INFLUENCE OF FISH FARMERS' SOCIO-ECONOMIC CHARACTERISTICS ON MASS MEDIA PREFERENCE: IMPLICATIONS FOR COMMUNITY DEVELOPMENT IN EDO STATE, NIGERIA.

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ABSTRACT

Having access to information is essential for increased productivity but of what importance were the respondents' characteristics on their preference for mass media usage in Edo State, Nigeria? The study was conducted to examine the influence of selected socio-economic characteristics of fish farmers on their preference for mass media usage and the implication on the development of their community. A multistage sampling procedure was used to sample about 180 fish farmers with the use of structured questionnaire. Data were analysed with multiple regression model and described with frequency, percentage and mean. Results showed that television (Mean= 3.31) was the most preferred source of information for fish farming and fish farming advice (Mean= 2.96) was the most sourced technology among farmers. Help identity related issues (Mean= 3.04) and sustainable consciousness in existing issues were respondents' perceived two key roles of mass media in promoting fish farming. Multiple regression results showed that age (b = -10.6; $p \geq 0.01$), harvesting in kg/cropping (b = -14.9; $p \geq 0.01$) and farming experience (b = -.22; $p \geq 0.05$) have negative effects on preference for mass media as source of farming information at 1% and 5% respectively while pond size had positive effect at 1%. The finding concludes that the non-preference of mass media as information sources may retard community growth as intra-personal information sources may not encourage growth and this may discourage the establishment of mass media sources as farmers' preference is low. The study recommends that mass media should be encouraged by all stakeholders to disseminate relevant, timely and appropriate information to the fish farmers by making the channels of communication more appropriate, perceivable and affordable to the users.

Keywords: Fish farmers, farming experience, preference, mass media, Edo state

INTRODUCTION

Information is at the hub of every transformation agenda and information usage probably brings about the difference between the developed and the developing countries in terms of agricultural productivity. The Agricultural Transformation Agenda (ATA, 2011)stated that "the transformation of the fish industry will involve virtually all other sectors of the economy including air and road transport, education, agriculture, finance, science and technology, energy and telecommunications". According to Abbas et al. (2008),lack of information adapted to local needs and technical knowledge at farm level are the principal factors for the low yield and static production of farmers. Similarly, lack of information is said to be a barrier to development as information is very important in capacity building and community empowerment (Apata and Ogunrewo, 2010). Information communication involves process by which information, technologies and its understanding are transferred from their sources to their prospective users (Anifowose, 2013). It is therefore, undoubtedly the basis for all human group interactions and functioning. The role of information in agricultural development has consistently been an important element in the development of human society and also has shaped over a long period of time the way in which we think and act (Meyer, 2005).

There is need to invest in fish farming in Nigeria as demand for fish has geometrically increased (Kudi et al., 2008, ATA, 2011).The viable investment would be dissemination of best practices to the fish farmers with a view to increasing their productivity. This can be done through effective dissemination of relevant information to fish farmers to enable them boost fish production. There is no doubt about the fact that information dissemination is fundamental to fish farming development (Janet al., 2011).However, several information sources exist for agricultural extension workers to utilized. Among these sources, mass media is best recommended in teaching a group of farmers and this has a great effect on community development. Adoption of media source of information dissemination has been attributed to farmers' education level and their level of exposure or traveling based on the assertion of Bawa et al. (2014).Mass media is therefore an important information source that had been found to play a tremendous role in Pakistan agricultural growth. It therefore means that appropriate information rightly disseminated to clientele can affect clienteleperception, behaviour, and decision/outcome. This invariably has a great influence on the development of rural area.

Oto and Dauda (2011) stated that dissemination of adequate agricultural information to grass root enhances productivity. As rightly noted, information can be transferred to large numbers of farmers through mass media simultaneously and at a lower cost per farmer than other extension methods

(Demiryurek, 2008).This probably endeared mass media use as means of information transfer. Relevant mass media such as radio, television, newspapers and so on provide information to the farmers, which help them improve on their productivity and income (Ssewanyana, 2007).

Many may have ventured into fish farming for several reasons such as income, to compliment the insufficient food product and limited protein supply among others. It is therefore important that fish farmers have adequate information effectively disseminated to them through appropriate channels that would be accessible to them, which would help them to use effectively their available farming resources to boost their productivity in order to meet the demand placed on fish by man. Effectiveness is the influence or capacity or validity of something to perform the expected task and produce the needed results (Advanced Learners Dictionary, 2002).

Radio is said to be the most preferred tool of mass communication used by farmers in Edo state (Ekumankama, 2000). 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. Similarly, television is also a vital electronic medium in this dimension (Bhattacharjee, 2005).This is so because the farmers can easily understand the operation instruction through the television (Nazari and Hassan, 2011). Newspapers are commonly used especially among the literate farmers and general the public (Snigh, 2001). It also has other advantages such as wide coverage (Khusk and Memon, 2004).According to Nazari and Hezbollah (2010) television and radio play main part in the transfer of modern agricultural technology to educated and uneducated farmers within a short time to farmer communities. In relation to cost, it is an extremely cost effective medium as compared to other extension media and methods involving individual and group contacts (Kakade, 2013). Newspapers, magazine and brochures are the most preferred least sources of information used by maize farmers in accessing agricultural information in Borno state in Nigeria (Bawa and Bzungu 2014). This is probably because of their availability, and affordability in terms of costs. Abubakar *et al*. (2009) reported that majority of farmers in Nigeria agreed with the convenience of radio and television due to their availability and portability. This study is designed to assess the influence of the socioeconomic characteristics of the fish farmers on their preference for mass media usage in the study area since every individual's socio-economic characteristics affect the individual perception, preference and adoption (Agbamu, 2006).This will have effects on the farmers' immediate environment in terms of growth. Hence, implications of the influence of their socio-economics characteristics were drawn.

METHODOLOGY

The study was conducted in Edo state, Nigeria. The State comprises of three Agro- Ecological zones namely Edo south, Edo central, and Edo north. The zone is further divided into five, six and seven blocks respectively. Edo state is located between Longitude 6°04' E and 6°43'E and Latitude 5°44'N and 7°34'N. It is bounded by Kogi state to the North, Kogi and Anambra states to the East, Ondo state to the west and Delta state to the South. Edo state has a total land area of 19,281.93 square kilometres and a population of 3,218,332; however the current projection of the state is about 5 million and a population density of 168 persons per square kilometres (National Population Census, NPC, 2006). The State experiences both wet and dry seasons, the rainfall distribution pattern range from 2900 mm per year in the south and as low as 350 mm per year in the north. Fish farming is one of the dominant economic activities for both the males and females in the area were this study was conducted.

The population of this study is all the fish farmers in Edo State. A three stage sampling procedure was used for the study. First, selection of three (3) local government areas each from the three agricultural zones that made the state, namely: Egor, Ikpoba – Okha, Oredo from Edo south; Etsako - East, Akoko - Edo, Owan – East from Edo north, and Esan - central, Esan north - east, and Igueben from Edo central. Second simple random sampling of two communities each from the nine LGAs previously selected, and Third, simple random sampling of ten (10) fish farmers from each of the communities selected in stage two giving a total number of one – hundred eighty (180) respondents used for this study. The data used for this study was gotten from both primary and secondary sources. Primary data was collected through a well structured questionnaire administered through interview schedule with the respondents. Secondary data was collected from journals, textbooks, publications, from internet and literatures. A four point likert scale type was used as follows: highly preferred coded 4, preferred coded 3, little preferred coded 2, not preferred coded 1.A mean score of 2.50 was taken to mean that respondents had high preference for mass source of agricultural information while below mean value means otherwise.

Using always coded 1, adopted coded 2, continued adoption coded 3. A mean score of 1.5 was taken to mean that respondents always sourced for farming technologies from the mass media while below was taken to mean that respondent did not source for farming technologies from the mass media.

A four point likert scale was used as follows: Very effective 4, Effective 3, little effective 2 and not effective 1(4+3+2+1/4 = 2.50).A mean score of 2.50 was taken to mean that respondent perceived role of mass media was very effective while a mean score below 2.50 was taken to mean otherwise.

The hypothesis formulated for this study was analyzed using multiple regression model which is stated below.

Multiple regression model

$$Y = b_o + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + \mu$$

Where

Y = preference for mass media as fish farming information source

X_1 = Age of respondent

X_2 = Family size of respondent

X_3 = Farming experience of respondent

X_4 = Pond size of respondent

X_5 = Harvest of respondent

X_6 = Number of pond of respondent

X_7 = Leadership experience of respondent

μ = Error term

b_o = Constant

4.0 RESULTS AND DISCUSSION
Socio-economic characteristics of respondents

Table 1 indicates that 69.4% of the respondents were males while 30.6% were females; this implies that fish farming is dominated by male in the study area. This result corroborates earlier finding by Olaoye, (2010) that men are more involved in fish farming. The result indicates that 43.9% and one sixth (30%) of the respondents were between the ages of 40 to 49 and 50 and above respectively. Less than a quarter (43.9%) of the respondents in the study area was in their middle age. This probably implies that the use of communication media by the fish farmers in the study was considerably influenced by age of the fish farmers. Similar findings were reported by Hossain (2001) and Akhter (2011).

Furthermore, 57.8% of the respondents had farming experience of 1-10 years while 26.7%, 8.3%, 7.2% had farming experience of 10-19years, 20-29years, 30 and above years respectively. As expected, respondents' years of experience in fish farming varied. This finding are somewhat in line with those of Edeoghon *et al.* (2008) who found that about (32.0%) of the respondents had farming experience of about 20 years. Most (83.3%) of them had pond size of 30m^2 and above. The result is an indication that fish farming is done mainly for commercial purpose in the study area due to the size of pond the respondent use for fish farming. On health, 54.4% of the respondents are of the view that fish farming do not have any human health related challenges while 45.6% are of the view that fish farming have health challenges. This later view corroborates Munialo (2011) study carried out in Western Kenya who notes that fish farming remains underdeveloped and characterized by poor management which results to health hazards.

The results on table 1 show that 63.9% of the fish farmers were married. Less than one fifth (35%) of them hand primary education background, 22.2% had secondary education, 15.6% had PhD, 6.7% had adult literacy, 9.4% had NCE/OND while those with BSc, and MSc others had 5.0%, 3.9% respectively. It can be observed that most of the respondents are educated being above the baseline of literacy which is primary school education and would be capable of appreciating proven agricultural technologies from mass media and are expected to be more innovation. This confirms the finding of Njoku (2016) which states that that most of the fish farmers were literates and this is an advantage to adoption and utilization of improved technologies as education is a factor in adoption of modern farm practices. More than half (57.8%) of the respondents had 1-4 persons while a higher number (26.7%) had 5-8 persons. Due to the high social and food security responsibilities of large families, this could promote the use of relevant fish farming information especially through mass media as it covers large areas and reaching most clientele on time as noted by Nazari and Hezbollah (2010). The result supports Nnadi and Akwiwu (2005) that large family size predisposed adoption of innovations.

Table1: Socio-Economic characteristics of respondents

Variables	Frequency (N=180)	Percentage	Mean	Std. Dev
Sex				
Male	125	69.4		
Female	55	30.6		
Age in years				
21-29	26	14.4		
30-39	21	11.7		
40-49	79	43.9		
50 and above	54	30		
Harvest in kg/cropping (Mean)				
< 100.00	15	8.3		
100.00 - 199.00	30	16.7		

200.00 - 299.00	32	17.8		
300.00 - 399.00	21	11.7	4,392.41	381.52
400.00 - 499.00	20	11.1		
500.00+	62	34.4		
Farming experience (years)				
< 10.00 yrs	104	57.8		
10.00 - 19.00	48	26.7	10.4326	8.5871
20.00 - 29.00	15	8.3		
30.00+	13	7.2		
Pond size in m^2				
< 10.00	22	12.2		
20.00 - 29.00	8	4.5	55.1921	35.05948
30.00+	150	83.3		
Education level				
Primary	63	35		
Secondary	40	22.2		
Adult literacy	12	6.7		
NCE/OND	17	9.4		
B.SC	9	5		
M.Sc	7	3.9		
PhD	28	15.6		
No formal education	4	2.2		
Source of labour				
Family	94	52.2		
Hired	21	11.7		
Self	65	36.1		

Source: Field survey, 2016

Preference for mass media

Table 2 shows that fish farmers mainly preferred television (mean = 3.31), radio (mean = 3.06), posters (mean = 2.96), video (mean = 2.63) while the least preferred wasnewspapers (mean = 1.50). Television was the most preferred in the study area, this is due to the fact that television offers the viewer an opportunity to employ the two senses of seeing and hearing on learning.According to Farooq *et al.* (2007) and Ani and Baba (2009),farmers use television as source of agricultural information because of its effectiveness disseminating agricultural information. Through television new technologies can be demonstrated and farm related topic of interest is to the farmers is also discussed. This finding corroborates Spore (2004) that the unique characteristics of television usage include sight, sound, motion and demonstrative power is a living testimony of its capacity to mobilize its audience for development objectives. Radiowas preferred because of the convenience of getting information from this source at cheaper rate and at any time. This confirms the assertion of Lwoga (2010) that radio communication is now widely available and can be accessed at a modest cost. Newspaper was the least preferred mass media information source in the area probably due to the poor financial status of most farmers in Nigeria and high household size. This is in accordance with the study of Fawole (2006) who indicated that a small proportion of producers used Newspapers as source of agricultural information.

Table 2: Mean distribution for respondents preference for mass media

Mass Media Types	Mean	Std. deviation
Television	3.31*	1.09
Radio	3.06*	1.03
Newspapers	1.50	0.97
Posters	2.96*	0.90
Handbills	2.34	1.13
Video	2.63*	1.22
Magazine	2.10	1.16
Bulletins	2.17	1.32
Computers	2.13	1.40

Source: Field survey, 2016.
*Mean≥2.5= High accessibility

Farming technologies sourced through mass media

The results in Table 3 shows that farming technologies on Advice (mean = 2.96) was the most sourced from mass media followed by technologies on advertisement (mean = 2.56) and canning (mean = 2.55)while the least sourced from mass media sources were pond construction and specification(mean = 1.13) and vaccine (mean = 1.06) respectively. This result is an indication that fish farmers in the study area sourced for fish farming technologies that is of importance to them from different sources. Easdown and Starasts (2004) argued that it is only when agricultural information is valued that farmers seek and use itand consider paying for it. They also noted that farmers 'Value contextualized information that has been validated by the experience of others before applying to their own situation.

Table 3: Mean distribution for farming technologies sourced from mass media respondent

Farming technologies sourced with mass media	Mean	Std. Dev
Fish feed preparation(animal source)	1.23	0.96
Fish feed preparation (plant source)	1.39	0.84
Pond fertilization	1.60	0.80
Fingerlings	1.78	0.92
Feeds	1.31	1.09
Vaccine	1.06	1.03
Drugs	1.50	0.97
Advice	2.96*	0.90
Management practices	2.34	1.13
Management evaluation and measurement	1.63	1.22
Control of diseases	2.10	1.16
Processing	2.17	1.32
Storage	2.13	1.40
Marketing	2.46	0.76
Equipment	2.32	0.54
Advertisement	2.56*	0.64
Labeling	1.57	0.84
Canning	2.55*	0.68
Packaging	1.96	0.77
Pond stocking	1.50	0.61
Pond construction and specification	1.13	0.42

Source: Field survey, 2016
*Mean≥1.5= highly sourced

Respondents perceived role of mass media

Table 4 shows the roles performed by mass media to fish farmers. The most effective role performed by the mass media to the farmers is that of helping them to identify relevant fish farming technologies/issues(mean = 3.04) followed by sustaining consciousness in exiting technologies/issues(mean = 3.03), raising awareness(mean = 2.76), encourage weakness(mean = 2.74),motivate me to start fish farming (mean = 2.56),increase confidence (mean = 2.56)while the least roles were that of encouraging respondents to ask questions(mean = 2.20) and improving performance and productivity(mean = 2.20).The result is an indication that the role of mass media in disseminating agricultural information to fish farmers in the study area is not that effective because most of the key roles like information provision, impact knowledge and skills, improve performance and productivity and other roles were not found effective to the respondent in the study area.

Table 4: Respondent perceived roles of mass media

Perceived roles of mass media	Mean	Std. Dev
Raising awareness	2.76*	1.39
Sustain consciousness in existing technologies/issues	3.03*	1.13
Help define problem	2.36	1.21
Encourage me to ask question	2.20	1.22
Help identify relevant technologies/issues	3.04*	1.12
Information provision	2.39	0.89
Impact knowledge	2.49	0.89
Impact skills and ability	2.38	1.06
Motivate me to start fish farming	2.56*	1.12
Impact development	2.43	1.04
Encourage weakness	2.74*	0.99
Increase confidence	2.56*	0.99
Increase performance and productivity	2.20	1.13

Source: Field survey, 2016.
*Mean ≥2.5 = Very Effective

Relationship between respondents' socio - economic characteristics and preference for mass media as sources of fish farming information

From the results in table 11 pond size (b = 0.026) is significant at 5 % level of significance. The positive coefficient of pond size (b = 0.295) implies that the bigger the ponds size of the farmer the higher their preference for mass media. Similarly, harvest (b = 0.001) is not significant at 1% level of significance. The negative coefficient of farmers' harvest (b = -0.348) implies that the lower the farmers harvest the lower their preference for mass media. Also, numbers of ponds (b= 0.256) is not significant at 1% and 5%level of significance. The positive coefficient of farmer's number of ponds (b = 0.111) implies that the more number of ponds the farmer has the less preference they have for mass media. In addition, age (b = -10.612) of the respondents at 1% level has a significant relationship with respondents' preference for mass media usage for fish farming information technologies. The negative coefficient of ageimplies that a decrease in the age of the farmers will lead to a high preference for mass media. In other word,young fish farmers wouldhave high preference for mass media as source of fish farming technologies. Farming experience (b = -0.215) is significant at 5% level of significance. The negative coefficient of Farming experience implies that the lesser the farming experience of the farmers the higher their preference for mass media. This result may be due to the fact that most (70%) the respondents are between the ages of 21 to 50 years as displays in Table 1and all the respondents had formal education background experience. Similarly, pond size (b = 0.026) is significant at 5 % level of significance. The positive coefficient of pond size (b = 0.295) implies thatthe bigger the ponds size of the farmer the higher their preference for mass media as fish farming information source. The results also indicated that harvest (b = -14.958) is significant at 1% level.The negative coefficient of farmers harvest implies that the lower the farmers harvest the lower their preference for mass media.

Table 5: Relationship between socio - economic characteristics of respondent and their preference for mass media

	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	Sig.
(Constant)	112.131	15.734		7.127**	0.01
Age	-10.612	1.827	-0.594	-5.807**	0.01
Family sizes	-0.129	0.28	-0.052	-0.461	0.647
Farming experience	-0.215	0.098	-0.297	-2.191*	0.033
Pond size in m^2	0.017	0.007	0.295	2.293*	0.026
Harvest in kg/cropping	-14.958	4.035	-0.348	-3.707**	0.001
Number of pond	2.433	0.739	0.111	1.148	0.256
Leadership exp.	0.013	4.58	0.020	0.003	0.998

Source: Field survey, 2016.
**Significant at 0.01 level of significance
* Significant at 0.05 level of significance
R= 0.764; R square = 0.584

CONCLUSION

This study found that television, radio, posters, and video were the most preferred sources of information in the study area but television was the most preferred. This implies that fish farmers in the study area were enlightened and this was further established through their high education level and the positive influence education had on their preference for mass media. Hence, there may be a rapid community growth owning to their preference for TV as a mass media tool. The preference for TV means that fish farmers frequently receive information on fish farming through it and that they can easily decode and interpret information sent via TV and translate it to benefit them in their choice of enterprise. However, the role of mass media in disseminating agricultural information was not found to be effective in disseminating certain key roles like information provision, impact knowledge and skills, improve performance and productivity among others through mass media sources. Conclusively, there is a need to provide better access to agricultural information and improve the effectiveness of mass media in the dissemination of agricultural information and technologies to fish farmers in the study area so as to improve their productivity in the study area, and to make mass media information dissemination highly relevant to the farmers and utilized in solving their problems.

RECOMMENDATION

In line with the findings of the study, the following recommendations are made:
Mass media should be encouraged by the government to disseminate relevant, timely and appropriate information to the fish farmers by making the channels of communication more appropriate, perceivable and affordable to the users.

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