently and on schedule. At present, there are 3000 farmers for every one extension worker in Nigeria. Therefore, in conventional Training and Visit extension, for instance, the ratio of extension workers to farmers should be 1:200 in order for them to have a meaningful influence by successfully training and tracking the farmers' development (Ogundele, 2016; Olayemi *et al.*, 2020).

According to Rickards *et al.*, (2018) in many countries, extension services are an illustration of a formal institution that is essential to fostering small-scale agriculture and achieving both family and national food security. Agricultural extension services have been shown to increase farmers' agricultural knowledge and skills, disseminate new technology, and alter farmers' attitudes (Philip and Lindsay, 2021; Sennuga *et al.*, 2021). They also facilitate access to markets, support farmers' efforts to manage natural resources sustainably, and promote community development. However, these services have encountered a number of challenges, which this paper seeks to identify and suggest potential solutions for (Olayemi *et al.*, 2020; Nkechi *et al.*, 2022). Traditional farming systems and animal husbandry practices are projected to have a key role in the agro-production, processing, storage, and marketing of food commodities, which will lead to poor crop and livestock output (Agoda *et al.*, 2017; Adeyongo *et al.*, 2022).

Furthermore, Afsar and Idrees (2019) identified inadequate interaction with researchers and extension agents, inadequate training programs for farmers, low general educational levels of farmers, and delays in information delivery as pressing constraints to agricultural information in Ghana while (Ijeoma and Adesope 2015; Apantaku *et al.*, 2016) identified a lack of credit facilities, insufficient motivation of the personnel, inadequate resources, a poor transportation network, and a high level of farmers' illness. According to (Apantaku and Oyegunle 2016), it may be assumed that rural farmers' lack of access to basic agricultural knowledge and information is due to certain obstacles to the success of agricultural extension efforts, which have caused these farmers to continue to their old ways. In addition, there is a lack of knowledge of contemporary extension teaching techniques and communication abilities among extension agents, including the use of computers and fluency in both the English language and the local language (Rickards

et al., 2018; Abraham *et al.*, 2022). Although extension agents do employ some communication techniques, it is unknown to what extent they are effective. This study will inform farmers, the government, and policy makers about the obstacles to the efficient provision of agricultural extension services. They will use this information to help them make decisions that will improve the efficiency of agricultural extension agents and raise farmer output (Sennuga and Fadiji, 2020; Adangara *et al.*, 2022).

Therefore, the broad purpose of this study was to find out the constraints to effective communication between extension agents and farmers in Gwagwalada Area Council, Abuja, Nigeria. Hence, the specific objectives of this study are to:

i. Identify the causes of constraints to effective communication between Extension agents and farmers in the study area
ii. Examine the effects of constraints to effective communication on agricultural produce
iii. Determine better ways of communicating between extension officers and farmers.

MATERIALS AND METHODS

This study was conducted in Gwagwalada Area Council, Abuja. Gwagwalada is an area council in the federal capital territory and is the name of the main city in the Local Government Area, which has an area of 1043 km^2 and a population of 157,770 at the 2006 census. It is projected to have a 6.26% growth between 2020 and 2025, the largest increase on the African continent (*virtual capitalist. Archived, 2021*). However, purposive sample method was used for the study due to active engagement of the rural farmers in agricultural production in the district. The major economic activity conducted by the rural dwellers in the community is farming. Very few people engage in hunting and small-scale business. The major food crops grown are yam, maize, millet, groundnut, rice, beans, melon, sweet potato, cassava, guinea corn, and vegetables such as pepper, tomato, and garden egg.

Population of the Study and Research Design

The study was conducted among the district's rural farmers; the communities' agroclimatic, racial,

religious, and cultural contexts are similar. There are no climatic or agronomic variations among the districts' communities. They are comparable and almost identical. Their use of extension agents is available. In order to investigate and gather in-depth information regarding obstacles to the efficient provision of agricultural extension services between Extension Agents and Farmers in the Gwagwalada Area Council, the study used a descriptive research design.

Sample Size and Sampling Techniques

Purposive sampling technique was used for sample selection while questionnaires and interview schedule were adopted for data collection. A total of 50 farmers were sampled for the study. The data were analyzed using descriptive statistics.

Sample Size

The sample size for the study was 100 smallholder farmers. Within each community, farm families were invited to participate in the study through community meetings. From this sampling frame of individuals, 50 farming households were randomly selected from the community; primarily on voluntary basis. Other criteria for individual participants were as follows: farming experience, interested in participating, and permanent resident of the community. The foremost rationale for selecting 50 farmers from the community were based largely on the number of farming households that volunteered and showed interest during the community meetings, as well as conformed to the previously mentioned criteria.

Data Collection

Interviews with rural residents and the Greenwich schedule were used to gather primary data. Data were gathered using structured questionnaires, and the survey took roughly 1 h and 10 min. To determine the appropriateness and reliability of the questions set for the survey among smallholder farmers working with to correct aspects related to verbal understanding and to ensure the interviewees' performance, some minor corrections were made before administering the questionnaires to the

participants. The key themes in the survey included socio-economic characteristics of smallholder farmers, farming experience, effective of constraints sources of agricultural extension information in the area. Only few times were further visits necessary to evaluate and clarify incomplete information.

Data Analysis

Perception of respondents was measured using a four (4) point Likert scaling based on strongly Agreed (4), Agreed (3), Disagreed (2), and strongly Disagreed (1) for positive questions and based on strongly Agreed (1), Agreed (2), Disagreed (3), and Strongly Disagreed (5) for negative questions. The data collected were subjected to analysis using descriptive statistics such as frequency - and percentages with the aid of Statistical Package for the Social Sciences (SPSS) version 24 the data were analyzed and the descriptive statistics were used to present the results.

RESULTS AND DISCUSSION

The results of socio-economic characteristics of the respondents are presented in Table 1. The variables investigated in the study included: age, sex, marital status, household size, level of education, major crops cultivated, household assets, and income level.

From the above table on the socio – economic factor relevant to effective communication of in the case study area, 38% of the farmers were SSCE holders, while 24% were OND holders, 32% had non-formal education. This shows that the respondents in the study area have acquired the basic education that will enhance or reduce the Constraints to Effective Communication between Extension Agents and Farmers in the study Area. This implies that there is a positive relationship between the extension Agents and Farmers in terms of communication since majority are educated. However, this suggests that the respondents in the study area obtained the basic education required for better understanding and ability to embrace new technologies especially the adoption of GAPs modern farming technology. In addition, it is generally thought that the level of education enhances the ability to comprehend and

Table 1: Demographic representation of the socioeconomic characteristics of the farmers (*n*=100)

Socio-economic characteristics	Frequency (*n*=100)	Percentage
Educational status		
Primary	2	4
Secondary	19	38
Tertiary	12	24
Non-former education	16	32
Farming experience (years)		
0–5	4	8
6–10	10	38
11–15	18	36
20 above	9	18
Sources of Income		
Trading	13	26
Cobbler	3	6
Transport	1	2
Farming	33	66
Crops cultivated		
Cereals	12	24
Tubers	20	40
Vegetables	6	12
Animal husbandry	2	4
Monthly income		
Low	13	26
Medium	32	64
High	4	8

Field data analysis, 2021

adopt relevant agricultural information. Indeed, according to Kalungu and Filho (2016), and Sennuga (2019) highly educated farmers tend to adopt relevant agricultural technologies better than illiterate ones. About 40% cultivated tubers, 24% cultivated cereals while the remaining population cultivated either vegetables or are into animal husbandry. 64% of the farmers had medium income while 24% have low income. About 66% were predominantly farmers, while the remaining 34% had other sources of income such as petty trading, transportation and cobblers. About 38% had a farming experience of below 10 years while 36% had experience of below 15 years with 18% having farming experience of over 20 years.[1-10]

To identify the causes of constraints to effective communication, it was discovered that 50% spoke Hausa language only and 42% could speak English while the remaining population spoke their local dialect only. About 58% of those spoke English were

Table 2: Barriers to effective communication among extension workers and farmers

Identify causes of constraints to effective communication	Frequency (*n*=100)	Percentage
Languages spoken		
English	21	42
Hausa	25	50
Igbo	2	4
Yoruba	1	2
Others	1	2
Fluency of spoken and written English		
None	7	14
Not fluent	5	10
Very fluent	29	58
Fluent	9	18
Communication with extension officer		
Weekly	9	18
Biweekly	9	18
Monthly	24	54
Bimonthly	5	10
Means of communication between farmers and extension officers		
Verbal	16	32
SMS	1	2
Letter writing	3	6
Radio	1	2
Visiting	29	58

Field data analysis, 2021

fluent and 14% could not speak English language at all. About 54% acknowledged that their extension officer communicated regularly and visited them monthly. Despite the fact that most of the extension agents make use of a variety of communication strategies, there are still very serious constraints hindering effective use of the strategies for appropriate dissemination of agricultural information to farmers. The findings are in agreement with (Agbamu, 2011), who reported that, in many countries, socio-cultural factors are leading constraints to the effective ness of extension. They noted that language differences and illiteracy can impede the communication of improved technology unless they are taken into account. They reiterated that inadequate numbers and qualifications of staff remain a difficult problem for public-sector extension organizations. Salaries and benefits are rarely competitive with those of comparable private and public enterprises, resulting in low morale and poor performance [Table 2].

Information has become a critical factor to increase smallholders' production and productivity. As a result, the most preferred sources of information

by smallholder farmers were investigated and respondents were requested to rank the sources of agricultural information used. As presented in Table 3, the findings revealed that smallholder farmers 44% affirm that they are personally putting efforts to enhance effective communication while 20% made no efforts at all. About 72% do not have any access to computer while 76 % are not computer literate neither do they have access to internet 56% acknowledge that they have good network in their locality. The study results further indicate that agricultural extension agents, personal sources and social media were not considered as significance in obtaining agricultural information by the respondents. The findings of the study show that radio and mobile phones were relevant agricultural information which helps farmers to make informed decisions about what crops to plant and where to purchase affordable farm inputs and which market to sell their produce. In this regard, the need and choice of the sources of information on improved agricultural technology, and how the timely and relevant information is disseminated to the targeted smallholder farmers should be of paramount concern to both agricultural development practitioners and agricultural extension workers.

Inferential Statistics

Regression analysis
The findings in Table 4 demonstrate the suitability of the regression model that was utilized to describe the research phenomena. The factors that best describe the effective dissemination of agricultural information were found to include media choice, language barrier, farmer attitudes, and socio-demographic traits. The R square, also known as the coefficient of determination, or 71.4%, is evidence in favor of this. This outcome also indicates that the model used to link the relationship between the variables was successful.[11-21]

Table 5 regression of coefficient results reveals a substantial and positive association between media preference, sociodemographic traits, and the successful dissemination of agricultural information, as indicated by beta coefficients of 0.341 and 0.660, respectively. This suggests that a rise in the unit variation of media choices and socio-demographic traits would lead to a rise in the efficient dissemination of agricultural information.

Table 3: Better ways of improving communication among extension workers and farmers

Access ways of improving communication	Frequency (*n*=100)	Percentage
What efforts are you making to improve the communication?		
None	10	20
Little	18	36
Much	22	44
How do you think your extension officer can communicate better?		
Speaking English	10	20
Local dialect	9	18
Using interpreter	31	62
Do you have access to internet or internet facilities?		
Yes	14	28
No	36	72
Are your computer literate?		
Yes	12	24
No	38	76
Is the network reception in your locality good		
Yes	28	56
No	22	44

Field data analysis, 2021

Table 4: R Square of coefficients

Indicator	Coefficient
R	0.6
R Square	0.71.4

Table 5: Regression of coefficients

Variable	B	SE	t	Sig.
(Constant)	6.372	0.612	13.639	0.000
Average choice of media	0.341	0.165	3.003	0.050
Average language barrier	−0.042	0.035	−1.429	0.003
Average farmers attitude	−0.057	0.008	−7.621	0.004
Average socio demographic characteristics	0.660	0.310	2.337	0.001

As indicated by beta coefficients of −0.042 and −0.057, respectively, these results further demonstrate that there is a negative and substantial association between language barrier, farmers' attitude, and the efficient conveyance of agricultural information. This suggests that a rise in the unit change of linguistic barriers and farmer attitudes will lead to a decline in the efficiency of agricultural communication.

CONCLUSION

Effective communication plays a key role in the success of the extension officer as he makes

endeavors and thus must not be treated with levity but encouraged as the farmer gets more enlightened through the farmer education projects. Efforts should be put in from both the officer and the farmer to achieve a more effective communication. Hence, rural farmers have favorable perception about the effectiveness of agricultural extension services.[22-33] The farmers' perceived constraints are insufficient extension personnel; inadequate extension equipment and facilities to disseminate information. Furthermore, the major constraints to effectiveness faced by the extension personnel are improper planning of extension programs and inadequate extension equipment or facilities to disseminate information.

RECOMMENDATION

Having identified that the major sources of constraints to effective communication revolves round non-formal education, low income and basically lack of access to internet. The following are some recommendations to enhance this work for further studies:

1. More emphasis should be placed on farmer education by every possible and available means
2. Possible ways of helping the farmers' boost their income by better productivity should be targeted at by providing them with improved seeds and other farm inputs
3. The farmers need to be properly informed so as not to see access to internet and other internet facilities as a luxury but a necessity
4. The farmers should be taught and encouraged to practice mixed cropping particularly for those who live solely on farming so as to continually have sources of income all through the year
5. Internet facilities should be made available both to the extension officer and the farmer at a very subsidized rate.

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