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AN INVESTIGATION INTO THE INFORMATION SHARING STRATEGIES OF FISH FARMERS IN ADAMAWA STATE, NIGERIA

Yinasim, Pius Musa
Abdulrahman Ghaji Library Adamawa State University, Mubi

Abstract
Information sharing is one of the ways fish farmers adopt to have information that will be useful to them in boosting their activities. They also device ways to make it easy for sharing information among them, the activities of information sharing and sharing strategies help them in no small measure. The study investigated the Information Sharing Strategies of fish farmers in Adamawa State, Nigeria. The researchers used quantitative research methodology and survey design was adopted. The research instruments used was questionnaire. The population of the study was drawn from registered fish farmers with the Ministry of Environment in Adamawa State. (232) questionnaire was administered to them but only 216 of the retrieved questionnaires were found useful which was used to analyze this data. Descriptive analysis statistics was used to analyzed the data which the result shows that fish farmers in Adamawa State have sharing strategies among themselves. The findings of the study indicated that their information sharing strategies includes friends, neighbors, colleagues, community meetings, GSMs, festive gathering, religious gathering, associations, market gathering, workshops/seminars and conferences. Therefore, the researchers recommended that the Adamawa State government should make available more educators, extension workers, organize workshops, seminars and conferences since fish farmers indicated that they share ideas and information in such gathering to help boost their activities. Steady power supply should be provided to make powering of gadgets and devices like GSMs easier.
Keywords: *Information, Sharing, Strategies, Fish Farmers.*

Introduction

Fish farmers need to share information among them to improve in their fishing activities and increase performance just like any other venture. Information shared has a strong impact on group's outcome and activities; it is one of the basics in knowing what others opinions or ideas are in certain situations. When groups do not share information, their members have diverse differences in

opinions and their tasks lack efficiency, but when groups engage in information sharing, they are capable in performing excellently. The fish farmer needs to share information to be used to increase performances.

Information sharing is seen as voluntary act of making information available to whosoever desires it which includes providing information, confirming that the information has been received and that it is jointly understood and used. In a nutshell it is perceived as a controlled process through which a team member jointly shares and collectively utilizes their available information and resources.

An improved information flow within the fishery sector is key component in improving small scale fish production, increased market profit, provide job opportunities and alleviate poverty, thus improving rural and urban livelihoods. According to Otolo (2009), "there is a general consensus among experts in agricultural sector that information plays an important role in improving the agricultural production of any nation." Availability and adequacy of information shared will speed and ease the slow and long process of development in the fishery industry and facilitate knowledge to be shared between those that have it, those who have less or those who do not have at all. If sufficient information is available, it will contribute to all round development activity in the aquaculture, it will also help farmers improve their methods and produce more, high productivity leads to improved income, good consumption habits, increased economic development etc.

Generally, agriculture is an information intensive industry, the sector draws upon infinite sources of information and knowledge and a considerable body of research materials, it relies upon continuous flow of information from local, regional and around the world, (Rutger, 2000). The research investigated the strategies of sharing information among fish farmers in Adamawa State, since sharing of information and ideas boost their activities as confirmed by other findings of researches done elsewhere within and outside the country, there is need to investigate this too among fish farmers in Adamawa State in order to know the strategies they use in sharing information and ideas and the challenges they encounter in the strategies used in information sharing.

Statement of the Problem

Opportunities do exist in accelerating development in aquaculture, but the obvious constraints to improvement in fish farming revolve round lack of access to, and sharing of timely and relevant information which leads to in expertise, and as a result affect development in fisheries, and the expansion of the fish farmers'

occupation etc. Fish farming just like any other endeavor of life depends on information to succeed. Where information is available as a result of sharing, improvement, advancement and success is attained. For this reason, this research is to investigate how information sharing influences the fluent flow of activities among them and how it leads to achieving higher yield in their fishing activities.

Similar investigation was done elsewhere within and outside the country, therefore the researchers felt it will not be out of place to conduct a similar study on the Information Sharing Strategies of fish farmer in Adamawa State since no such study was done on that area as far as the researcher is concerned, and hope it will add to existing knowledge in that field.

Objective of the study

1. To investigate the information sharing strategies among fish farmers in Adamawa State

Review of Related Literature

Information Sharing

Information sharing is the process of exchanging ideas between some few groups of people or many. It also means the sharing of knowledge or idea. In sharing information or ideas, the one giving the information may give it for the sake of the receiver's use, while in exchanging information, ideas are shared by both parties which benefits both. Information sharing contributes to individual or group growth, its binds and makes teams stronger and their performance better.

Information sharing according to Mendes (2019), is the "exchange of information between parties that allows one party to access information collected or maintained by another party." He further stated that, 'Information sharing is the basis for people's cooperation, collaboration and collective action, which contribute to crowd sharing knowledge, originator, transparency, openness and effectiveness of information technology, human-computer interaction etc. (Savolaimen 2017). All the terms are forms of human communication. Information sharing and knowledge sharing are closely related and often used interchangeably, while the term information sharing is preferred in Library and information sciences in particular, knowledge sharing is preferred by other fields of disciplines e.g. management sciences unless deep analyses of the terms are being looked at.

On the other hand, according to Savolaimen (2017), information sharing is a "set of activities by which information is provided to others, either proactively or upon request, such that the information has an impact on another person's image of the world." Information cannot be complete without sharing, when information

is shared then it is used. The process of information sharing incorporates two aspects i.e. giving information to others and receiving information that has been provided by the information giver. It is an activity that brings people together, and is a two-way communication based on mutual exchange of ideas, opinions and information materials such as documents and other information with the purpose of serving a common need. It further creates a shared or mutually compatible working and understanding of the world.

Fari (2010), defines information sharing as "the exchange of ideas, perceptions, results, opinions and facts between two or more individuals, and this can be shared through the following pattern: one to one, one to many, many to many and many to one." Information sharing refers to the exchange of ideas, opinion, data or news received between one and many (Savolaimen, 2017).

When information is shared in whatever sector, success is achieved. Fish farming sector need to share information among them to be well informed of new development in their sector to attain success. This confirmed to Oyekinde, Olaoye, Bowde and Iyanda (2011), that "to improve fishing activities in Nigeria, fish farmers should be informed of the latest agricultural technology through the various information sources and channels…to analyze the do's and don'ts that affect them and therefore adopt them". It involves processes in which one strategy or many are used to achieve the purpose for which it was shared for ultimate development.

Information sharing is one of the basic activities that binds fish farmers together and helps in collective progress; it has strong impact on groups' outcomes. When groups engage in information sharing, they can integrate the shared knowledge into their activities and achieve excellent result.

Benefits of Information Sharing

There are a lot of benefits from information sharing and integration, it adds value and increase efficiency. Information sharing promotes innovation and competencies, the benefits of sharing information are in achieving a common purpose as it brings people of common interest together. Sharing stimulates new ideas to be created and promote more understanding between people who share the same goals. According to Xie (2016) "information sharing produces shared awareness among the participants". To produce a collaborative result lays on shared creation but a collective action creates shared responsibility because it integrates individual's idea into group's ideas. Information integration is considered as the most representative tool to change individual or groups.

Hans (2006), outline a number of reasons for information and knowledge sharing;

"enhancing productivity, easy and quick information, accessibility, promoting familiarization and strengthening relationship, enhancing the sharing of ideas, saving cost and time, improving efficiency, avoiding the duplication of efforts, increasing effectiveness and specialization," with the Han's outlines if all is incorporated in the fish farmers' activities, success will be achieved in their ventures.

Information Sharing Strategies of Fish Farmers

Strategies means ways, plans or devices which one use to achieve certain goals or objectives. Strategy is all about choice, the person involved plans an outline on how to go about achieving success in what they set out to achieve. Information sharing strategies in this context are ways or means used to share information among fish farmers as a group. A number of strategies exist in sharing information by fish farmers, Abraham (2009), identified several strategies used to share information by fish farmer such as the media, internet, institutions, social functions, town criers, etc.

In a related study, Adekoya, (2010), investigated information training needs and information sharing of small-holder fish farmers in Ogun State and the investigation revealed that, most of the respondents get and share information through extension agents, telephones (GSMs), friends and relations. In another related study of information sharing by fish farmers, Ugboma (2016), stated that, information is available and communicated through National Agricultural Extension and Research Liaison Services (NAERLS) and its information services, Resource Institutes and School of Agriculture in the Universities.

Similarly, Jonathan, Oluremi and Olaniyi (2016), Barguma, and Ndaghu (2014), in their studies both agreed that fish farmers get and share agricultural information through mobile phones, radios, professionals' colleagues, friends and neighbors, religious organization as well as the internet. Annune, Ezeani and Okafor, (2014), revealed in their study of information sources and utilization patterns of the artisanal fishery sector that, fish farmers' access and share information in two ways i.e. traditional and modern way, the traditional ways includes contact with colleagues, in market places and fishing festivals while modern ways includes radios, mobile phones, and use of newspapers.

Fish farmers need to share information to enhance agricultural management and development, for this reason, Nkwocha, Chukwueke (2009), investigated the impact of ICT on agricultural development in Oyo State and found out that ICTs promote access to, and sharing of information in agriculture and related fields. He stressed further that "when we say ICTs, we mean such

devices of sharing information and getting information like radios, televisions, computer/internet, global system of mobile telecommunication (GSMs) telephones, fax, etc." The study reveals that fish farmers use televisions, radios, GSMs in sharing information.

Chikaire, Ani, Godson-Ibeji (2015), examined the challenges faced by semi-urban fish farmers in the use of ICT in Imo State, it also brought into highlight the types of ICTs used in getting and sharing information which are radios, televisions, magazines, newspapers and telephones, the respondent's preference includes magazines and newspapers, which means the respondent are literate. In a similar vein, in Kwara State, Akangbe, Ajibola and Komolafe (2015), stated that, fish farmers' information sharing strategies is through the fish farmers' association, followed by neighbors and friends, then extension agents, by this result it shows that fish farmers in Kwara State have not yet fully embraced the use of ICTs in accessing and sharing the needed information like their counterparts in other states.

Bernard and Dulle (2015), investigated access to information by fish farmers and ways of sharing information in Tanzania, and the result indicated that, mobile phones were mostly used in accessing and sharing information, this could be due to the fact that mobile phone are easily accessible, available, cheap and facilitate a two way communication for fish farmers to seek for more clarification and get instant feedback. This corroborated Okello, (2014) and Barguma and Ndaghu, (2014), that ICTs tools have the benefit of offering cheaper way of communicating and sharing knowledge and information to fish farmers speedily unlike traditional agricultural dissemination methods. The methodology used was not indicated in the article, but sample were randomly selected.

Lakra and Ayyappan in 2003, as cited by Akangbe, Ajiboye and Komolafe, (2015), had noted that "increased application of advanced technological tools could certainly revolutionize fish farming," and this is surely becoming true based on the rate at which ICTs are being used to access and share information to the target audience to bridge the gap in knowledge by the fish farmers. As the introductory part of this study shows, fish farmers have different and preferred ways of getting and sharing information needs in order to enhance their productivity. The type of the medium whether traditional or modern medium does not matter to them as long as it will satisfy their needs. Fish farmers seems to know the importance of sharing the information they have to those that do not have so that ideas will be shared and opinions sought among themselves to enhance their fishing activities. Information sharing contributes better to increased productivity and effectiveness of fish farming systems to improve the

livelihood of small-holder farmers.

Newspapers, magazines, radios and televisions are generally the least expensive media for sending messages to large number of people; however, some kinds of knowledge and skills cannot be transfer through the media. Mass media are often used for one way communication, farmers information needs generally are access by the extension worker before planning mass media messages; this requires listening carefully to the farmer in order to integrate their felt needs, this way the extension worker use the mass media to inform policy makers and researchers about fish farmers' current situations, needs and problems, and the same mass media is used to get back to the fish farmers. They can also watch or listen to the news or read the news in groups too or exchange the printed materials. (Ban and Hawkins, 2002).

Group methods have an advantage over mass media because of better feedback which makes it possible to reduce some of the misunderstanding that may develop between the information provider and the fish farmer, this way there is greater interaction between fish farmers themselves, the interaction provides the opportunity to exchange beneficial or useful experiences in order to integrate it into their activities, this way they also exert information on group members' behavior and norms. Group methods is useful since is used for interaction between one to many people on specific area (Bryman, 2008).

This is a good method and a good way of supplying information require for solving a unique problem. It also enable fish farmers to integrate information from their colleagues e.g. causes of problems and research findings about possible solutions and other related news. Individual method is just like interpersonal communication and is the most effective because it helps in persuading individual to discuss freely with the other person and adopt the new idea shared. (Ogunremi 2013).

Audio-visuals e.g. radio, televisions, CD-ROMS, Video-Casettes etc. attract considerable attention when delivering lectures/talks because it captures the attention of the audience and it highlights the main point of the talk clearly, people remember messages perceived with several senses better than messages perceived with a single senses. The main purpose of using this method by the fish farmer is to find different ways of dissemination information easily among them to help them make informed decisions. (Abdullahi and Abubakar 2009).

The search for effective strategy for agricultural information and development according to Abdullahi and Abubakar (2009), "calls for adequate use and application of ICT especially the computers and the Internet." ICTs has contributed immeasurably in information access and sharing. According to

Awojobi and Adetunji (2015), "farmers use internet based tools such as the social media (SM) for discussion and sharing information, the knowledge acquired via (SM) interaction. On the other hand Onuoha and Opeke, (2010),P.3-4, stated that 'information can be shared at local level and used for service development, thus bridging the digital divide among the developed and developing countries of the world." ICTs have the potentials of bridging the gap between information and the fish farmer.

A study carried out by Oyekunle, Olaoye, Lawal and Ayanda (2019) on analysis of multimedia channels of fish farmers in Ogun State established that fish farmers have more access to extension workers through ICTs like radio sets, televisions sets, GSMs with which they used to communicate effectively. It is the fastest and easier way to channel information across all category of fish farmers their level of education notwithstanding.

The use of folk-media includes theater plays, songs, puppet shows, storytelling and others traditional forms of entertainment. It has effective way of arousing the motivation to listen and assimilate information than transferring knowledge to fish farmers about current information. The audience tends to have confidence in such messages because communication takes place in the form they are accustomed to, folk media compliment modern media and therefore the fish farmer use this strategy to pass information effectively.(Ban and Hawkins, 2002).

Other strategies used by the fish farmers in getting and sharing information include the extension worker. They contact the extension worker who acts as intermediary or link to agricultural development institutions such as Research Institutes, Universities, Colleges of Agriculture, Libraries and Information Centers. The extension worker according to Anaeto, el at (2012), P.180-185, "carries out the formulated agricultural extension policies, links the farmers with sources of farming inputs and credit facilities, also provides the timely information on new innovation and practices, meaningful agricultural development and provides educational services to farmers."

Information sharing as a process of exchanging information among individuals usually involves a system of symbols; it may take a wide variety of forms which includes…conversations, hand signals, symbols and message sent over the Global Communication Networks (Ogunremi, 2013). It is also a process in which the people create and share information with one another in order to take decisions and achieve positive aims and goals. The concept of the library and information is useful in ways which farmers are increasingly supported by knowledge and information because the library is the institution which engage or manage the generation, transformation, transmission, storage, retrieval, integration, diffusion and utilization of knowledge and information which works

systematically to improve knowledge among people in every discipline. This store house of information provides to researchers' information on previous researches from which literature reviews will revealed the gaps in the field concerning fish farmers upon which new research will be based.

Fish farmers use different sources in obtaining the knowledge and information they need to manage their farms. New knowledge is developed not only by research institutes, but by many different actors among which is the library or information centers. Information centers are naturally said to be propellers of growth in any nation; therefore, good information delivery entails efficient services to the members of the society such that good number of benefits goes to the target group or groups.

Most libraries are found within urban areas, while lack of information literacy abounds in the rural areas. Information literacy according to Aina (2011) is the "ability that allows a person to recognize when information is needed, source for the information that will meet the need, appreciate and utilize the information gathered".

If library structure cannot be erected in the rural area, the mobile library can come to rescue by taking information resources and services to the rural areas; the visit should be well time like during market days or religious days to target the desired audience, because information literacy according to Awojobi and Adetunji, (2015), is a "key factor for building a fully inclusive information society," further stressing that to be information literate it involves basic skills in" acquiring, managing and communicating information which is essential to familiarize people with new technologies and their use." Fish farmers' associations ensured that their people are information literate and have the basic skills to make them well informed and fully active in the information society and also help in equipping them with necessary skills to make informed decisions, this they achieve by demanding from the government for Libraries in their domains or mobile Library services.

Fish farmers create awareness among themselves by promoting services on how information needs can be access and shared e.g. through ICTs and other methods like bill boards, religious organizations, co-operative societies, farmers' unions meetings etc. This way, they increase the range of alternative sharing strategies available to them (Akangbe, Ajiboye and Komolafe, 2015).

Present a section on methodology to show research design, population of the study, sample and sampling procedure, method of data collection and analysis.

Data Presentation and Analysis

The result of the research is presented here in form of tables and charts to aid understanding.

Table1: Information Sharing Strategies of the Respondents

Do you have any strategies for sharing information?	**Frequency**	**Percentage**
Yes	216	100%
No	0	0%
If yes, what are the strategies you use in sharing information?		
Friends	146	67.60%
Neighbors	98	45.37%
Colleagues	109	50.46%
GSMs	150	69.44%
Community meetings	81	37.5%
Festive gathering	70	32.40%
Religious gathering	89	41.20%
Associations	107	59.53%
Market gathering	81	37.5%
Workshops/Seminars/Conferences	110	50.92%

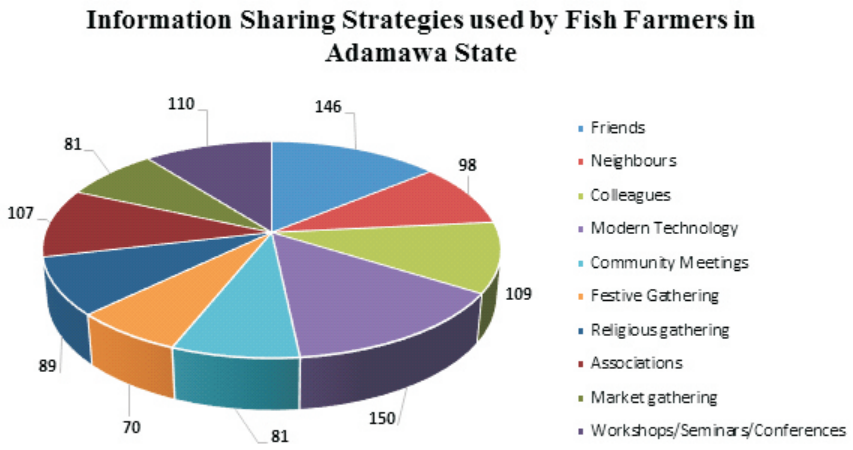


Figure 1: Information Sharing Strategies of the Respondents

Fish farmers share a lot of information among themselves based on the answers they gave when they were asked if they share information within themselves. 215 responded in the positive (99.53%) and 1 respondent in the negative (0.47%0). When they were asked to indicate the strategies they use in

sharing information, their responses are as follows as shown in table 4.8. A frequency of 150 and 146 (69.44% and 67.60%) indicated GSMs and friends as among the strategies of sharing information, they were further asked to indicate how they share information110, 109 and 107 respondents, (50.92%), (50.46%) and (49.53%) indicated workshops/seminars/conferences, colleagues and associations as strategies use. 98 respondents (45.37%) indicated neighbors, 89 respondents (41.20%) indicated religious gathering, A frequency of 81 and 81 (37.5%) and (37.5%) indicated using an avenue of community meetings and market gathering as strategies in sharing information. 70 respondents (32.40%) also indicated festive periods as occasion to share information.

Conclusion

The research concluded that fish farmers share information to boost their productivity. They have many strategies through which they share information among them. These includes GSMs, friends, colleagues, workshops, seminars and conferences. Information is easily shared though GSMS being the fastest way to pass information. Meeting with friends and attending conferences makes information to be shared across one another because it is an avenue to engage in deep conversation and exchange ideas that may be helpful to them. At the workshops and seminars, they have the chance to ask presenters and resource persons' questions and get on the spot answers, they interact among themselves and benefits from individual experiences.

Recommendations

1. Government should be organizing seminars, workshops for fish farmers in the state to enable them come together since that's the only official avenue for them to interact among themselves with educators or speakers. This avenue also provides them or avail them opportunity to ask questions and get on the spot answers and learn a lot on new innovations and technology.
2. Government should provide uninterrupted power supply in the state. Electricity plays a major role in fish farmer's activities. Most of the fish farmers indicated using GSMs, TVs and radios in getting and sharing information, they therefore need electricity to power their appliances and devices and also needs power supply to preserve their products.

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