



ASSESSMENT OF EXTENSION COMMUNICATION CHANNELS AMONG CASHEW FARMERS IN ANIOCHA-SOUTH AND IKA-SOUTH LOCAL GOVERNMENT AREAS (LGAs) OF DELTA STATE, NIGERIA

ABUDU, S.

National Agricultural Extension and Research Liaison Services (NAERLS),
ABU, Zaria

ABSTRACT

The study assessed cashew farmers' usage of extension communication channels. A sample of 336 cashew farmers were selected through a multi-stage sampling technique. Descriptive statistics was used for data analysis. The study revealed that, 50% of respondents were between 41-60 years of age with primary education (50.9%) and household size (60%) of 6-10 people, dominated by males (76.8%). Also, majority (60%) of respondents had long farming experience between 11-15 years, large farm size (62.5%) of 1-5 hectares with low extension visits of 1-2 times in every three months and were members of cooperative societies (58.3%). The most available extension channels were relatives/friends/neighbours (95.2%), interpersonal communication (89.3%) and usage of contact farmers (59.2%). Others were radio (55.7%) and group discussion (53.9%). The highly perceived frequency of communication channels used in the dissemination of information to the respondents were relatives/friends/neighbour ($\bar{X} = 2.30$), interpersonal communication ($\bar{X} = 2.46$), use of contact farmers ($\bar{X} = 2.24$), radio ($\bar{X} = 2.26$) and group discussion ($\bar{X} = 2.54$) respectively. The major constraints were inadequate extension agents (99.1%), farmers' poor attendance at meetings (92.3%), inefficient use of communication channels (84.5%), lack of trust of extension agents (62.2%), among others. It was concluded that, although, most of the available extension communication channels were also highly perceived to be frequently used in the dissemination of information to farmers, but inadequate extension agents were still a major treat to the sustainable use of the channels. There is need for the provision of digital extension by agents to support the use of relatives/friends/neighbours which was the most frequently used communication channel in the study area in order to ensure regular availability and accessibility.

Key words: Assessment, Cashew farmers, Delta State, Extension communication channels

Correspondence: abudusuleman@gmail.com, 08030892404

INTRODUCTION

Extension communication channel is a medium used to communicate message to the audience which affects how they receive the message. Communication channels can refer to the methods used to communicate in the communication process [1]. According to Israel and Wilson [2], developing an understanding of extension communication channels used by clients to obtain information is a pre-requisite for efficient educational programming because messages that go unheard or unseen cannot lead to change. Similarly, communication is defined by Boz and Ozcatalbas [3] as the process by which participants create and share information/knowledge with the aim of reaching a mutual understanding while communication channels are pathways through which information or messages are transmitted to audience. These channels can be grouped as physical channels which involve direct contact and may include seminars, exhibitions etc. Non-physical channels, include television, radio, phone calls, newspapers and other print media channels. Technical channels could be either physical or non-physical.

Effective communication between change agents and researchers is essential for increasing agricultural production through the use of improved technologies. Agricultural extension by its nature has an important role in promoting the adoption of new technologies

and innovations [4]. Agricultural extension brings about changes through education and communication in farmers' attitude, knowledge and skills. The role of agricultural extension involves dissemination of information, building capacity of farmers through the use of a variety of communication channels and help farmers make informed decisions [5]. Poor communication as a result of uncoordinated channels of information delivery to farmers has been a major problem to information flow between researchers, extension, farmers, input dealers and others in the linkage system [6]. There is no doubt that, utilizing preferred information channels for implementing an activity or sharing information about a new technology enhances community participation and adoption. Therefore, effective extension communication channels must constantly assess the impact of information delivery system to farmers and design communication strategies that deliver information to farmers in a timely, clear and reliably manner to encourage awareness, acceptance and use of innovations. However, very few studies have addressed the use of communication channels in disseminating information or improved technologies to cashew farmers in Delta State and this creates a knowledge gap. It was against this background that, this study was carried out to assess extension communication channels among cashew farmers in

Delta State in Nigeria by addressing the following objectives:

- i. describe the socio-economic characteristics of cashew farmers in the study area
- ii. identify the communication channels available for the dissemination of information to the respondents
- iii. examine communication channels' frequency of use in the study area
- iv. identify relevance of communication channels usage to farmers
- v. identify constraints to cashew farmers' use of extension communication channels in the study area.

MATERIALS AND METHODS

Study area

The study area consisted of two selected Local Government Areas (LGAs) of Delta State namely; Aniocha South and Ika South. Delta state is located in the southern end of Nigeria with a population figure of twelve million, nine hundred and fifty-seven thousand, four hundred sixty-five (12,957,465) persons in 2022 projected from 2006 National Population Census figure [7]. The State has a total land area of 16,842 square kilometers (6,503 sq. mi). Delta State lies between longitudes 5°00 and 6°45'E and latitudes 5°00 and 6°30'N. It is bounded by Edo State to the North, Anambra state to the East, Rivers State to the Southeast and Bayelsa state to the South [7]. There are various solid minerals deposit within the state such as industrial clay, silica, lignite, kaolin, tar sand, decorative rocks, limestone etc. Agriculture is the mainstay of the state economy. Yam, cassava, Oil palm, rice and corn (maize) are grown for local consumption. Also, it is a major exporter of petroleum, rubber, timber, palm oil and cashew. Aniocha South is a local government area in Delta State. It's headquarter is the town of Ogwashi-Uku. The communities that make up the local government are Abah Unor, Adonte, Ashama, Egbudu-Akah, Ejeme-Aniogor, Ejeme-Unor, Ewulu, Ogwashi-Uku and Nsukwa among others. It has an area of 868 square kilometers (335 sq mi) [7]. Ika South is also one of the local government areas in the state. It's headquarter is Agbor town. It is part of the Igbo speaking area. It has an area of 436km². It comprises of several towns and villages which include Ewuru, Emulu, Idumuoza, Alifekede, Agbor-obi, Alizoormo, Omumu and Ekuku-Agbor among others.

Study design

A qualitative approach helped in revealing subjective realities and truths about the assessment of extension communication channels in the study area with structured questionnaire administered to the respondents. A test-retest method was used to establish the reliability of the questionnaire design. This was obtained by administering the same test

twice over period of time to a group of individuals. The scores from time 1 and time 2 was then correlated in order to evaluate the test for stability. The reliability co-efficient of 0.83 was considered reliable and used for the study.

Sampling procedure and sample size

The State normally consists of three (3) major agricultural zones (I, II & III) respectively. They are Aniocha south (Zone I), Ika south (Zone II) and Aniocha north (Zone III) respectively. Based on reconnaissance survey carried out in the study area, a multistage sampling procedure was used in this study. In the first stage, one (1) LGA each was purposively selected from two Zones among the three agricultural Zones namely; Aniocha South and Ika South. The LGAs were purposively selected because they were the most predominant areas of cashew farmers. In the second stage, two (2) communities each were randomly selected from each of the LGAs, this include Emuhu and Ekuku-Agbor in Ika-South and Ogwashi-Uku and Ewulu in Anioch-South. During the reconnaissance survey of the study area in 2022, the list of cashew farmers in the chosen communities was compiled the help of a staff of state Agricultural Development Programme (ADP) which gave a total of 3360 as the sample frame. The sample size was calculated using Yamane [8] formula on the assumption of 5% expected margins for error, 95% confidence level which is expressed as follows:

$$n = \frac{N}{1+N(e)^2}$$

where:

n= sample size

N= total population

1= Statistical constant

e = the assumed error of margin or level of significance which is taken as 0.05 i.e. 95% confidence level. Therefore, the calculation of sample size is shown below:

$$n = \frac{2100}{1+2100(0.05)^2}$$

$$n = \frac{2100}{1+ 2100 \times 0.0025}$$

$$n = \frac{2100}{1+5.25}$$

$$n = \frac{2100}{6.25}$$

$$n = 336 \text{ sample size}$$

$$\text{Sampling ratio} = 336/2100 \times 100 \% = 16\%$$

The third stage therefore, involved 16% proportionate sampling of 336 respondents out of 2100 cashew farmers in the State. Details is as shown in Table 1 below.

Table 1: Sampling procedure and sample size

LGAs	Communities	Sample frames	16% Sample size
Ika-South	Emuhu	650	104
	Ekuku-Agbor	400	64
Aniocha-South	Ogwashi-Uku	550	88
	Ewulu	500	80
Total		2100	336

Source: Reconnaissance survey, 2022

Data analysis

Descriptive statistics such as frequency distribution, percentage and ranking were used to achieve objectives i, ii and iv, while Likert three points rating scale ranging from highly used, moderately used and fairly used with weights of 3, 2 and 1 was used to achieve objective iii. The mean farmer's frequency usage of extension communication channels was obtained by adding together $3+2+1=6$ which was divided by 3 to get a mean score of 2. Therefore, scores equal to or greater than (\geq) 2.0 were regarded as "high" while, those less than ($<$) 2.0 were regarded as "low" respectively.

RESULTS AND DISCUSSION**Socio-economic characteristics of respondents in the study area**

The result of socio-economic characteristics of respondents showed in Table 2 revealed that, age distribution of respondents was mainly between 41-60years which recorded about 50% of them. This implies that they were of middle-aged group. Although, a good number of the respondents (41.7%) had no formal education but, majority (50.9%) of the farmers had primary education. The distribution of

household size among the respondents also showed that majority (60%) had between 6-10 people per household. The implication of this result is that, the high number of people in the household contributed to the cashew farmers usage of extension communication channels. Most (76.8%) of the respondents were males. This was due to the tediousness of cashew farming that requires a lot of energy to cultivate in the study area. Majority (60%) of the farmers had very long experience in the farming of cashew between 11-15years. This was because, cashew is a permanent crop and the farmers had been into the its farming. Also, it implies that, most of the cashew farmers started cashew farming at the age of 30-45years old. Similarly, majority (62.5%) of the respondents had farm size of 1-5 hectares. This was due to the fact that cashew requires large area of land. However, number of extension visits was relatively low between 1-2 times in every three months. This may be as a result of the gross inadequate of extension personnel in the study area. Incidentally, the farmers' perceived frequency of extension agent's usage as a communication channel was also low (see Table 4). Majority (58.3) of the farmers had spent between 6-10years being members of one cooperative society or the other.

Table 2: Distribution according to socio-economic characteristics of respondents

Variable	Frequency	Percentage	Mean
Age (years)			
21-40	58	17.3	50
41-60	168	50.0	
61-80	110	32.7	
Educational level (years)			
Never attended school	140	41.7	8
Primary school (6yrs)	171	50.9	
Secondary school (6yr	99	29.5	
Tertiary school (2-5yrs)	40	11.9	
Household size (number of people)			
1-5	50	14.9	8
6-10	188	60.0	
11- 15	98	29.2	
Sex			
Males	258	76.8	13
Females	78	23.2	
Farming experience (years)			
1-5	34	10.1	13
6-10	40	11.9	
11-15	188	60.0	
16-20	99	29.5	
21-25	45	13.4	

Farm size (ha)			
1-5	210	62.5	3
6-10	69	20.5	
11-15	57	17.0	
Extension contact (no of visits/three months)			
No visit	88	26.2	1
1-2	202	60.1	
2-4	26	07.7	
3-5	20	6.0	
Co-operative societies (years)			
1-5	43	12.8	8
6-10	196	58.3	
11-15	84	25.0	
16-20	13	03.9	
Total	336	100	

Field survey, 2022

Extension communication channels available to farmers in the study area

The use of Relatives/friends/neighbours (95.2%) as extension communication channel was generally more available to the respondents as indicated in the Table 3 below. This was followed by interpersonal communication as the second most (89.3%) available channel of communication. The result also shows that 71.1% of the respondents mentioned the use of contact farmers (59.2%) as the next available source of extension communication channel available to them. These results support Oto Jacob Okwu and Shimayohol Daudu [9] who stated that

friends/neighbours/relations, extension agents and contact farmers were considered important in terms of availability and usage of extension communication channel. The result further shows that radio (55.7%) and group discussion (53.9%) were also among the most available channel of communication to the respondents. The use of extension agents (36.6%), Information Communication Technology (29.5%), use of telephone (26%) and community television (15.5%) were found to be the least available extension channels to the cashew farmers in the study area respectively.

Table 3: Distribution of communication channels available to farmers in the area of study

Communication channels used in the study area	Frequency	Percentage
Relatives/friends/neighbours	320	95.2
Interpersonal communication	300	89.3
Use of contact farmers	199	59.2
Radio	187	55.7
Group discussion	181	53.9
Extension agents (Farm visits)	123	36.6
Information Communication Technology (ICT)	99	29.5
Mass media (use of microphone)	87	26.0
Community Television	52	15.5

Field survey, 2022

* Multiple response

Frequency of communication channels' usage as sources of agricultural information

The result in Table 4 showed the perceived frequency of communication channels used in the dissemination of information to the respondents. The result revealed that the mean score of relatives/friends/neighbours was greater than 2.0 (\bar{X} = 2.30) and this was recorded as high. other communication channels whose mean scores were greater than 2.0 in the Table below were interpersonal communication (\bar{X} = 2.46), use of contact farmers (\bar{X} = 2.24), radio (\bar{X} = 2.26) and group discussion (\bar{X} = 2.54) which were also regarded as highly used by cashew farmers in the study area respectively. On the contrary, the result in Table 4 revealed that the perceived mean scores of extension

agents (\bar{X} = 1.93), information communication technology (\bar{X} = 1.88), mass media (\bar{X} = 1.88) and community television (\bar{X} = 1.73) as means of communication channels were regarded as low. These findings corroborated those of Tologbonse *et al.* [4] who revealed that television and extension publications (bulletins, newsletters, posters and hand bills) were not considered as important sources of agricultural information among the farmers in Nigeria. However, the results of standard deviations of the mean scores of the perceived frequency usage of communication channels in the dissemination of information to the respondents indicated that there was unity in the respondents' opinions. Hence, the perceived frequency of communication channels used

in the dissemination of information to the respondents was generally high with an average mean score of 2.14.

Table 4: Perceived frequency of communication channels used in the dissemination of information to the respondents

Channels of communication	HU	MU	FU	MS	SD	Perceived frequency of use
Relatives/friends/neighbours	149	140	47	2.30	0.583551	High
Interpersonal communication	197	110	36	2.46	0.60601	High
Use of contact farmers	140	136	60	2.24	0.608557	High
Radio	142	138	56	2.26	0.757029	High
Group discussion	221	77	38	2.54	0.680125	High
Extension agents (farm visit)	100	82	229	1.93	0.735362	Low
Information Communication Technology (ICT)	88	120	228	1.88	0.694423	Low
Mass media (use of microphone)	117	60	159	1.88	0.836342	Low
Community Television	79	87	170	1.73	0.742453	Low
Average				2.14		

Key: HU= Highly used, MU= Moderately used and FU= Fairly use, MS = Mean Score & SD = Standard deviation

Relevance of communication channels usage to farmers

Since all the sampled farmers used communication channels at different levels; highly, moderately and fairly used, it therefore suggested to show how scientifically these levels of usage of communication channels impacted on the farmers. Therefore, the result in Table 5 shows the relevance of communication channels to farmers. Majority (99.4%) of respondents considered the extension communication channels as a medium of receiving agricultural information and ideas. This result coincides with the statement of [10] who said, communication channels are pathways through which information or message transmitted to an audience or receiver. This was followed by promotion of farmers education (95.2%). Cashew farmers get more educated while using extension communication channels. According to Sinkaiye [11], agricultural

extension communication channels brings about changes through education and communication in farmers attitude, knowledge and skills. This so because, the roles of agricultural communication methods involve dissemination of information; building and help farmers make informed decisions. Most of the respondents (74.4%) also indicated that, prices of different commodities were shared with farmers from either government or institutions through the use of communication channels. Contact farmers are equally well coordinated (62.5%) through the various extension communication channels in the study area. According to the respondents, the communication channels also served mediums of receiving information from extension agents. Cashew farmers in the study area indicated that, the extension communication channel was used as means of communication (29.2%) among themselves.

Table 5: Distribution according to relevance of extension communication channels usage to farmers

Variable	*Frequency	Percentage
Receiving agricultural information/ideas	334	99.4
Promotion of education	320	95.2
Price information	250	74.4
Coordination of contact farmers	210	62.5
Medium of receiving information from extension agents	116	34.5
Means of communication among farmers	98	29.2

*Multiple response Field survey, 2022

Constraints to cashew farmers' use of available extension communication channels in the study area.

The problem of inadequate extension agent was the major (99.1%) constraint to farmers' use of communication channels in the dissemination of information followed by farmers poor attendance at meetings (92.3%) and inefficient use of

communication channels (84.5%) ranking 1st, 2nd and 3rd respectively. Other major constraints to farmers' use of extension communication channels were lack of trust of extension agents (62.2%), religious laws (51.8%) and lack of cooperation among farmers (50.6%). These were also ranked as 4th, 5th and 6th in Table 6 below. The least constraints mentioned by farmers in the study area were inadequate extension

programmes (33.6%), epileptic power supply (32.4%) and incompetency of some extension agents (28.8) which were ranked 7th, 8th and 9th respectively.

Table 6: Distribution of constraints to cashew farmers' use of available extension communication channels in the study area.

Constraints	*Frequency	Percentages
Inadequate extension agents	333	99.1
Farmers' poor attendance at meeting	310	92.3
Inefficient use of communication channels	284	84.5
Lack of trust of extension agents	209	62.2
Religious laws	174	51.8
Lack of cooperation among farmers	170	50.6
Inadequate extension programmes	113	33.6
Epileptic power supply	109	32.4
Incompetency of some extension agents	96	28.6

Field survey, 2022 *Multiple response

RECOMMENDATIONS

- There is need for government to employ more extension agents to support the use of relatives/friends/neighbours as the most frequently used communication channel in other to ensure regular availability and accessibility.
- Government should motivate farmers to attend meetings regularly to make extension agents' visits to them in a group easy.
- Government should improve on the existing power supply to support the use of radio and community television in the dissemination of information to farmers in the study area.
- Digital extension should be used by the available extension agents in the study area in order to take care of low Extension Agent (EA): Farmer ratio problem.

REFERENCES

- DELTA STATE AGRICULTURAL RURAL DEVELOPMENT AUTHORITY (2019). Report documentary of communication channels in the State. 35p.
- ISRAEL, G.D. & WILSON, K.M. (2016). Sources and channels of information used by educational program clients. *Journal of Applied Communication*, 2(4): 55-56
- BOZ, I. & OZCATALBAS, O. (2017). Determining information sources used by crop producers: A case study of Gazian province in Turkey. *African Journal of Agricultural Resources*, 5(10): 380-382
- TOLOGBONSE, E.B., MESINI, O. & TSADO, J.H. (2006). Farmers perception of sources of information in relation to adoption of improved technology by farmers in inland valley swamps of middle-belt Zone of Nigeria. *Journal of Agricultural Extension*, 1 (9): 63-64
- HOWELL, J.L. & HEBRON, G.B. (2019). Agricultural landowners lack of preference for internet extension. *Journal of Agricultural Extension*, 42(6): 43-44. Retrieved April 1, 2013 from <http://www.joe.org/joe/2014december/a7.php>
- LEVBOJE, I.E. (2018). Determinants of utilization of selected information sources by farmers in Delta and Edo States of Nigeria. *Journal of Agriculture and Rural Development*, 6(1): 1-2
- NATIONAL POPULATION COMMISSION (NPC) (2006). Provisional Figures for 2006 Nigeria's Census. <http://www.nigerianmuse.com>. Retrieved October 16, 2020.
- YAMANE, T. (2016). Statistical formula for sample calculation. <http://www.qalaxia.com>. Retrieved April 14, 2012.
- OTO, J.O. & SHIMA, Y.D. (2016). Extension communication channels' usage and preference by farmers in Benue State, Nigeria. *Journal of Agricultural Extension and Rural Development*, 3(5): 90-91.
- OGUNREMI, J.B. (2013). Assessment of extension agents' use of communication methods and its impact on aquaculture linkage activities in Lagos State, Nigeria. *Journal of Agriculture and Social Research*, 13(1): 15-16.
- SINKAIYE, T. (2015). Agricultural extension participatory methodologies and approaches in agricultural extension in Nigeria. *Agricultural Extension Society of Nigeria (AESON)*, Ilorin. Pp. 220-221.