

FARMERS' PERCEPTION OF AUDIO VISUAL AIDS ON TECHNOLOGY DISSEMINATION BY AGRICULTURAL DEVELOPMENT PROGRAMME IN DELTA STATE, NIGERIA

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Abstract

This study was carried out to investigate farmers' perception of audio-visual media on technology dissemination by Delta State Agricultural Development Programme. Data were obtained from 289 (20%) of all the contact farmers who were randomly selected. Information was obtained from respondents using structured interview schedule. Data were subjected to analysis using descriptive statistics such as frequencies, percentages, and means. Hypothesis was tested using Chi-square to determine the relationship between combination of media and effectiveness. The results showed that the utilization of a combination of meetings, handbills and films was rated as most effective by the respondent (75.4%) with a total score of 796. The test of hypothesis revealed significant relationship between combination of media resources/materials and effectiveness in dissemination of information. It is recommended that in-service training, workshops and seminars be organized for Extension Agents; extension teaching should be reinforced with adequate and appropriate visual aids, and extension programme should be funded adequately and encouraged with provision of audio visual resources.

Key words: farmers' perception, audio, visual, aids, technology, dissemination, Delta State, Agricultural Development Programme.

INTRODUCTION

Agricultural extension, being a specialized form of adult education in agriculture is an educational process. It is mainly a communication process between extension agents and rural dwellers. It is very useful for involving rural dwellers in the agricultural development process, to teach them better farming practices with the aim of increasing their productivity and enhance their standard of living. Being mainly communication process, it requires efficient communication process (Adeokun et al., 2006). According to Rogers et al. (1981), communication is a process that involves the exchange of ideas between two or more individuals in an attempt to arrive at convergence in meaning. James (1990) opined that communication is a process involving the passing of messages from one person to another through the use of symbols which all parties in the communication process understand. Communication is a two-way process in which the sender and receiver of information are seen as active participants who are involved in an exchange process and therefore, swap roles. The bottom line is the assertion by Rogers and Kincaid (1981) as quoted by Agbamu (2006) is that communication is a transactional process that involves the exchange of ideas between two or more individuals in an attempt to arrive at a convergence in meaning.

Visual communication is the communication between people through expression and action without using words (Adeokun et al., 2006). According to Agbamu (2006) the visual forms of communication appeal to the eyes, to the sense of sight of a given audience or target

person. Visual relates to seeing. Some examples of visual methods of communication include posters, slides, chart, flannel-graphs and flash cards. It also involves result demonstration conducted by a participating farmer, under extension worker's guidance to prove by evidence that the demonstrated practice, particularly on a farmer's farm is superior to an existing practice and appeals to our sense of sight (Agbamu, 2006). Visual communication is reinforced in written or oral communication. Oral communication is carried out by words of mouth. This has much to do with hearing and as such is referred to as audio form of communication. Audio communication method appeals to the sense of hearing. Audio refers to sound waves that can be heard by the human ear (Agbamu, 2006). Examples of this method are telephone, radio, farm and home visits, meetings, discussion groups, office calls, recorded audio messages and agricultural clinics.

Audio-visual form of communication appeals to the senses of sight and hearing. Agbamu (2006) opined that audio-visuals are devices that transmit ideas and experiences through eyes and ears; they lay emphasis on the use of non-verbal experience in a learning process. The term audio-visual aids mean materials used by a communicator in order to facilitate the understanding of learners by involving more of their senses, especially those that relate to hearing and seeing (Agbamu, 2006). They are used in the teaching-learning process to enhance the understanding of subject matters.

The role of the media in the dissemination of information especially in the agricultural sector has long been recognized as an important tool in educating the society

on a given issue, hence *sine qua non* to agricultural development (Agumagu, 1988). According to Olowu (1989), communication has taken place when the intended meaning of a message by the initiator of the process is that given to the message by the receiver. Olowu and Yahaya (1997) also stated that effective communication takes place when there is meaningful sharing of experiences among key players. By this statement, it means that some audio-visual communication media may not be adequately effective to all clienteles at all times. Olawoye (1991), therefore solicited for appropriate communication strategies as an important aspect of development process. Going by this assertion this study would unveil the various types of oral and visual media resources for effectiveness and appropriateness in disseminating innovations to clienteles.

Audio-visuals make learning relatively permanent, help to arouse and maintain interest of the learner, encourage learners' involvement in the learning process; stimulate self-activity; widen the range of probable experience; and help to add depth and variety to learning (Agbamu, 2006). This study will therefore focus on the degree to which agricultural extension agents of the Delta State Agricultural Development Programme (DTADP) employ the two media resources in their outreach to farmers when communicating new agricultural related research findings to farmers. The Delta State Agricultural Development Programme is the public extension agency charged with the responsibility of communicating innovations to farmers in Delta State. In carrying out their duties, of teaching farmers new agricultural production technologies effectively, various methods are employed by the Extension Agents (EAs). They use both electronic and print media to reach out to the farmers. The audio and visual media are complementary of the methods used by the EAs for contact farmers and teach improved methods of farming. This study was therefore conducted to look in depth at the role of audio and visual media in the innovation dissemination system of the Delta State Agricultural Programme (DTADP) as perceived by farmers. Specifically, the study was carried out to:

- examine the demographic characteristics of farmers that have influence on their use of audio and visual information resources;
- identify the audio-visual media commonly utilized by DTADP in innovation dissemination; and
- determine the complementary roles of audio and visual communication media in effective innovation dissemination.

Hypothesis: This is no significant relationship between the combination of audio-visual sources and their effectiveness in innovation dissemination.

MATERIALS AND METHODS

This study was conducted among the registered contact farmers in the Delta State Agricultural Development Programme (DTADP). The state is delineated into three (3) zones by the DTADP. The study covered the three zones namely Delta North; Delta Central and Delta South zones. Random sampling technique (lottery method) was employed in the selection of 20 percent of the contact farmers in each zone for the study. The three zones consists of 520 (Delta North); 610 (Delta Central); and 315 (Delta South) contact farmers making up a total of 1 445 contact farmers in the state and 20 percent of this constitute 289 contact farmers for the study (Table 1).

Information were obtained with the use of structured interview schedule (questionnaire administered verbally from the already constructed information) from the respondents. The instrument was used because the farmers may need clarification with respect to some questions which if the authors are not there cannot be responded to appropriately. The respondents were very cooperative in the process of the interview and they gave their responses honestly as found from the reliability test of the instrument ($r = 0.896$). Descriptive statistics such as frequency distribution, percentages, and means derived from 3-point and 5-point Likerts' scale were used to analyze the data, while Chi-square was used to determine the relationship between variables.

RESULTS AND DISCUSSION

Demographic characteristics of respondents

The results (Table 2) revealed that 74.39% of the respondents were females while 25.61% were males. With respect to marital status of the respondents, 84.78% were married while 15.22% were single. This implies that most of the farmers in the study area were women and most of them were married. Most (52.94%) of the respondents were engaged in crop farming, while few of them were into fish farming (13.84%), poultry farming (19.38%), piggery (10.73%), and sheep/goat rearing (3.11%). Information on their education revealed that 9.34% attended adult education classes, 28.03% had primary education, 49.13% had secondary education,

Tab. 1: Selection of respondents for the study

Zones	No. of registered contact farmers	20% of contact farmers
Delta North	510	104
Delta Central	610	122
Delta South	315	63
Total	1 445	289

and 13.49% had tertiary education. This indicates that most of the respondents were literate. The literacy level in the area of the study was therefore, relatively high. This is highly expected to enhance extension work and adoption of new ideas and technologies. No respondent was under 20 years of age. Most (74.05%) were of the age bracket of between 36–50 years; 21.11% were between 21–35 years of age, while as little as 4.84% were above 50 years of age.

Audio-visual methods/techniques

The rating given to audio-visual techniques by the respondents is a function of their awareness of the audio-visual techniques known and common to them. Table 3 revealed that video tape (X = 3.0), radio programme

(X = 3.0), television (X = 3.0), and Poster (X = 3.0) were rated highest as being the commonest and most effective audio and audio-visual techniques to them. This trend unveils the advantage and superiority of audio-visual methods/techniques over audio (oral) or visual methods/techniques.

As for which type of audio-visuals the respondents considered as most frequently used were television in combination with agricultural shows (X = 5.0) which ranked highest (Table 4). This was followed by combinations of Film shows, + posters + agricultural extension agents (X = 4.73), Extension agents + posters (X = 4.41), Posters (X = 3.88), Agricultural shows + research agents (X = 3.86), radio + agricultural agents (X = 3.54), and-meeting (X = 3.40). Radio did not meet

Tab. 2: Demographic characteristics of respondents (N = 289)

Variables	Frequency	Percentage (%)
Sex		
male	74	25.61
female	215	73.39
Marital status		
married	245	84.78
single	44	15.22
Type of farming		
crop farming	153	52.94
fish farming	40	13.84
poultry farming	56	19.38
piggery	1	10.73
sheep/goats	9	3.11
Education attainment		
adult education	27	9.34
primary education	81	29.03
secondary education	142	49.13
tertiary education	39	13.49
Age		
under 20	–	–
21–35	61	21.11
36–50	214	74.05
over 50	14	4.84

Source: Field Survey, 2006

Tab. 3: Ranking of audio or visual delivery effectiveness (N = 289)

Media	Very effective (3)	Effective (2)	Not effective (1)	Total score	Mean	Rank
Meeting	217	18	54	741	2.56	6
Individual contact	271	18	–	849	2.94	5
Radio programme	289	–	–	867	3.0	1
Television	289	–	–	867	3.0	1
Film	157	59	–	589	2.04	10
Video tape	289	–	–	867	3.0	1
Bulletin	92	197	–	670	2.32	9
Handbills	116	167	6	688	2.38	8
Poster	289	–	–	867	3.0	1
Chalk board	159	130	–	737	2.55	7

Note: 1 = is rated highest; cut of score = 2.0 (≥ 2.0 = effective, < 2.0 = not effective)

Source: Field Survey, 2006

Tab. 4: Ranking of frequency of use of audio-visual techniques by respondents (*N* = 289)

Methods/techniques	Very frequent (5)	Frequent (4)	Occasional (3)	Seldom (2)	Never (1)	Total score	Mean	Rank
Radio (audio)	110	20	12	38	109	851	2.94	8
Meeting (audio + visual)	20	113	134	8	14	984	3.40	7
Poster (visual)	78	57	78	38	38	1 122	3.88	4
Agent + Posters	156	95	38	–	–	1 274	4.41	3
TV + Agric. Show	289	–	–	–	–	1 445	5.0	1
Radio + Agent	59	39	191	–	–	1 024	3.54	6
Agric. Show + Research Agent	–	251	38	–	–	1 116	3.86	5
Film show + posters + agent	211	78				1 367	4.73	2

Source: Field Survey, 2006

Cut off score = 3.0 (≥ 3.0 frequently used, < 3.0 not frequently used)

the cut-off score as it had mean score of 2.94. These results imply that combinations of the audio-visual techniques are frequently used, and televisions + agricultural shows combination is most frequently and very frequently used. But radio is not frequently used.

Audio – visual delivery effectiveness

For the type of audio-visual the respondents perceived as effective, information on Table 5, revealed that the combination of meetings, handbills and films were regarded as being highly effective.

Hypothesis test

The test of the hypothesis indicated significant relationships for all the combinations of audio-visuals and their effectiveness in the dissemination of innovations. To cite a few of them, the calculated Chi-square value for the combination of meetings, handbills and films was $X^2 = 21.33$, X^2 tabulated = 5.99; television, handbills and meetings, $X^2 = 21.33$, X^2 tabulated = 9.49;

individual contact, chalkboard, radio and handbill, $X^2 = 77.07$, X^2 tabulated = 9.49; and for meetings, chalkboard and posters $X^2 = 6.25$, X^2 tabulated = 5.99. The significant relationship found is as a result of the fact that the application of combined audio and visuals methods help to further clarify subject matters that are not clearly understood by the farmers. The results imply that learning and adoption of new innovations are more effective when different audio and visual methods are used in innovation delivery. This is in consonant with Chikwendu, et al. (1996) as he opined that no single means of communication can be adequate for effective transfer of innovation and that a combination of media resources would appeal better to more senses and so will aid adoption of innovations. In a similar study by Adekun, et al., (2006), they also discovered that learning and adoption of new technologies were more effective when combination of media resources involving audio and visual methods were employed in innovation delivery.

Tab. 5: Audio-visual delivery effectiveness (*N* = 289)

Audio – visual	Highly effective (3)	Fairly effective (2)	Not effective	Total score	Rank
Meeting + handbills	211 (73)	78	–	789	2
Meetings + handbills + films	218 (75.4)	72	–	795	1
Individual contact + radio talk	109 (37.7)	138	42	645	9
Television + handbills + meetings	194 (67.1)	74	21	751	6
Individual contact + posters	121 (41.9)	136	32	667	8
Meetings + chalkboard + posters	191 (66.1)	98	–	769	4
Meetings + chalkboard + posters + radio	205 (70.9)	66	18	765	5
Radio + handbill	153 (52.9)	74	38	645	9
Meeting + video + chalkboard	209 (72.3)	80	–	787	3
Individual contact + chalkboard + radio + handbill	158 (54.7)	113	18	718	7
Meeting + chalkboard + compact disk	132 (45.7)	59	98	612	11

Tab. 6: Chi-square (X^2) Analysis for testing relationship between combination of media and effectiveness

Combination	X^2 cal	X^2 tab	df	α	Decision
Meetings + handbills + films	21.33	5.99	2	0.05	significant
Television + handbills + meetings	21.33	9.49	4	0.05	significant
Individual contact + posters	29.37	5.99	2	0.05	significant
Meetings + chalkboard + posters	6.25	5.99	2	0.05	significant
Meetings + chalkboard + posters + radio	39.49	5.99	2	0.05	significant
Radio and handbill	23.4	5.99	2	0.05	significant
Meeting + video + chalkboard	52.47	5.99	2	0.05	significant
Individual contact + chalkboard + radio + handbill	77.07	9.49	4	0.05	significant
Meeting + chalkboard + compact disc	67.50	5.99	2	0.05	significant

Source: Field Survey, 2006

CONCLUSION

The effectiveness of information or technology delivery system of DTADP is dependent on efficient application and effective combination of various audio and visual media materials and resources they have access to. This has significant implication for extension delivery with respect to the fact that intensification is required in the application of television programmes, film shows and video play-back. Intensification is also needed in the utilization of method result demonstrations, and group meeting, while using appropriate or combination of media materials and resources. Based on the above facts, it is recommended that:

- all extension teaching process should be reinforced with adequate and appropriate visual aids, this enhances rapid comprehension and adoption of innovations;
- for the fact that knowledge is not static, but dynamic, in-service training, workshops, and seminars should be organized for extension agents. Through this, extension officers will improve on their knowledge in order to be abreast and able to cope with changing communication technologies;
- the Delta State Agricultural Development Programme’s extension programmes should be well funded and encouraged with the provision of audio-visual aids to facilitate extension services.

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