

APPROPRIATENESS AND RELIABILITY OF AGRICULTURAL INFORMATION SOURCES AMONG ARABLE CROP FARMERS IN KARU AND KOKONA LOCAL GOVERNMENT OF NASARAWA STATE NIGERIA

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ABSTRACT

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The study examined the appropriateness and reliability of agricultural information sources used by arable crop farmers in kokona and Karu Local Government area of Nasarawa State. Data were collected from 120 respondents through the use of interview schedule and analyzed with descriptive statistics and likert scale. The findings revealed that farmers received their agricultural information mostly through mediated and professional inter-personal channels/methods. The findings further showed that radio ($x = 3.82$), opinion leaders ($x = 3.75$), fellow farmers ($x = 3.48$), drama ($x = 3.47$) and women cooperative society ($x = 3.08$) were the most appropriate sources for disseminating agricultural information. However, the result of the study showed that radio ($x = 3.85$), fellow farmers ($x = 3.67$), women cooperative society ($x = 3.63$), extension agent ($x = 3.52$), researchers ($x = 3.47$), opinion leaders ($x = 3.46$) and drama ($x = 3.45$) were the most reliable channels for communicating agricultural information to farmers. Major problem face by the respondents were inappropriate schedules of the agricultural programme ($x = 2.76$) and innovation complexity ($x = 2.67$). The study therefore recommended that farmer's interest should be the centre of any innovation and more so the information should be clear, simple, precise, timely and free of ambiguity.

INTRODUCTION

Information and communication are essential ingredients needed for effective transfer of technologies that are designed to boost agricultural production. They are useful as sources of agricultural information to farmers and as well constitute methods of notifying farmers of new developments and emergencies. They could equally be important in stimulating farmers' interest in new ideas and practices (Aniet *et al.*, 1997). Human race is totally dependent on agriculture and as the world population continues to grow, there must be continuous reassessment of agricultural practices to optimize their efficiency (Mugabe, 2003). According to Yahaya and Olajide (2000) the diffusion and adoption of innovations remains the back bone of the expected development in agriculture. Olowu (1998) noted that development and production of relevant and appropriate technologies is one of the pre-requisites for sustainable agricultural production. Others include dissemination of these technologies as well as their eventual utilization.

The extension should forge communication link to create network for sharing knowledge and experience (World Bank, 1990). The purpose of communication is to bring about change in attitude, knowledge, skills of the receivers elude Nigeria unless appropriate innovations are effectively communicated to the farming population. Information and communication are essential ingredients needed for effective transfer of technologies that are designed to boost agricultural production. For farmers to benefit from such technologies, they must first have access to them, must be appropriate and reliable and also learn how to effectively utilize them in their farming systems and practices. It is therefore against the foregoing problems the following research objective where formulated. The broad objective of the study is to ascertain the appropriateness and reliability of information used by the arable farmers in the study area. The specific objectives were to describe socio-economic characteristics of the arable farmers, examine the appropriateness of the various information sources, determine the reliability of various information sources and ascertain farmers reported problems associated these sources.

METHODOLOGY

The study was conducted in Karu and Kokona Local Government Areas of Nasarawa State. The State is located between latitudes 7° and 9° N and longitudes 7° and 10° E located in the North Central of Nigeria and agriculture is their main occupation. To achieve the study objectives multistage sampling techniques was used to select respondents for this study. The first stage involved a purposive selection of the two Local Government Areas (Karu and Kokona) based on predominance of arable crop farmers in the area. Second stage also involved

selection of three villages from the two Local Government Areas, making it a total of six villages. Third stage involves random sampling of 120 respondents. Interview schedule was used to elicit data. Data on socio-economic characteristics were analyzed using descriptive statistics, while appropriateness and reliability of various disseminating channels was evaluated using a four-point Likert-type scale. The options in the Likert-type scale include not appropriate, fairly appropriate, appropriate and very appropriate rated as 1, 2, 3 and 4 respectively. The constraints were measured on a three-point Likert-type scale ranging from not serious, serious and very serious rated as 1, 2 and 3 respectively. The mean value was used for decision.

RESULT AND DISCUSSION

Socio economic characteristics of the respondents

The mean age of the respondents was 38 years which implies that majority of the respondent in the study area are in their active age. Majority of the respondents were male with (74%) while only (44%) were married. This indirectly influence their participation in farming activities. An average household size of 6 members per household, this therefore boasts their families labour and increase the likelihood of accessing information. It was observed that most of the respondent had one form of formal education or the other with the majority having primary education (58.3%), secondary education about (33.4%) and tertiary (NCE/HND) having (8.35%). About (54%) of the respondent were involved in farming with (88%) involved at a full time basis, (12%) were part time. Mode of land acquisition is inheritance (90%) while gift and others comprised 10%. The mean farming experience was 19.7%. Majority (90.8%) were members of co-operative societies.

Table 1: Age distribution of the respondents

Variables	Kokona		Karu		Pooled	
Age	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1-20	0.0	0.0	3.0	5.0	3.0	5.0
21-40	28.0	46.7	38.0	63.3	66.0	110.0
41-60	32.0	53.3	19.0	31.7	51.0	85.0
Mean	39		36			
Gender						
Male	50.0	83.3	39	65	89	148.3
Female	10.0	16.7	21	35	31	51.7
Marital Status						
Single	16.0	26.7	10.0	16.7	26.0	43.4
Married	44.0	73.3	44.0	73.3	88.0	146.6
Divorced	0.0	0.0	6.0	10.0	6.0	10.0
Household Size						
1-5	27.0	45.0	38.0	63.3	65.0	108.3
6-10	32.0	53.3	21.0	35.0	53.0	88.3
11-15	1.0	1.7	1.0	1.7	2.0	3.4
Mean	5.63		5.45			
Education Status						
Primary	44.0	73.3	26.0	43.3	70.0	116.6
Secondary	16.0	26.7	24.0	40.0	40.0	66.7
Nee/Hnd	0.0	0.0	10.0	16.7	10.0	16.7
Farming Exp.						
1 - 20	3.0	5.0	6.0	10.0	9.0	15.0
11 - 20	26.0	43.3	20.0	33.3	46.0	96.7
21-30	28.0	46.7	30.0	50.0	58.0	96.7
31-40	3.0	5.0	4	6.7	7	11.7
Mean	19.5		19.92		Mean	19.5
Land Acquisition						
Gift	9	15	3	5	12	20
Inheritance	51	85	57	95	108	180
Cooperatives						
Membership	59	98.3	50	83.3	109	181.6
Not Members	1	1.7	10	16.7	11	18.4

Source: Field survey, 2016

Appropriateness of the information source

The most appropriate channel used by the farmers was radio ($\chi^2=3.82$). This finding is in line with that of Omense (1997) who observed that radio programmes are usually timely and capable of extending messages to the audience no matter where they may be as long as they have a receiver with adequate supply of power. Omense

(1997) further asserted that such obstacles as absence of road, light and water are no hindrance to radio as well as illiteracy since messages can be passed in the audience own language. Fellow farmers ($x = 3.48$), opinion leader ($x = 3.75$), women cooperative society ($x = 3.08$) and drama ($x = 3.47$) were also appropriate sources. The fact that they indicated radio, fellow farmers and opinion leader among the most appropriate channels may be as a result of the wide coverage of radio, the multiplier effects of fellow farmers in disseminating agricultural information and interpersonal interactions of the farmers as well as the fact that messages from opinion leader most often enhance adoption of innovations. Others appropriate sources include extension agent ($x = 2.94$), posters and bills ($x = 2.91$), telephone call ($x = 2.83$), exhibitions ($x = 2.72$) and television ($x = 2.53$). However, the respondents did not considered electronic mail ($x = 1.30$), text message ($x = 1.43$), book leaflet / magazine ($x = 1.43$), newspaper ($x = 1.15$), public campaign ($x = 2.43$), film / slide presentation ($x = 2.32$), extension bulletin ($x = 1.25$), internet ($x = 1.11$), friends and neighbour ($x = 2.28$) and researchers ($x = 1.70$) as appropriate source. The non-availability of e-mail and internet facilities in this area may have accounted for farmers' perceived non-appropriateness of these channels which further points to the need for these facilities in the rural areas.

Table 2: Appropriateness of Information Sources

Appropriateness of information	Kokona		Karu		Weighted	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Radio	3.73*	0.62	3.90	0.30	3.82*	0.45
Electronic mail	1.38	0.49	1.22	0.42	1.30	0.45
Text message	1.57	0.49	1.28	0.45	1.43	0.48
Fellow farmers	3.40*	0.49	3.55	0.50	3.48*	0.49
Book leaflet / magazine	1.30	0.46	1.57	0.49	1.43	0.48
Newspaper	1.15	0.36	1.15	0.36	1.15	0.36
Public campaign	2.25	0.68	2.60	1.04	2.43	0.86
Posters billboard	2.85*	0.36	2.97	0.58	2.91*	0.47
Opinion leaders	3.70*	0.46	3.80	0.40	3.75*	0.43
Film/slide presentation	2.32	0.47	2.32	0.47	2.32	0.47
Exhibition	2.72*	0.74	2.72	0.74	2.72*	0.74
Television	2.53*	0.76	2.53	0.76	2.53*	0.77
Telephone call	2.93*	0.25	2.72	0.45	2.83*	0.35
Drama	3.47*	0.65	3.47	0.65	3.46*	0.65
Extension bulletin	1.25	0.44	1.25	0.44	1.25	0.44
Internet	1.12	0.32	1.12	0.32	1.12	0.32
Women cooperative society	2.88*	0.72	3.26	0.79	3.07*	0.76
Extension agent	2.67*	0.47	3.22	0.61	2.94*	0.54
Friends neighbour	2.28	0.45	2.28	0.45	2.28	0.45
Researchers	1.12	0.32	2.28	1.19	1.70	0.76

Field Survey, 2016; *Appropriate source

Reliability of information source

Table 3 shows that radio ($x = 3.85$) were more reliable. This is in agreement with Okwusiet, *al.* (2009) who posited that radio is sufficient in sourcing for agricultural information. Agada (2003) also confirm same. Others are fellow farmer ($x = 3.67$), women cooperative society ($x = 3.63$), extension agent ($x = 3.52$), researchers ($x = 3.47$), opinion leaders ($x = 3.46$), drama ($x = 3.45$), neighbour ($x = 2.83$) and television ($x = 2.63$) were more reliable sources of information by the farmers. Friends and Electronic mail ($x = 1.34$), book leaflet / magazine ($x = 1.75$), newspaper ($x = 1.41$), public campaign ($x = 2.06$), film/slide shows ($x = 1.65$), extension bulletin ($x = 2.79$), bill board/ posters ($x = 1.30$), drama ($x = 2.71$), telephone ($x = 1.30$) and internet ($x = 1.35$) and exhibition ($x = 1.97$) were not reliable sources. Friends may sometimes misinterpret the information thereby misleading the ultimate users of information. These findings show that respondents perceived fellow farmers and radio as sources of information that are most reliable. This therefore, calls for more commitment on the part of the radio presenters in their role of information dissemination.

Problems associated with receiving information

Table 4 reveals that in sufficient explanation from extension agents ($x = 2.83$), inappropriate scheduling of programme ($x = 2.76$), lack of time to listen to agricultural information ($x = 2.7$), innovation difficulty/complexity of understanding ($x = 2.67$) and lack of interest ($x = 2.67$) were serious problems associated with receiving information through the various communication sources. Also, incompatibility of new knowledge with people's attitude, interest and belief ($x = 2.61$), inadequate technological content ($x = 1.32$), problem of reliability of information source ($x = 1.8$), problems of organization leader withholding relevant information ($x = 1$), problem of gender bias on the use of the information source ($x = 1.32$), language used in presentation of information ($x = 1.03$), lack of access to current literature ($x = 1.28$), lack of access to information sources ($x = 1.2$), inability to ask question and quick few back ($x = 1.35$), unavailability of the information source ($x = 1.22$), safekeeping and

retrieval of already disseminated information ($x=1.28$) and lack of money to acquire information source ($x=1.23$) were all perceived as not serious problems.

Table 3: Reliability of information sources

Reliability of information sources	Kokona		Karu		Weighted	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Radio	3.82*	0.39	3.88	0.32	3.85*	0.36
Electronic mail	1.43	0.49	1.25	0.44	1.34	0.46
Text message	1.82	0.39	1.40	0.49	1.60	0.44
Fellow farmers	3.52*	0.75	3.82	0.43	3.67*	0.58
Book leaflet / magazine	1.85	0.36	1.67	0.47	1.76	0.42
Newspaper	1.42	0.49	1.42	0.49	1.42	0.49
Public campaign	2.06	0.94	2.07	0.94	2.07	0.94
Posters billboard	1.30	0.46	1.30	0.46	1.30	0.46
Opinion leaders	3.32*	0.65	3.60	0.59	3.46*	0.62
Film/slide presentation	1.20	0.40	2.10	1.31	1.65	0.86
Exhibition	1.93	0.88	2.02	1.09	1.98	0.98
Television	2.18	0.85	3.07	0.98	2.63*	0.92
Telephonenumber	1.42	0.49	1.20	0.40	1.31	0.45
Drama	3.45*	0.50	3.45	0.50	3.45*	0.50
Extension bulletin	1.50	0.50	1.85	0.76	1.68	0.63
Internet	1.35	0.48	1.35	0.48	1.35	0.48
Women cooperative society	3.63*	0.48	3.63	0.48	3.63*	0.48
Extension agent	3.40*	0.64	3.63	0.48	3.52*	0.56
Friends neighbour	2.75*	0.57	2.92	0.74	2.83*	0.66
Researchers	3.47*	0.50	3.47	0.50	3.47*	0.50

Field Survey, 2016; *Reliable source

Table 4: Constraints associated with information sources

Perceived problems	Kokona		Karu	
	Mean	Std. Dev.	Mean	Std. Dev.
Lack of time to listen to agricultural information	2.70*	0.46	2.70*	0.53
Inadequate technological content	1.32	0.46	1.32	0.46
Illiteracy	2.70	0.46	1.52	0.85
Problem of reliability of information source	1.25	0.44	2.35	0.82
Innovation difficulty/complexity of understanding	2.70*	0.46	2.65*	0.48
Problems of organization leader withholding relevant information	1.00	0.00	1.00	0.00
Problem of gender bias on the use of the information source	1.32	0.46	1.32	0.46
Language used in presentation of information	1.00	0.00	1.05	1.05
Inappropriate scheduling of programme	2.76*	0.43	2.75*	0.44
Lack of access to current literature	1.28	0.45	1.28	0.45
Lack of access to information sources	1.20	0.40	1.20	0.40
Inability to ask question and quick feedback	1.35	0.48	1.35	0.48
Unavailability of the information source	1.22	0.42	1.22	0.42
Irrelevant content of technology	2.40	0.64	2.40	0.64
Lack of interest	2.56*	0.49	2.76*	0.43
Incompatibility of new knowledge with people's attitude, interest and belief	2.48	0.50	2.73	0.45
Safekeeping and retrieval of already disseminated information	1.28	0.45	1.28	0.45
Lack of money to acquire information source	1.23	0.43	1.23	0.43
Insufficient contact with extension agents	2.83*	0.37	2.83*	0.37

CONCLUSION AND RECOMMENDATIONS

The study concludes that respondents' appropriate and reliable sources of agricultural information were radio and fellow farmers. The study recommended that respondents should devote time to listening to agricultural programmes as to get latest technical information for their farming activities since radio is portable and affordable.

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