

## Information Management Behaviour of Traditional Fish Farmers in Assam

Biswarup Saha<sup>1</sup> and Rajita Devi<sup>2</sup>

1. Asstt. Prof., 2. M.F.Sc Scholar, Department of Fisheries Ext., College of Fisheries (CAU), Lembucherra, Tripura  
Corresponding author e-mail: biswarup.ext@gmail.com

### ABSTRACT

*The present study was undertaken to analyse the information management behaviour of the traditional fish farmers in Assam. An ex-post-facto research design was followed for the study conducted in the purposively selected Nagaon district of Assam. A total of 80 traditional fish farmers from each of the eight selected villages of the four blocks from Nagaon district of Central Assam were taken as sample. The Information Management Behaviour of the traditional fish farmers was operationalised as the process of identifying and collection of information on fisheries technologies of origin, evaluating, storing, updating and retrieving it whenever necessary. The responses were obtained by administering the pre-tested interview schedule. Majority of the respondents belonged to medium category of (71%) information management behaviour, followed by low (15 %) and high (13 %) categories. Majority of the respondents used personal contacts for seeking information on different aspect of fisheries. Friends and neighbours, progressive farmers and input suppliers were the major source of information. More than two third of the respondents had medium information evaluation behaviour. Around 93.75 per cent of the respondents had the habit of evaluation of the information on the basis of economic consideration followed by discussion with neighbours/ friends/ fellow farmers.*

**Key words:** Information management; Information seeking; Information evaluation; Information preservation;

Popularly called as the land of the red river and blue hills, Assam is the gateway to the northeastern part of India. This is one of the richest state in the country with surface water resources with about 3.91 lakh hectare of water area in the form of rivers, beel, derelict water bodies and ponds and tanks. Besides swamps and low-lying areas, two major rivers and their tributaries have a high growth potential for fish farming/ fishing and could play a pivotal role in the socio-economic development and employment generation in the State. Considering the fact that Assam gets a lot of rainfall and that fish is an integral part of the diet of the people of Assam, the state produces just about 5.7% of the total freshwater fish production in India. The State Fishery Sector has made consistent growth during the 11th Plan period registering an average growth of 6.4% in fish production. Fish production in the State has reached the level of 232 million kg in 2010-11 compared to 219 million kg in 2009-10. Although the scope for

utilization of the potential water spread area for profitable economic activity in terms of fish farming/fishing is very high, yet at present scientific fish farming/fishing is carried out in only 5 percent (3.91 lakh hectare) of the total water resource area (NEDFi data bank, 2012). Therefore, traditional fish farming and fishing has been widely practiced in the fisheries sector in the state.

Indian Scientists during the last three decades have made sustained research efforts which resulted in the development of modern high yielding production technologies. These technologies have revolutionised the fish production in the country. However, due to imbalance in the technology development and its application created a wide gap between what could be achieved and what is being achieved on the farms. A big gap exists between the available technologies and their rapid transfer to the farmer. There is information explosion around the globe and our farmers have to keep pace with those developments. Information is viewed

as a resource like land, labour and capital. The information explosion in modern technologies has created a unique situation, making the recipients unable to understand and cope up with the vast amount of information. There is a gap between those who use ideas and those who produce them. A good technique of information management will certainly reduce this gap, if not eliminate it. The importance of what happens prior to the beginning of a technology's diffusion particularly from the client system has been important. The technical nature of fish farming requires that the knowledge of practitioners is constantly updated and this can be achieved through their enhanced information seeking, evaluation and preservation behavior. The information management behaviour has been conceptualized as a composite measure of information seeking, evaluation and preservation behaviour of the individual farmer. Thus, the aim of the present paper is to study the information management behaviour of the traditional fish farmers in study areas.

## METHODOLOGY

The study was conducted in the Nagoan district of Assam in the year 2012-2013. The district stood highest in fish production and fishery resources among all the districts. Nagaon district produces around 22599 Tonne of fish in a year which is about 10% of the total production in the state. The district has maximum numbers of ponds (44084nos.) and beel (9919 ha) among all the districts in the state. Out of the 18 blocks in the district of Assam four blocks were selected with the help of purposive sampling method based on traditional fish farmers' populations. The selected blocks were Batadrawa, Kaliabar, Rupahi and Binakanti. Further, two villages from each block were selected purposively based on the population of traditional fish farmers. From each village 10 fish farmers who have the experience of around 10 years were selected through Snow ball sampling technique. Thus a total of 80 fish farmers were selected. In the context of the present paper, the information management behaviour (IMB) was operationally defined as the activities performed by an individual farmer for seeking, evaluation and preservation of (scientific) information with regard to the improved cultivation practices of fish production. There are three dimension of information management behaviour (IMB) as stated below

*Information seeking behaviour* : The Information seeking behaviour refers to the activities performed by an individual farmer in relation to acquisition of scientific information with regards to the improved cultivation practices of fish from various information sources. The procedure suggested by *Bhople (1995)* and followed by *Jyothi (2000)* with little modification was followed for measuring information seeking behaviour of respondents. Based on the available literature, discussion with extension functionaries all possible farm information sources were exhaustively listed under different heading namely individual contact, group contact and mass media sources. Frequency of contact of different information sources was measured on a three point continuum of 'regular', 'occasional' and 'never' with a scoring of 2,1 and 0 respectively.

*Information evaluation behavior*: After receiving farm information from various sources the farmers may evaluate its worthiness in the light of their past experience as well as applicability and appropriateness to their existing situation. Information evaluation behavior was measured in terms of 11 different acts likely to be performed by the individual for the evaluation of the information and consequent acceptance of farm information. Each act performed by an individual was assigned a numerical score. Thus the theoretical information evaluation score of an individual ranges between 0 to 11.

*Information storage / preservation behaviour*: After evaluation of the scientific farm information by the individual farmers, he may lead to its storage/preservation for future use. The information preservation behaviour of the farmers has been operationally defined as the activities performed by an individual farmer for storage/preservation of the received practices of carp production for future reference. Thus, the theoretical information preservation score of an individual ranges between 0 to 6. The scores of all the items were summed up to obtain the information preservation behaviour index of an individual respondent. This was quantified by using the scale developed by *Bhople (1995)*.

The information management behaviour of the respondent was the sum of the entire three dimension viz, information seeking, evaluation and preservation behaviour as given below.

*Information Management Behaviour* = Information Seeking Behaviour + Information Evaluation Behaviour + Information Preservation Behaviour

**RESULTS AND DISCUSSION**

Distribution of respondents according to their information management behavior has been depicted in Table 1. A glance at the Table brings to the focus that around 71 per cent of the respondents were observed to have medium level of information management behaviour as a whole, followed by 15 percent and 13.75 percent in low and high level of information management behaviour categories, respectively.

**Table 1. Distribution of the respondents as per information management behaviour category**

Information evaluation behaviour	No.	%
Low	12	15.0
Medium	57	71.25
High	11	13.75
Total	80	100

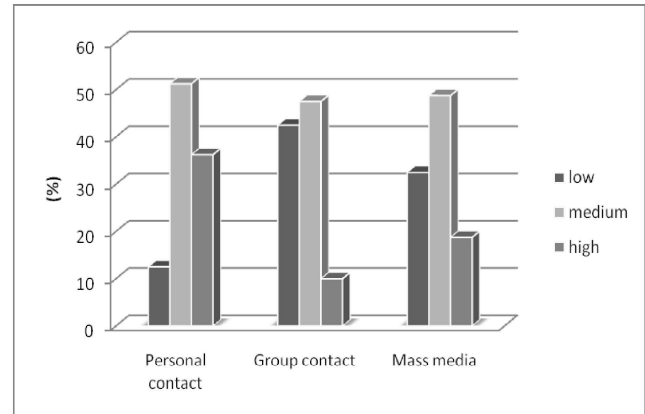
*Information seeking behaviour of respondents:* Distribution of respondents based on information seeking behaviour is furnished in Table.2. It is seen from the table that majority of respondents (65 %) belonged to the medium level of information seeking behaviour. Around one fifth of the respondents (21.25%) were in high information seeking behaviour category, while the percentage of the respondents in the low category was a meager (13.75%).

**Table 2. Distribution of respondents based on information seeking behavior**

Information evaluation behaviour	No.	%
Low	11	13.75
Medium	52	65.00
High	17	21.25
Total	80	100

*Information seeking pattern:* The respondents were distributed as per information seeking behavioural category and depicted in Figure 1. Generally the information is communicated through personal contact, group contact and mass media method. The figure reflects that more than 36.25 per cent of the respondents were having high level of contact and discussion with neighbours, friends, opinion leaders in relation to fish production practices. On the other hand, around half of the total respondents' households were having moderate personal contact with neighbour, friends, opinion leader, fisheries assistant etc. Either through deliberate discussion, meeting and informal conversations, fish

farmers exchanged and shared information concerning fish production and marketing with these sources, who are highly localite and personal in nature. Hence, they frequently seek information from the above sources. Another reason may be high credibility attached to this source.



**Figure 1: Distribution of respondents as per information seeking behavioural category**

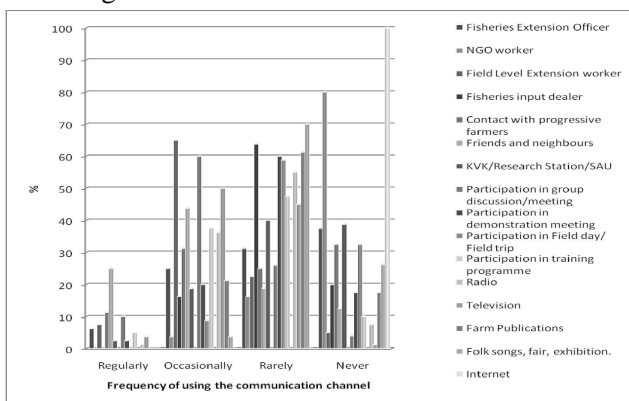
Only 18.75 per cent of the respondents' household had regular contact with extension personnel such as FA, FO, SMS, other extension official which suggest that extension system still did not reach the needy farmers. About 56.25 per cent of the respondents' households had occasional contact and 25 per cent respondents reported no contact with the extension personnel. The extension service is one of the main avenues for providing information to farmers regarding the opportunities for increased fish production through the diffusion of improved practices, but it suffers from some systemic weaknesses in the study area.

In case of group contact method, the extent of use was a bit lower compared to mass media and personal contact. Majority of respondents (47.05 %) had medium exposure to group contact method. Only 10 per cent of the sampled traditional fish farmers highly used the information sources like group discussion, meeting, field day, field trip and training.

During the investigation, it was observed that mass media sources such as radio, television, agricultural magazines and newspapers were consulted only when the farmers know that these sources covers needful information. Different mass media sources can help a great deal in bringing mass awareness of the facts or events related to various activities. Various development messages delivered through these channels stimulate

the people and keep them in a state of cognitive imbalance. In the study area, majority of the respondents households i.e.; 48.75 per cent had medium level of mass media exposure. Only, 18.75 per cent respondents were having high level of mass media exposure. Local channel cover frequent programme on fisheries through cable network.

A perusal of Figure 2 reveals that majority of the respondents used personal contacts for seeking information on improved cultivation practices of fish production. Friends, neighbours, and progressive farmers were regularly consulted by the respondents (25.00%, 11.30% and respectively). Whereas, 43.75 per cent respondents experienced occasional contact with friends and neighbours in connection with fish production practices. The respondents also sought the required information by participating in group discussion and meetings (10.00%), participation in result demonstration meeting with fellow farmers (2.5%) and training programme (5%) regularly. Around 53.75 per cent of the respondents were using television as a source of fisheries information occasionally to regularly. Around 36 per cent and 21 per cent of the respondents used radio and farm publication occasionally as a source of information. Further it was found that around two third of the respondents rarely exposed to folk songs, fair, exhibition as a source of information (70.00%). As regards to the regular use of other sources such as personal letter, office call, field day, contact with university scientists, NGO workers, input dealers were found to be relatively meager. None of the respondents used the internet sources due to lack of knowledge, non availability of services in remote area and difficulty in accessing the internet.



**Figure 2: Utilisation of information sources by the traditional fish farmers**

*Information evaluation behavior:* The information evaluation behavior of sampled fish farmers have been presented in Table 3. It is very interesting to note from the Table 3 that none of the respondents accepted the information as such, whereas, they were found to perform different acts to evaluate the information before practicing with varying degree. More than two third of the respondents had medium information evaluation behaviour as against 17.5 per cent had high information evaluation behaviour.

**Table 3: Distribution of respondents based on information evaluation behavior**

Information evaluation behaviour	No.	%
Low	14	17.5
Medium	58	72.5
High	8	10
Total	80	100

Further, a critical look at Table 4 reveals that 96.25 per cent of the respondents had the habit of evaluation of the information on the basis of economic consideration followed by discussion with neighbours/ friends/ fellow farmers. Around 90 per cent of the respondents used their past experience in evaluating the information. The possible reason may be the farmers had realized the importance of 'economic feasibility' of information or technology. Since the majority of the farmers belong to 'medium income' category, they are more concerned with 'economic feasibility'. Around 75-81 per cent of the respondents were reportedly evaluating the effectiveness of information through discussion with family members and progressive farmers. The possible reason could be any information/technology the farmers adopt will directly or indirectly affect the family members and social system. Therefore majority of the farmers discuss with their family members, friends/neighbours and progressive farmers when required because these sources are perceived as credible and easily accessible by them. Other methods of information evaluation followed by sizeable proportion of respondents were 'small scale trial' (56.25%) and 'Discussion with extension personnel' (26.25%).

It was observed that methods like discussion with scientists of the university as well as private extension personnel including input dealers were relatively employed by less number of respondents in evaluating the effectiveness of any information. This may be due to the fact that they did not visit the farmers' field regularly and farmers did not consult them for getting information.

**Table 4: Distribution of respondents according to various methods/ acts used for information evaluation (N=80)**

Act of information storage behaviour	%	Rank
Discussion with neighbours/ friends/ fellow farmers	96.25	I
In the light of past experience	90.00	II
Discussion with progressive farmers	81.25	III
Discussion with family members	75.00	IV
Considering with small scale trial	56.25	V
Discussion with the extension personnel of the Deptt. of fisheries/Agri.	26.25	VI
Considering with small scale trial	25.00	VII
Judge it in relation to climatic condition	13.75	VIII
Discussion with the scientist	08.75	IX
Discussion with private ext.personal	05.00	X.
Accepted as such	00.00	-

*Information storage behaviour:* After the information is sought and evaluated one is likely to preserve it for its future use or reference. An attempt was made to find out the, various methods of information storage/preservation. Data collected in this behalf has been presented in Table 5. It is evident from the Table that 93.75 per cent the respondents followed the method ‘memorization’ for storage of farm information followed by asking family members to remember (81.25%). However, comparatively smaller number of sampled respondents preserved printed literature like leaflets, bulletins etc. (30%) and ‘taking down in a note book/diary’ (18.75%) and none of the respondents preserved the information in CD and floppy. Therefore, it can be inferred from the study that the majority of farmers did not have the systematic technique of information storage and that may be the reason of distortion of information. This finding is in conformity with the findings of *Saha et al. (2011)*.

**Table 5: Distribution of respondents according to various methods/ acts for preservation/ storage of information**

Act of Information Storage Behaviour	%	Rank
Memorizing	93.75	I
Telling family members to remember	81.25	II
Preserve the printed literature	30	III
Taking down in a note book/diary	18.75	IV
Preserved in floppy, CD etc.	0	-

*Relationship among personnel, socio-economic and physiological characteristics of the fish farmers and their information management behavior:* A close observation of results from Table 6 reveals that a positive

**Table 6: Relationship between information management behaviour with independent variables**

Variables	Correlation coefficient ( r )
Age	0.129
Education	0.341**
Pond size	0.145
Farming experience	0.132
Fish yield obtained	0.355**
Annual income	0.595**
Self confidence	0.287*
Risk orientation	0.262*
Personal localite	0.117
Extension contact	0.485*
Mass media exposure	0.412**

\* Significant at 5 % level

\*\* Significant at 1 % level

and highly significant relationship was found between information management behavior of fish farmers with their education, fish yield, family income, self confidence, risk orientation, extension participation, mass media exposure. The finding revealed that education of the farmers had highly significant relationship with the information management behavior, because of this farmers who were educated had an opportunity to access to the print media and were more likely to be receptive to new ideas and have trained their mental fitness to remember better. Further, it is also likely that they have frequent contacts with the extension personnel, there by acquiring more information. The family income of the farmers was found to be positive and highly significant relationship with the information management behaviour. Moreover, annual income of the farmers are also contributing factors for acquisition, evaluation, preservation of needed information by them because of their potentiality for sustenance and spending for these activities.

The psychological characteristics such as self confidence and risk orientation have also showed a positive and highly significant relationship with the information management behaviour. Positive correlation of self confidence of fish farmers with information management behaviour is quite logical because feeling of one’s own ability and resourcefulness in carrying out any activity which an individual desired to undertake tend to introduce novelties/ something new over the established. They therefore, are always in pursuit of latest information for which they tap all the possible

source and channels for seeking information, evaluation and storage so as to utilize it subsequently. The respondents in the study area having oriented towards risk for maximization of profit might be disposed towards managing information i.e. seeking, evaluating and preserving for obtaining maximum yield of fish, thereby, fetching net profit to the higher extent. These may be the plausible reasons for significant correlation between risk orientation of respondents and their information management behaviour.

## CONCLUSION

Fish farmers in the study area exchange and share information concerning fish production and marketing with personal localite sources through deliberate discussion, meeting and informal conversations, who are highly localite and personal in nature. Another reason may be high credibility attached to this source. Thus, there is a need of employing “interactive communication strategy” rather than ‘dyadic strategy’ because interactive communication strategies facilitate active participation by the farmers and the interaction between farmers and the most competent source of information. The access of fish farmers to the most competent source of information, such as contact with extension personnel

and Scientists of University was found to be relatively low. This could be enhanced by developing a regular programme of interaction between the farmers and the aforesaid most competent sources of information, so that the farmers may be kept abreast with the latest developments in the field of fisheries.

Fish Famers in the study area mostly relied on memorization for storing the needed information, which is not desirable to store the technical information for longer time. This tends to imply that the farmers might not have an access to the relevant literature which is available with the extension personnel of state Department of Fisheries and University. Since the printed words are more authentic and credible, and can be preserved safely for longer time, efforts could be made by the extension functionaries to prepare and extend the needed information on fisheries in a very simple and informative way written in a local language to the farmers, so that they may preserve the same and use the information in future. Distribution of literature needs to be a normal feature rather than rare event.

*Paper received on* : August 20, 2013

*Accepted on* : October 23, 2013

## REFERENCES

- Bhople, P. P., Shinde and Bhople, S. R. (1995). Pattern of Information Management by Orange Growers. *Maharashtra J of Ext. Edu.*, **17**: 184-187.
- Jyothi, V.(2000). Information sources consultancy as an approach to crisis management by tomato growers. M.Sc. (Agri.) Thesis, University of Agricultural Sciences, Bangalore.
- NEDFi Databank, (2012).databank.nedfi.com/content/assam, retrived on 21.04.12
- Saha, B., Pandey, D.K. and Singh, N.N.(2011).. Information Management Behaviour of Fish farmers in Tripura. *J. of Communication Studies*, **XXIX** : 20-28.

