

Media Use Pattern of Fish Farmers in Moro Local Government Area of Kwara State

Akinboye, O. A

Department of Agricultural Extension and Rural Development,
Ladoke Akintola University of Technology, P. M. B. 4000, Ogbomosho.

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Abstract

It is of no doubt that fish farming has great potential in solving the problems of protein deficiency, malnutrition, hunger and food insecurity and increased fish production will help combat these devastating problems facing the majority of the rural poor in the country. This study examined the media use pattern of fish farmers in Moro Local Government Area of Kwara State. The study employed a multi-stage sampling technique to select 80 farmers for the study and the data for the study was obtained through the use of a well-structured interview schedule and data obtained was analysed using both descriptive statistics such as frequency count, percentage and mean and inferential statistical tools such as Pearson Product Moment Correlation and Chi-square.

Results of the socioeconomic characteristics shows that 36.3% of the respondents were less than 40 years of age while 23.7% were between the age ranges of 45-49 years and 23.7% of the respondents were 50 years and above while only 16.3% of the respondents were between the age ranges of 40-44 years. Also, 58.8% of the respondents were male 65% of the respondents were married and 48.8% of the respondents have a household size of 9 persons. Also, 58.8% of the respondents were Muslims while 56.3% have tertiary education and 41.2% of the respondents have fish farming experience of between 5-9 years. The result further shows that 93.7% of the respondents have pond size of between 1-2ha while 55% of the respondents were members of social organization, 81.2% of the respondents have access to credit facilities and 72.5% of the respondents in the study area have a stocking ratio of between 1000-5000 fishes per ponds. Similarly, 46.3% utilized concrete pond for rearing of fish while 48.8% utilized hired labour, 53.7% of the farmers have contact with agricultural extension agents and 22.5% of the respondents were visited on a monthly basis by the extension agents.

Furthermore, 63.8% obtained fish farming information from the television, 62.5% from the radio, 61.3% from the internet and 57.5% from print media, 51.3% from extension agents while 98.7% of the respondents in the study area obtained needed information from all the available sources and 96.2% of the respondents have access to fish farming information. Also 25% of the respondents preferred fish farming information from the radio, 22.5% preferred the information from the television, 18.7% preferred the information from the newspaper, 13.8% preferred the information from mobile phone while 85% of the respondents have access to a functioning television set, 90% of respondents from have access to a functional radio set while 66.2% of the respondents have access to a functional mobile phone and 50% of the respondents have access to print media while 77.5% practiced monoculture system of

fish farming. The result of chi-square analysis performed shows that there was significant relationship between level of education ($X^2 = 12.24$; $p < 0.05$), contact with extension agent ($X^2 = 6.89$; $p < 0.05$) and membership of social organisation ($X^2 = 6.62$; $p < 0.05$) and media use pattern of the fish farmers. . Further analysis carried out shows that there was significant relationship between age($r=0.445$), years of fish farming experience($r=0.386$), pond size($r=0.268$) and stocking ratio($r=0.182$) and media use pattern of the fish farmers. It was recommended that the government should employed more extension agents with improved welfare packages in order for them to effectively respond to the fish farmers' needs.

Keywords: Media, Media use pattern, Fish farmers

Introduction

Media can be described as a concept or model that includes participation, networking and information sharing, user generated content, as well as innovating and spending time together (Kietzmann, et al 2011). It can also mean crowd sourcing, co-creation and crowd funding (Aitamurto. 2012). The influence of active readers is transforming journalism from gatekeeping to gate watching (Burns 2008). Domingo et al. (2008) posited that the emergence of participatory journalism is influenced by external factors such as technology, economy, and the larger cultural and societal framework. Social media and readers' participation are vital parts of the journalism and media landscape. The developments described above have brought many interesting changes to the ways social media is consumed and used. One way to study these changes is to approach them by looking at consumption or use patterns. Rossing, De Vries & Vollenbroek (2012) write about this as a fairly new concept in the field of social media. A media pattern is a description of a social media usage process, comprising of context, goal, interaction or interfaces, in which processes are characterized by contextual, goal-oriented, interactive and interface dimensions. Media histories from the field of communication science clearly had a different emphasis; they concentrated mainly on the specific history of press, radio and television as well as their producers and on the dissemination, control and reception of these media for information dissemination in agricultural sector especially the fishery sector (Williams 2010).

Fish farming is seen as the act of rearing fish in a controlled environment for man use. Fish contributes largely to the protein intake of man in Nigeria and it is very nutritious and good for human consumption, it also serve as a means of earning income for those who rear it (Oyebade 2014). Fish contains vitamin A and D which helps to maintain healthy eyes and strong bones respectively. It also contains Vitamin B which helps to reduce stress, anxiety and depression; furthermore, it helps to prevent skin disorder such as psoriasis. Fish is the major source of cheap high quality proteins vital for healthy populace in the developing world. It has the highest level of easily metabolised high quality protein, fats, vitamins, calcium, iron and essential amino acids when compared with other sources of animal protein such as poultry and beef. Fish consumption is highly relished among people of all classes and ages in that the fish is less tough and more digestible when compared to beef and bush meat. Fish as a source of rich food for the poor can play a crucial role in improving the food security and nutritional status of the millions of the people in Africa and other developing part of the world. Fisheries are important contributors to the food supply, food security and livelihoods at both the local and global levels. They are a primary source of animal protein in many countries of the world. Fish farming is a profitable venture and it is rapidly expanding and that is the more reason Nigerian government has made several attempts over the years to

increase productivity of fish farmers through institutional reforms and various economic measures (Soyemi and Haliso, 2015).

In Nigeria, most fish production comes from artisanal fisheries until recently when there is growing awareness of the potentials of fish farming. It is unfortunate that despite the growing awareness of fish farming most practicing farmers operate extensive fish culture in the ponds leaving fish to forage on their own food, space, without appropriate attention to fish health, water quality, and nutrition. In 2013, fisheries contributed about 17% of global population's animal protein intake and 6.7% of total protein intake (FAO, 2016) and as the population of fish farmers are growing by the day, different kinds of information need be made available to those that are interested, particularly on how to start and manage fish farms. All these are to encourage local participation so as to increase rate of production (Akinbile and Alabi, 2010). It is unfortunate that despite the growing awareness of fish farming most practicing farmers operate extensive fish culture in the ponds leaving fish to forage on their own food, space, without appropriate attention to fish health, water quality, and nutrition. Agricultural information, whether it is for technical, economic, socio-cultural or legal aspects, is of utmost importance to fish farming activities.

However, studies have shown that as important as information is in fish farming, gaps still exist in fish farmers information needs. In their study of information needs of fish farmers, Adefalu et al. (2013) identified the inadequate provision of information and training to fish farmers and scarcity of guidelines for fish farmers with no previous knowledge as one of the factors inhibitory to an adequate meeting of fish demand by Nigerian populace. Ogboma (2010), while studying fish farmers' access to agricultural information found that in order to cope with the pressure made on the protein demand occasioned by increasing population in Nigeria, it becomes compelling that information on fish farming and for fish farmers be disseminated through the appropriate media since information is the driving and sustaining force for any development strategy and a necessary ingredient for success in all human endeavours. Media use pattern will enable information dissemination get to the appropriate target audience hence media therefore, become an important source or channel of information dissemination because the way the messages are presented has an impact on public opinion as well as on constituted authorities. If farmers use media in a better way it will have positive impact on agricultural production by facilitating the adoption of innovation that is being promoted on air. This view is applicable to fish farming which is increasingly gaining ground to complement the ever decreasing catch fish from capture fisheries. The key role they play in structuring and dominating the public sphere make them the most used and preferred information sources (Olsena and Osmundsen, 2016). These studies have identified many information needs among the fish farmers such as training in marketing, fish processing and preservation, water quality management (Adefalu et al. 2013), new trends, disease control and treatment, credit facilities (Ogboma 2010), fish feed, maintenance of water quality and harvesting methods (Ogunlade 2007) as the thorniest areas of information needs.

Barguma and Ndaghu (2014) opined that over eighty percent of their study respondents had diverse information needs in their fish farming endeavour. Others found information needs like capital or credit facilities. (Olaoye et al; 2013) while Omasaki et al; (2014) identify lack of feed, finance, skills and fingerlings, market, storage and transport facilities, diseases and predators as the greatest areas of information needs faced by fish farmers including training for new entrants. Knowing the information that is desired by various fish farmers, for what purposes, and through what information channels can go a long way in guiding the various agricultural information user population and information providers themselves in better access, use of information and consequently increased yields but because information

needs are always changing, it has become necessary that studies on fish farmers' information needs be surveyed from time to time in addition to the need for increased fish production in Nigeria in order to meet the demands.

Alfred *et al.*, (2012), posited that for the Nigerian fishery industry to improve there is a need to understand the attitude and perception of farmers in relation to media use pattern through which information relating to spreading awareness of new ideas and creating interest in farming innovations, answers questions and advising on problems common to a large numbers of fish farmers, shearing experience with other individuals in the communities and using a variety of sources that are credible to fish farmers, Instead of hearing advice from the extension workers only, through mass media fish farmers can be brought into contact with successful fish farmers from other areas, respected political figures and agricultural specialist and stakeholders. The main objective of the study is to examine the media use pattern of fish farmers in Moro Local Government Area of Kwara State and specific objectives includes to: identify the socioeconomic and enterprise characteristics of fish farmers in the study area, identify the types of media used by the respondents for fish farming in the study area and identify the constraints militating against the respondents' media use for fish farming in the study area. The study hypotheses states that there is no significant relationship between the socioeconomic characteristics of respondents and fish farmers' media use pattern and there is no significant relationship between types of media use and media use pattern of the fish farmers.

Methodology

Study area

The study was carried out in Moro Local Government Area of Kwara state. This Local government comprises of different villages, which are rural in nature. Moro Local Government area of Kwara state was created in 1976, with headquarters at Bode saadu. It is made up of five districts-Lanwa, Ejidongari, Olooro, Molete and Ipaya. This local government area is in Kwara north senatorial district,with two federal constituencies, namely,Edu/patigi/Moro and Baruten/kaima.Kwara is located on latitude 8°30' and 8°50'N and longitude 4°20'and 4°35'E of the equator. It is about 300 kilometers away from Lagos and 500 kilometres away from Abuja of Nigeria. Moro Local government experience two climatic season i.e. Rainy and dry season. The rainy season is between March and November and the annual rainfall varies from 1000mm to 1500mm between September and early October. The daily average temperature is in January with 25°C, May 27.5°C and September 22.5°C. Moro Local Government has an area of 3,272 square kilometres and a population of 108,792 (WPC 2006). The major occupation of the people in the area is farming. Other occupation they engage in are trading, teaching and artisans. They produce a lot of agricultural products including yam, cassava, garden egg, vegetables, tomatoes, and others which are sold in the market. Many of the people in the Moro Local Government area were also involve in livestock production like poultry and fishery. The population of the study comprise of all the fish farmers in Moro Local Government Area of Kwara state including both males and females. A multi-stage sampling technique was employed in selection of fish farmers in the study area. The first stage involved purposive selection of five wards (Lanwa, Ejidongari, Olooro, Molete and Ipaya) that are predominant in fish farming as well as with high concentration of fish farmers in the wards. The second stage involved random selection of two cells from each of the selected ward making a total of eight cells. The third stage involved random selection of eight (8) fish farmers from each of the selected cells from the list of registered fish farmers in the study area, thus making a total of 80 fish farmers that

constituted the sample size for this study. The data for this study was analysed using both descriptive and inferential statistical analytical tools. The descriptive statistical tools that were used include frequency count, percentage and mean while the inferential statistical tools used in testing the stated hypotheses was Chi-square and Pearson's Product Moment Correlation analysis.

Results and discussion

Respondents' socioeconomic characteristics

Respondents' age

Table 1 show that 36.3% of the respondents were below 40 years of age while 23.7% were between the age ranges of 45-49 years and 23.7% of the respondents were 50 years and above. Only 16.3% of the respondents were between the age ranges of 40-44 years. The mean age was 42 years. This indicates that most of the respondents were adults but are still active and energetic enough to perform fish farming activities. This finding is in agreement with Gbadegesin (2008), who posited that adult farmers were into the use of environmentally sustainable agriculture practices with the mean age was 45 years.

Respondents' sex

Also, it was shown on table 1 that 58.8% of the respondents were males while 41.2% were females. This indicates that more males are engaged in fish farming in the study area. The finding agrees with George (2010) who found out that more males were involved in fish farming than women in their study areas. The male dominance implies the laborious nature of fish farming operations which are very tedious for females to handle.

Respondents' marital status

It was presented on table 1 that 65% of the respondents were married while 30% were single and 3.8% were widowed. Only 1.2% was divorced. The finding of the study shows that more than half of the respondents in the study area were married which is an indication that more hands will be available for farm work as well as having responsibilities to care for thus making them to be committed to their fishery business so as to earn reasonable income to support their family. Ifejika et al (2008).

Household size (persons)

Furthermore table 1 show that 48.8% of the respondents have a household size with 9 person while 43.7% have a household size of less than 5 persons and 7.5% have a household size of 10 persons and above. The mean household size was 5 persons. This shows that less than half of the respondents in the study area have a small household size. This finding negates the report of Yekinni (2010), who posited that an average family size of 9 persons and above depicts a fairly large family while Oyebade (2014), opined that the larger the family size, the greater the number of household members whose food and nutritional requirements must be met by such household. Having a large family size portends that there will be more hands available as source of labour for the fish enterprise.

Respondents' educational level

Table 1 further show that 56.3% have tertiary education while 41.2% have secondary education and 2.5% have primary education. This indicates that all the fish farmers in the study area were educated and may likely know where and how to source and which media to use for information sourcing though tertiary and secondary education would equip the respondents with needed skill to source for adoptable technologies on fish farming. This finding support the study of Chukwu (2013), who reported that higher level of formal education of the farmers determines the quality of skills, their allocate abilities, efficiency, and profitability and how well they were informed on the innovations and technologies around them.

Respondents' farming experience (years)

Also, it could be seen on table 1 that 41.2% of the respondents have fish farming experience of between 5-9 years and 10 years and above while 17.6% have fish farming experience of less than 5 years. The mean number of years of experience was 9 years. This indicates that over half of the respondents were experienced in the business of fish farming hence might know how to access relevant information relating to their enterprise with little or no assistance. Ability to access relevant technologies relating to fish farming may likely improve production and productivity of farmers. Experience is an indicator of possession of wealth, knowledge and practical skill (Sanyaolu, 2008). This connotes that the fish farmers in the study area were of experience which is good for the enterprise. This finding corroborates with that of Ironkwe et al. (2007), who posited that farming experience improves farmers' production skills such as good selection of breeding stocks and feeds. This may enhance the profitability of the enterprise which is an advantage to the farmers as a result of adoption of innovation.

Farm size (ha)

Result on table 1 show that 93.7% of the respondents cultivate farm size of between 1-2ha while 6.3% of them cultivate farm size of 3ha and above. This indicates that majority of fish farmers in the study areas are small scale fish farmers that are characterized with small farm holdings.

Membership of social organization

Table 1 further show that 55% of the respondents belong to one or more social organizations while 25% did not belong to any social organization. This indicates that over half of the respondents in the study area were members of one or more social organization, which makes it easier for the farmers to have access to credit facilities at their fingertips. This goes with the findings of Aphunu and Nwabeze, (2012), who opined that been a member of one or more social organization accord you the opportunity to have access to production inputs.

Access to credit facilities

It could also be seen on table 1 that 81.2% of the respondents have access to credit facilities while 18.8% did not have access to credit facilities. This indicates that most of the respondents in the study area have access to credit facilities which will enhance their level of production.

Respondents' stocking ratio

Table 1 show that a larger percentage (72.5%) of the respondents in the study area stocked between 1000-5000 fishes per ponds while 2.5% stocked less than 1000 fishes and 5000 fishes and above respectively. The mean stocking rate was 6,743 fishes. This indicates that a smaller proportion of the respondents stocked 5000 fishes and above due to been a small scale fish farmers.

Types of ponds used by the respondents

Table 1 show that 33.7% of the respondents utilized earthen pond while 46.3% utilized concrete pond for fish farming and 20 % utilized other forms of pond. This indicates that less than half of the respondents utilized concrete pond type which may be as a result of modernization and its attendant advantages over other forms of pond. Fish farming is the practice of raising fish for commercial purposes in tanks or enclosures which can be of different types such as "cage system, irrigation, or pond systems, composite fish culture irrigated recycling systems and classic fry farming otherwise referred to as flow through system" this negate the findings of (Fish Farms 2015).

Respondents' access to labour

Table 3 shows that 80% of the respondents have access to labour while 20% do not have access to labour. This implies that larger percentage of the respondents in the study area have access to labour. This indicates that most of the respondents have access to labour at the peak periods of need which will in turn increase their level of production.

Sources of labour

Table 1 shows that 25% of the respondents utilized both the family and friends labour for their fish farming activities while 48.8% utilized hired labour and 1.2% of the respondents gave no response. This indicates that less than half of the respondents utilized hired labour hence irrespective of the respondents' sources of labour, they were able to get labour for their fish farming operation.

Contact with extension agents

Table 1 shows that 53.7% of the farmers have contact with agricultural extension agents while 46.3% do not have contact with them. This indicates that over half of the respondents in the study area have contact with the extension agents though the duration of visit may differ leading to access to needed information thus improving their level of production. It is worthy of note that the extension agents is among the most useful source of information dissemination to the respondents, which is in line with the findings of Ogunremi et al. (2013) who stated that the extension agents as a channel of information dissemination is among the most preferred source of fish farming information dissemination.

Duration of visits by extension agents

The table 1 shows that 22.5% of the respondents were visited by the extension agents on a monthly basis while 16.2% of the respondents were visited on a weekly basis and 8.8% of them were visited by the agents on daily basis. This indicates that less than half of the fish farmers were visited by the extension agents but the time of visit by the extension agents

differs.

Types of fish culture

Table 1 shows that 77.5% of the fish farmers practiced monoculture system of fish farming while polyculture was been practiced by 22.5% of the respondents. This finding is similar to the study by Ibemere and Ezeano (2014) and Olaoye et al. (2013) that monoculture was the major fish culture practiced by the respondents in the study area.

Types of media used by the respondents for fish farming in the study area

Media preferred by the respondents

Table 2 shows that 25% of the respondents preferred radio information, 22.5% preferred television, 18.7% preferred newspaper, 13.8% preferred mobile phone while 12.5% preferred internet and 7.5% preferred fish farming information from the computer. This indicates that all the respondents preferred getting fish farming related information from different information source based on their taste and interest. The result is in agreement with the findings of Arokoyo, (2003) that radio and television remained the major media used for extension service delivery especially in the rural areas. Similarly, Adejo and Haruna, (2009), stated that these classes of media facilities are ideal for rural areas because it's cheap to set up, easy to use and filling vital information needs.

Television functionality

Table 2 shows that 85% of the respondents have access to a functioning television set while 15% have no access to a functional television. This indicates that majority of the respondents have access to functional television. It also shows that 85% of the respondents obtained fish farming related information from the television. This connoted that fish related information can be obtained from the television in the study area. About 48.8% of the respondents indicate that the fish farming related information gotten from the television was moderately relevant, while 41.2% indicated high relevancy and only 10% reported low relevancy. This indicates that information from the television was relevant to the fish farming activities of the respondents thus assisting them in improve their level of production.

Radio functionality

Table 2 shows that 90% of respondents from have access to functional radio set while the remaining 10% have no access. This indicates that majority of the respondents have access to functional radio set which will enhance their access to information. The table also shows that 45% of the respondents always listen to fish farming related programme on the radio while 37.5% occasionally listen to fish farming related programme on radio and the remaining 11.3% rarely listen to fish farming related programme on radio. This establishes the fact that fish farming related information are aired on the radio but the period of listenership depends on the respondents in the study area. Less than half (48.8%) of the respondents indicated that the airing time for fish farming related programme on radio was moderately relevant while 38.7% indicated that it was highly relevance and 12.5% indicated that it was low. This indicates that the relevance of airing time by the respondents was based on the respondents' leisure time when they are not doing any work. (Talja, 2002).

Mobile Phone functionality

Table 2 shows 66.2% of the respondents have access to a functional mobile phone while 33.8% have no access. This indicates that majority of the respondents have access to a functional mobile phone which will ease their access to information from the mobile phone. It also shows that 37.5% of the respondents occasionally obtain fish farming related information from the mobile phone while 25% of the respondents always obtain fish farming related information from mobile phone and the remaining 6.3% rarely obtain information from the mobile phone. This established that fish farming related information can be obtained from the mobile phone. Furthermore, 45% of the respondents indicated that the relevance of obtained information from mobile phone is moderate while 23.8% indicated that the information is highly relevance. This indicates that fish farming related information can be obtained from the mobile phone.

Print Media functionality

Table 2 below shows that 50% of the respondents have access to print media while 50% have no access. This indicates that print media is accessible to few of the fish farmers in the study area. The table also shows that 48.7% of the respondents gave no response to the type of print media they have access to, while 25% have access to newspaper, 8.8% have access to magazine, 7.5% have access to pamphlet and 5% have access to posters and handbills respectively. This indicates that the respondents' level of education can be an inhibiting factor to accessing fish farming related information from the print media. The table shows that 51.2% of the respondents rarely read the print media fish farming information while 32.5% always read fish farming related information from the print media, and 15% occasionally read the print media. This indicates that accessibility to fish farming related information from the print media is a function of the respondents' educational level.

Media use pattern

Respondents' media use pattern

Results presented in table 3 shows that 15% of the fish farmers utilizes analogue media while 47.5% utilizes both the analogue and digital media and 37.5% of them utilizes only the digital media. The result implies that there is not enough sensitization on the importance and advantages attached to the use of digital media. Also, the fish farmers require a level of knowledge that will make them exploit the potential embedded in the use of digital media hence shifting their focus from the use of analogue media to digital or both.

Respondents' media use index

Table 3 shows that 10% of the fish farmers have low media use index while 47.5% have moderate media use index and 52.5% have high media use index. The result implies that the respondents having high media use index utilizes the media so often to seek for fish farming information which will definitely have positive effect on their production level.

Constraints militating against respondents media use for fish farming information

Table 3 shows the different constraints militating against respondents media use for fish farming information in the study area. The result shows the constraints as indicated by the respondents thus: irregular power supply 56.3%, inadequate time of airing 57.5%, poor

network signal 50%, low level of education 46.3% .Similarly, unavailability of media facilities 37.5%, unfavourable time schedule 31.3%, language of broadcasting 25%, and technical knowhow 23.8%.

Hypotheses testing

Ho1- There is no significant relationship between respondents' socioeconomic characteristics and the media use pattern in fish farming.

Relationship between respondents' socioeconomic characteristics and media use pattern among fish farmers.

Results presented on table 4 shows that there was significant relationship between level of education ($X^2= 12.24$; $p < 0.05$), contact with extension agents ($X^2= 6.89$; $p < 0.05$), membership of social organization ($X^2= 6.62$; $p < 0.05$) and the respondents' media use pattern. This indicates that level of education, contact with extension agents and membership of social organization all have positive effects on the media use pattern of fish farmers.

Ho1- There is no significant relationship between respondents' socioeconomic characteristics and the media use pattern in fish farming.

Relationship between respondents' socio-economic characteristics and media use pattern among fish farmers.

Table 5 shows that age ($r = 0.446$), years of fish farming experience ($r = 0.386$), farm size ($r = 0.268$) and stocking ratio ($r=0.182$) were significantly related to media use pattern among fish farmers. The relationship was positive which indicates that increase in any or all of these variables will bring about an equivalent increase in the respondents' media use pattern.

Ho2- There is no significant relationship between types of media use and media use pattern of the fish farmers.

Relationship between the respondents' types of media use and media use pattern of the fish farmers.

Result presented on table 6 shows that respondents' media type used was significantly related to media use pattern. This indicates that irrespective of the type of media the respondents used for information sourcing have a positive effect and influence on their patterns of media usage This implies that media use and media use pattern information directly affect fish production thus appropriate utilization of media use and media use pattern will bring about increase in fish production.

Recommendations

Based on the findings of the study, it can be recommended that;

1. Adequate information should be made available to the farmers as regards the sources, cost, and credibility of quality fish farming inputs.
2. Training on the use of media for information dissemination should be provided to fish farmers specifically and others that are willing to come into fish farming enterprise in general.

3. Fish farmers should be empowered to acquire battery operated devices and wind up radio so as to overcome problem of epileptic power supply which inhibit their use of broadcast media.
4. Information on fish technologies should be aired in the morning before the target audience goes out and in the evening period when they might have retired back home for the messages to be well received.
5. Government should also endeavour to employ more extension agents and improve on their welfare so as to impact positively on the respondents.
6. Finally, youths and women should be sensitized to come into the enterprise through advocacy campaign as it is dominated by adult males and fairly old people in the study area.

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Appendix

Table 1: Distribution of respondents' by socioeconomic characteristics. (n=80)

Variables	Frequency	Percentage	Mean
Age (years)			
Below 40	29	36.3	
40-44	13	16.3	
45-49	19	23.7	
50 and Above	19	23.7	42
Sex			
Male	47	58.8	
Female	33	41.2	
Marital status			
Single	24	30	
Married	52	65	
Divorced	1	1.2	
Widowed	3	3.8	
Household Size			
Below 5	35	43.7	
5-9	39	48.8	
10 and above	6	7.5	5
Educational Level			
Primary	2	2.5	
Secondary	33	41.2	
Tertiary	45	56.3	
Year of experience (years)			
Below 5	14	17.6	
5-9	33	41.2	
10 and below	33	41.2	9
Farm Size (ha)			
1-2	75	93.7	
3 and above	5	6.3	2
Membership of organization			
Yes	55	68.8	
No	25	31.2	
Access to credit			
Yes	65	81.2	
No	15	18.8	
Stocking ratio			
Below 1000	2	2.5	
1000-5000	58	72.5	6,743
Above 5000	2	2.5	
Types of pond			
Earthen	27	33.7	
Concrete	37	46.3	
Others	16	20	
Access to labour			
Yes	64	80.0	
No	16	20.0	

Source of labour

Family	20	25.0
Friends	20	25.0
Hired	39	48.8

Contact with extension agents

Yes	43	53.7
No	37	46.3

Duration of visits

Daily	7	8.8
Weekly	13	16.2
Monthly	18	22.5

Fish culture

Monoculture	62	77.5
Polyculture	18	22.5

Source: Field survey, 2021

Table 2: Distribution of respondents by media preference.(n=80)

Media preferred	Frequency	Percentage
Radio	20	25.0
Television	18	22.5
Newspaper	15	18.7
Mobile phone	11	13.8
Computer	6	7.5
Internet	10	12.5
Access to functional television		
Yes	68	85.0
No	12	15.0
Fish farming related information from the television		
Yes	68	85.0
No	12	15.0
Relevance of obtained information from the television		
High	33	41.2
Moderate	39	48.8
Low	8	10.0
Access to functional radio		
Yes	72	90.0
No	8	10.0
Frequency of fish farming related information from the radio		
Always	36	45.0
Occasionally	30	37.5
Rarely	14	17.5
Relevance of obtained information from the radio		
High	31	38.7
Moderate	39	48.8
Low	10	12.5
Access to functional mobile phone		
Yes	53	66.2
No	27	33.8

Frequency of fish farming related information from the mobile phone

Always	20	25.0
Occasionally	30	37.5
Rarely	5	6.3

Relevance of obtained information from the mobile phone

High	19	23.8
Moderate	36	45.0
Low	25	31.2

Access to print media

Yes	40	50.0
No	40	50.0

Access to various types of print media

Pamphlet	6	7.50
Magazine	7	8.80
Newspaper	20	25.0
Posters	4	5.00
Handbills	4	5.00

Frequency of reading the print media

Always	26	32.5
Occasionally	12	15.0
Rarely	41	51.2

Media use type

Analogue	12	15.0
Digital	30	37.5
Both	38	47.5

Media use pattern index

High	42	52.5
Moderate	30	47.5
Low	8	10

Source: Field survey, 2021.

Table 3: Distribution of respondents by constraints militating against respondents media use for fish farming information (n=80)

Constraints	Frequency	Percentage
Irregular power supply	* 45	56.3
Inadequate airing time	46	57.5
Unavailability of media facilities	30	37.5
Technical knowhow	19	23.8
Language of broadcast	20	25
Poor network signal	40	50
Unfavourable time schedule	25	31.3
Low level of education	37	46.3

Source: Field survey, 2021

*Multiple responses

Table 4: Summary of Chi-square analysis of the relationship between respondents' socio-economic characteristics and media use pattern in fish farming

Characteristics	X2cal	Df	Decision
Sex	1.96	2	NS

Marital status	2.53	6	NS
Level of education	12.24	4	S
Cont. with ext. agents	6.89	2	S
Access to credit	1.45	2	NS
Membership of social org.	6.62	2	S

S- Significant

NS- Not significant

X²cal - Chi-square calculated

Df- Degree of freedom

At 0.05 level of significance

Table 5: Summary of the Correlation analysis of he relationship between respondents' socio-economic characteristics and media use pattern in fish farming

Characteristics	Correlation coefficient	Decision
Age	*0.446	S
Years of experience	0.386	S
Farm size	0.268	S
Stocking ratio	**0.182	S

Where *= correlation @ 5%

**= correlation @ 1%

S= significance

Table 6: Summary of the chi-square analysis of the relationship between types of media use and respondents' media use pattern in fish farming

Characteristics	Chi-square value	Df	Decision
Media use types	42.76	10	S

*= Significant at 5%

Df- Degree of freedom