INFORMATION MEDIA USAGE PATTERN AMONG FISH FARMERS IN DELTA STATE, NIGERIA

A. U. Ofuoku[1], F. Iweanya[1] and E.O. Akinwumi[2]

[1] Department of Agricultural Economics and Extension, Delta State University, Asaba Campus, P.M.B.95074, Asaba, Delta State, Nigeria
Telephone: +2348038784890, E-mail: ofuoku@yahoo.com
[2] Department of Human Communication, Bowen University, Iwo, Osun State, Nigeria

Abstract

This study was to ascertain the media used pattern among farmers in delta state Nigeria. A simple random sampling technique was used to select fifty cells (50) from ten blocks (10) in Delta north and Delta central and 250 farmers were sampled using a well-structured questionnaire. Data were analyzed using frequency counts, percentage, means and linear regression model. The study showed that there are more male (50.9%) with fish farming experience of less than five years (45.0%). Most of them were between ages of 21 – 30 years (34.1%) and are married (45.5%) and have tertiary education (56.8%). The most frequently media used by fish farmers are contact farmers (Mean= 8.47), family/friends (Mean=3.53) and extension agent (Mean=3.04). The major constraints considered limiting the respondent use of media are the inadequate extension agent services (Mean=3.95) and complexity of improved technology (Mean=3.82). There is a significant relationship between farmers' preference and their use of media of information and also a significant relationship between socio-economic variables and fish farmers' decision to use various media of information. It is therefore recommended that easier technology should be developed so that fish farmers can utilize them. Also provision of adequate social amenities should be made available to the fish farmers like electricity to power media information like radio and television etc. Extension agent should visit farmers more often to be able to disseminate new information about a new technology to the fish farmers.

Keywords: *Information, media, usage pattern, fish farmers, agricultural information access*

Introduction

In Nigeria today, agriculture is one of the sources of income that keeps the economy going, as it produces 30% of total output of the nation (Akegbejo, 1997). Despite these facts, several prevailing economic, social, cultural and political factors mostly associated with developing countries have made the maintenance of living a daily concern (Tonte, 2005). As a result, many individuals, government agencies and non-governmental organization are attempting to help rural families in increasing their agricultural output through the development of agricultural educational system, reliance on information among person involved in agriculture and delivery of appropriate information to end users in the agricultural communication system.

Communication is important for individual fish farmer in terms of sharing information and reaching out to new knowledge and skills on their own so that they can improve on their fish farming technique and production level. The use of mass media means the technological tools for communicating or delivering agro-information (aqua-cultural information) and has different means of sending messages to a target audience. The mass media (electronic print and broadcast media) have the ability to mobilize people from different social strata and different innovation level with radio having the widest coverage.

The process of developing, disseminating and using aqua-cultural technology requires trained people at all levels, due to the highly complicated communication system in agriculture. It has been stratified into highly formal education technology generation system (research), relatively well educated technology dissemination system (extortionists) and a mass of technology utilizing system (farmers) who have little or no formal education (Ajayi, 1999).   The pattern of information flow is illustrated below:

Researcher

Extensionist   Farmers
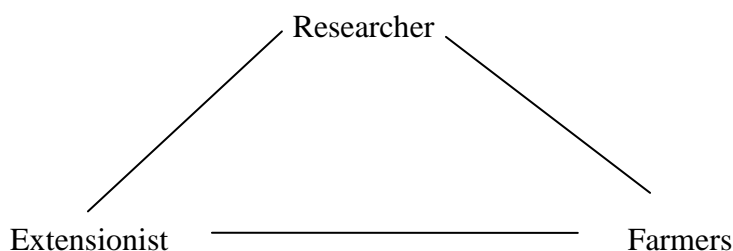
The stratification above is essential in the message production; recommendations, feedback and innovation are easily transferred from one system to the other within each system (Tonte, 2005). Based on different agricultural information, dissemination channels and the sourcing of aqua-cultural information, media has been broadly classified into two major categories:

1.   The conventional media: These include radio, television, newspapers, extension agents, extension bulletin, hand bills and posters.

2.   The traditional media: These include community leaders, town criers, indigenous music,   folklore, drama, friends, relatives, groups and association (Ajayi, 1999).

The current trend in agricultural communication in Nigeria is towards the emphasis of the message and social dynamics of its transmission. Research analysts constantly advise that in agricultural development, the medium is not the message as the farmer needs information about new technology and that communication network, and extension will be of little value if the message extended and communicated are irrelevant (Ozowa, 1995). Some extension programmers are conceived without well thought out plans and are prepared in a hurry without the farmers whose attitude are to be changed making any input. Such agricultural information packages can neither sustain the farmers' interest nor affect the desired attitude changes. The personality of the extension agent mostly affects the decoding process in communication, for example their gesticulation, mode of dressing or appearance might send wrong signals which could cause undesirable distraction and therefore restrict the original concept. The ratio of one extension worker to 3000 farmers is inadequate for effective agricultural information diffusion. Tonte (2005) in his study discovered that arable crop farmers in Edo State, Nigeria mostly use radio as their source of information. In order to solve fish farmer's problems of the dearth of information in Delta State, there is the need to investigate the medium most effective for them and their pattern of usage of the media of information.

The major emphasis on information dissemination in Delta State has been on information flow from the extension agents to the fish farmers. This is more of an awareness creation about a product point of view, and no cause of action with less consideration for the social process of communication or influence of communication on the behavior of the target audience. This has led to the relegation of the community process to the background as the extension workers hardly deem it necessary to study the channels of reaching farmers with such advanced and

appropriate technologies. As a result of this, the flow of information from the targeted audience to the extension workers is given very little consideration. The study will place an insight on the inadequacies of extension work, revisit and readjust their information flow pattern within the agency and the farmers in a bid to improve the needs of the rural fish farmers. Therefore, relevant agencies such as government and non-governmental organizations working on improving agriculture including aqua cultural and rural development will find this study useful.

Objective of this study

The general objective of the study is to ascertain the media use pattern among fish farmers in Delta State Nigeria. The specific objectives of this study are to:

  i.   determine the personal characteristics of the fish farmer in the study area, and the fish farmer's use of the different media of information,

  ii. investigate the fish farmer's preference for the different media of information and the constraints faced by the fish farmers in the use of different media of information.

Hypothesis

The following null hypothesis are stated

Hypothesis I: The fish farmer's socio-economic characteristics do not influence the use of the different media of information.

Hypothesis II: The farmer's socio-economic characteristics have no influence over the preference for the media of information dissemination.

Methodology

This study was carried out in Delta State, Nigeria. Delta State lies roughly between longitude $5^0 00^{'}$ and $6^0 45^{'}$ East and latitude $5^0 00^{'}$ and $6^0 30^{'}$ north. It is bounded in the North by Edo State and in the East by Anambra State, in the South-East by Bayelsa State and in the Southern flank by the Bight of Benin which covers approximately 160km of the states coastline. The estimated population is 4,098,391 made up of 2,074,306 males and, 2, 024, 085 females (National Population Commission, 2006). The state is divided into three agricultural zones which include Delta North, Delta Central and Delta South. Presently the state is made up of 25 Local Government Areas. The state currently covers a land mass of about 18,050km^2 of which more than 60% is farmland.   The population for this study was made up of all farmers participating in fish farming in Delta State. Out of the three agricultural zones, two were selected using random sampling method. Out of 25 blocks in Delta State, 5 blocks each were randomly selected from Delta North which resulted in 10 blocks. Five (5) cells was randomly selected from each extension block to get 50 cells, while 5 fish farmers each was randomly selected from each of the 50 selected cells. This gave 250 respondents. The data for the study was obtained from primary sources with the use of a well-structured questionnaire. The questionnaire was be divided into two sections, A and B. Section A was to ascertain the personal characteristics of the respondents, while section B was to ascertain the farmers use of different media of information, preferred media of information and the constraints faced in the use of different media of information.

The data collected were analyzed using descriptive statistics such as cross tabulation frequency counts, percentages and mean. Regression analysis was used to achieve the hypothesis one and Hypothesis two, as expressed earlier above.

The regression functional form is stated as follows:

$$Y = f(X_1 + X_2 + X_3 + X_4 + X_5 + X_6 + X_7) \mu; \text{ where:}$$

Y_1 = Different information media used by farmers (No. of media)

Y_2 = Media preferred by farmers (No of media preferred)

Bo = Intercept

$b_1, b_2, b_3, b_4, b_5, b_6, b_7$ = Slope effects

X_1 = Age of fish farmer (Years)

X_2 = Marital status (Married=1; otherwise=0)

X_3 = Level of education (number of years in school)

X_4 = Household size (number of people in the household)

X_5 = Farm size (hectare)

X_6 = Years of experience in fish farming (years)

X_7 = Participation of household members in decision making (number of members)

μ = Error term

The Likert type scale, was used as stated below:

4 = Most preferred; 3 = More preferred; 2 = Preferred; 1 = Not preferred

Therefore, Y = Preference for media information.

Results and Discussion

Socio-economic Characteristics of the Respondents

Table 1 shows that 34.4% of fish farmers were in the age bracket of 21-30 years, while 31.4% were in the age range of 31-40 years ,41-50 years are 14.5% and 9.1% were in the age range of 51 and above and those less than 20 years of age constituted 10.4% of the respondents. These categories can be said to be in their prime years when they are filled with vitality and main likely use available sources of information for their benefit. About 50.9% of the respondents were males and 49.1% where females. This implies that more males were engaged in fishing activities, than females in the study area. The finding also showed that 45.5% were married, 41.4% single, 7.3% separated, 4.1% divorced and 1.8% widowed. This suggests more responsibility on their shoulders. 56.8% of respondent had tertiary education, 32.7% had secondary education, 6.8% adult education and 1,4% primary school education. This implies that most of them had formal education. In addition, the result show that while 45.0% of respondent got engaged in fish farming in less than5 years, about 32.7% of them engaged in fish farming 6-10 years ago. This is as result of the fact that fish farming is a new form of farming to most people in the study area.

Table 1:   **Socio-economic characteristics of the respondent (N=220)**

Socio-economic characteristics	Frequency	Percentage (%)
Age		
Less than 20 years	24	10.9
20-30	75	34.2
31-40	69	31.4
41-50	32	14.5
51 and above	20	9.1
Gender		
Male	12	50.9
Female	108	49.1
Marital Status		
Single	91	41.4
Married	100	45.5
Separated	16	7.3
Widowed	9	4.1
Divorced	4	1.8
Level of Education		
No formal education	5	2.3
Primary education	3	1.4
Adult education	15	6.8
Secondary education	72	32.7
Tertiary education	125	56.8
Years of Fish Farming Experience		
Less than 5 years	99	45.0
5-10years	72	32.7
11-15 years	22	10.0
16-20 years	25	11.4
Above 20 years		

Time of Usage of Media of Information

Table 2 shows that most (71.8%) of the fish farmers use or make use of information at anytime of the day whether in the farm or at home. Others (10.9%) use the media in the morning, 6.4% in the afternoon, 5.9% in evening and 5.0% at night. In the evening and at night, they are mostly likely to use electronic media like radio and television. There is the likelihood that those that use information media anytime use a variety of information media such as radio, television, newspapers, leaflets and pamphlets.

Source of Information and Media Use Pattern of Respondents

Table 3 shows that mean of the contact farmers (mean=3.47), family/friends (mean=3.53), extension agent (mean=3.04), television (mean=3.03) and leaflet/pamphlets (mean=3.0) were rated first five because they are the sources that were used very often by the fish farmers to obtain information about their farming activities. Research institutes (mean=2.90), group meetings (mean=2.79) and agricultural shows (mean=2.63) were often used by fish farmers in the study area. Most of the fish farmers were capable of reading leaflet/ pamphlet and their level of formal education would have aided their knowledge on the important of extension agents. Friends and family and contact farmers were mostly used because of proximity. Television mostly used than radio.

This is attributed to the fact that television usage involves the senses of hearing (audio) and seeing (visual), but radio requires the use of only the sense of hearing, though it is cheaper Television is also more entertaining to them than radio because of the pictures and films it conveys. This is at variance with the findings of Tonte (2005); Gana (2001); Mgbada (2006) who discovered that radio was mostly used with family and friends and stated that radio was considered most important among farmers.

Table 2: Time of use of media of information.

Time of media of information	Frequency	Percentage
Morning	24	10.9
Afternoon	14	6.4
Evening	13	5.9
Night-time	11	5.0
Anytime	158	71.8

Media Preferences of Respondent

Table 4 indicates that the three most preferred media by the farmers were the contact farmers (mean=2.66), family and friends (mean=2.58), extension agents (mean=2.33). This finding is in agreement with a prior expectation because with the contact farmers, family and friends and extension agents, the farmers can ask questions for clarification of complex information and get feedback immediately or almost immediately.

Table 3: Frequency of usage of media

Information channel	Score	Mean	Standard deviation	Rank
Extension agents	669	3.04	0.904	3
Television	666	3.03	0.906	4
Leaflet and pamphlets	661	3.53	1.096	5
Family and friends	776	3.81	0.830	1
Radio	619	2.91	1.066	8
Newspaper	658	3.47	1.068	6
Contact farmer	763	2.90	0.895	2
Research institutes	637	2.76	1.026	7
Group meeting	607	2.63	1.086	9
Agricultural shows	580	2.63	1.104	10

Cut off=2.5

Table 4:   Respondent media use preferred

Preference for media	Score	Mean	Standard deviation	Rank
Contact farmer	585	2.66	0.595	1
Family and friend	567	2.58	0.622	2
Extension agent	512	2.33	0.626	3
Newspaper	504	2.29	0.681	4
Research institute	508	2.27	0.698	5
Television	498	2.26	0.757	6
Leaflet /pamphlet	478	2.17	0.760	7
Group meeting	471	2.14	0.761	8
Radio	448	2.04	0.825	9
Agricultural show	437	1.99	0.848	10

Cut off score=2.0,>2.0=highly preferred, 2.0 moderate, <2.0=lowly prefer

Tonte (2005), in his study, noted that family/friends and radio were two most preferred media. Ofuoku and Ajieh (2005) also observed that opinion leaders, mass media and friends/neighbours were mostly used by poultry farmers.

Mode of Usage by Respondents

Table 5 shows that most 23.6% of the fish farmers use information alone, 19.1% with friends, 10.9% with family, while 5.5% with neighbours and 40.9% with other farmers. The use of information with others gives room for clarification of information through the sharing and discussion of such information with others. This leads to a better understanding of such information. In rural areas, people especially farm household heads always receive visitors in the evening as they relax after the day's work with either radio, family members or television. This agrees with Ekong (2003) who observed that family head in rural settlements relax in the evenings with the member of their household and friends/neighbours to exchange ideas/information.

Table 5: Mode of usage of information media

Mode of usage	Frequencies	Percentage %
Alone	52	23.9
With the family	24	10.9
With friends	42	19.1
Neighbours	12	5.5
Other farmers	90	40.9

Source: Field survey 2009

Constraints of Respondents

Table 6 shows that the most important constraints to media use by the farmer included inadequate extension service (mean=3.95), complexity of improved technology (mean=3.73) and social amenities such as electricity (mean=3.66). According to Ojoko (2000), field extension agents who are at the nerve ends of the extension organization have been found to be inadequate with the ratio of 1:3000 farm families. Tonte (2005) had a similar result in this finding.

Table 6 Constraints limiting respondent's use of media

Constraints	Score	Mean	Standard deviation	Ranks
Inadequate services	870	3.90	0.072	1
Complexity of improved technology	841	3.82	1.097	2
Social amenities	805	3.73	0.941	3
Road and transport network	821	3.66	1.105	4
Lack of fund	788	3.23	1.162	5
Socio-cultural	725	3.19	1.217	6
Disturbance	683	3.10	1.255	7
Language barriers	639	2.90	1.281	8
Inability to read	557	2.53	1.291	9
Distortion of information	711	3.25	1.354	10

Cut off mean=3.0

Test of Hypothesis

H_{o1}:   The fish farmer s' socio-economic characteristics do not influence their use of different media of information.

Test of Hypothesis 1: Results of the estimated influence of fish farmers' socio-economic characteristics on their use of different media of information, (Table 7) indicate that R^2 value of 0.794. This implies that 79.4 percent of the variations in the usage of media of information were explained by the independent variables included in the linear model. Also the F-ratio is statistical significant which attests to the fact that the model fits the data. Variables such as age (X_1), marital status(X_2), educational level(X_3) and experience(X_4) were statistically significant.

Table 7: Estimated influence of fish farmers' socio-economic characteristics On their usage of different media of information

Variables	Coefficients	Standard error	T -ratio	P -value
Intercept	2.3467379	0.882206124	2.660079	0.00840
X_1.Age	0.0359886	0.018168697	1.9808*	0.04889
X_2.Maritial status	2.7281962	0.151061228	18.0602**	0.00000
X_3.Educational level	0.0837936	0.048026295	1.744745*	0.08246
X_4-Farming experience	0.3553003	0.029856251	11.90037**	0.00000
R^2	0.7946423			
R^2 Adjusted	0.7908217			
F ratio	207.98844			
N	220			

    *Significant at 10%   **Significant at 5%

This implies that increase in these variables would lead to increase in the number of media of information used by fish farmers. These conform to a prior expectation. The null hypothesis is therefore rejected since the selected socio-economic variables had significant influence on the fish farmers' decision to use various media of information. The age (X_1) factor positively correlated with the usage of different media of information because the older people, the more risk averse they become due to risks involved with new technologies. In order to be sure of these technologies and avoid such risks, they end up using different media of information from which they finally take the decision on whether to adopt such technologies or not. This is congruent with Tonte (2005); Ejembi (2006), who discovered that age influences the use of more than one media of information among arable and livestock farmers respectively. The marital status(X_2) positively correlated with the use of various sources of information for the fact that the farmer has many responsibilities on their shoulders and as such would seek information on how to better his life through fish farming. This motivates him to use different media of information.

The level of formal education (X_3), of the fish farmers positively influenced their usage of various media of information for the fact that the more educated fish farmers are, the more they are willing to get information from various information sources. This is because they tend to place more value on information they get, especially with respect to their farming activities.

This is more because of their educational asset; they easily understand information from all media used. This finding supports Tologbonse et al, (2006) who posited that level of education of rice farmers influence their perception of source of information

Farming experience(X_4) positively correlated with use of various media of information and significant at 5% level of significance. This is because the more experienced the fish farmer is, the more he seeks information from various information sources. Their experienced had shown them that information from different sources make them to better understand the information they are in need of. The more they get the same information from different sources, the more they understand and use them.

H_{02}:   The socio-economic characteristics of fish farmers have no significant influence on their preference for the media of information used by them.

Test of Hypothesis 2: Table 8 shows an R^2 value of 0.698. This implies that 69.8 percent of the variations in preference for media of information by the fish farmer were explained by the independent variables included in the model.

Table 8: Parameter estimates of the linear regression model of the influence of Socio-economic characteristics of fish farmers on preference for media of information.

Variables	Coefficient	Standard deviation	t-ratio
Constant	-45.172483	4.138285707	-10.91575
X_1-Age	0.5012775	0.085226406	5.881715**
X_2-Marital status	0.2052056	0.708603697	0.289591
X_3-Educational level	4.5322947	0.225283552	20.11818**
X_4-Fish farming experience	0.2914336	0.140050827	2.080913*
R^2	0.6983277		
R^2 adjusted	0.6927152		
f-ratio	207.98844		
N	220		

**Significant at 5% *significant at 10%.

The F-ratio is also statistically significant. The variables of age(X_1), level of formal education(X_3) and fish farming experience(X_4) were statistically significant. This means that a unit increase in these independent variables, would lead to a unit increase in the number of media of information preferred. The null hypothesis is therefore rejected.

Conclusion and Recommendations

Based on the findings of the study, there is evidence that contact farmers, family/friends and extension agents are the most commonly used media by farmers in sourcing for information. Inadequate services by extension agents and complexity of improved technology are some of the constraints in the use of media. These media are used at any time of the day by the fish farmers with other farmers, so as to discuss and deliberate on issues pressing to them. It was therefore recommended that there should be provision of good social amenities such as good road transport in these agricultural zones to enhance the quality and quantity of fish production. Contact farmers, family/friends and extension agents which are media used by respondents to obtain information, should be fully exploited, utilized effectively and more frequently. Funding

access and other opportunities including regular organizing of Agricultural Shows and provision of user-friendly improved technologies and modern fish farming facilities should be available to fish farmers not only to enlighten them but also to encourage other people to get involved in fish farming for increased production and all-year round availability of fish in the State.

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