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Information Sources Utilized and Their Degree of Credibility as Perceived by the Fish Farmers in Manipur

Sajina[1*], Y. J. Singh[1] and P. K. Maurya[2]

[1]Department of Extension, College of Fisheries, Central Agricultural University (Imphal), Lembucherra, Tripura- 799210, India.
[2]National Bureau of Fish Genetic Resources, Lucknow-226002, India.

Authors' contributions

This work was carried out in collaboration among all authors. Author YJS designed the study. Author Sajina performed the statistical analysis, wrote the first draft and managed the analysis. Author PKM managed the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

The study was undertaken to analyze the information sources utilized and their degree of credibility as perceived by the fish farmers in three districts of Manipur *viz*., Imphal East, Imphal West and Thoubal. These districts were purposively selected following an ex-post-facto research based on the prevalence of fish farmers. A sample of 60 fish farmers were selected randomly from the districts; twenty (20) from each district. A structured interview schedule was used to collect the information through personal interview. Information sources were categorized broadly into three scores: 3-Regularly', '2-Occasionally', '1-Rarely' and their credibility as 3-Highly Credible; 2-Moderately Credible; 1-Least Credible. The study revealed that among all the personal contact methods, majority of the respondents sought information from friends and neighbours, followed by contact with progressive fish farmers & opinion leaders, and contact with line departments with mean scores of 2.46, 2.32 and 1.67 respectively. Among the group contact methods, group discussion & meeting was the most frequently used information source by the fish farmers with

**Corresponding author: E-mail: sajinasingamayum2017@gmail.com;*

mean score 2.74 followed by discussion with fish farmers and training programmes with mean scores of 2.54 and 1.77 respectively. Among the mass contact methods, radio was the most frequently used source of information with 2.88 mean score followed by newspaper and television with mean scores of 2.21 and 1.97 respectively. Friends and neighbours, contact with progressive fish farmers & opinion leaders and personal contact with faculty/ scientist were perceived as the most credible sources of information among all the personal contact methods with 2.98, 2.38 and 2.34 mean scores respectively. Among the group contact methods, group discussion & meeting was perceived as the most credible information source by the fish farmers with 2.76 mean score. Discussion with fish farmers served as the second most frequently used source with 2.53 mean score followed by training programmes with mean score 1.77. Among the mass contact methods, radio was the most frequently used with 2.84 mean score followed by television and internet with mean scores of 2.39 and 2.19 respectively.

Keywords: Information sources; credibility; fish farmers; Manipur.

1. INTRODUCTION

Manipur is a north eastern hilly state of India with Imphal as its capital city. It is bounded by Nagaland to the north, Mizoram to the south, Burma (Myanmar) to the east and Assam to the west. The state lies at latitude of 23°83' N to 25°68' N and longitude of 93°03' E to 94°78' E. The state comprises of 16 districts viz., Imphal East, Imphal West,Thoubal, Bishnupur, Churachandpur, Chandel, Senapati, Ukhrul, Kamjong, Tengnoupal, Pherzawl, Noney, Tamenglong, Kangpokpi, Jiribam and Kakching. The state is blessed with a total water area of 56,461.04 ha. But at present, only 22,000 ha are used for fish farming. The state achieved a total fish production of 32,673 metric tonnes in 2017-18 [1]. The fisheries in the state is facilitated by a network of institutes comprising of the Department of Fisheries, Government of Manipur and its units at different districts of the state; the Indian Council of Agricultural Research Complex for NEH Region, Manipur Centre; the Krishi Vigyan Kendras (KVKs); Fish Farmers Development Agencies (FFDAs); Self Help Groups (SHGs) and Non Governmental Organizations (NGOs); fish farmers and entrepreneurs [2].

Fish is one of the most important daily diets of its population and plays an important role for improvement of the socio economic condition of the rural people living below the poverty line. The annual requirement of fish for the people of the state is estimated to be 42,000 MT for internal consumption whereas the present production is about 32,673 MT only by the end of the December 2017 leaving a gap of about 10,000 MT between demand and supply. On the basis of national level of production, Manipur has a production potential of about 55,000 MT of fish per annum, if harnessed the vast untapped fisheries resources through judicious exploitation and application of modern scientific fish culture techniques [1]. Proper convergence among different fisheries institutes and farmers is very important for effective dissemination of relevant farm information.

Goud defines Information as the aggregation of the processing of data to provide meaningful knowledge for its recipients/ end users [3]. Bachhav opined that timely and relevant information on weather trend, best farming practices and market can help to improve the decision making capability of farmers [4]. According to Das, Agricultural knowledge and related information is the basic criterion for increased productivity and development in India as majority of the population is involved in agriculture [5]. However, the information sources must be reliable, credible and user-friendly. Meena states that selection of appropriate sources of technical information as the basic requirement for having good performance of extension service. An effective and credible source of information motivates farmers to adopt the recommended package suited to his/her local farm situation. If right source is not available to fish farmers, there will be poor acceptance of agricultural technology [6]. According to Meena et al. the technology dissemination system must be escalated to organize campaigns, field days, demonstrations, exhibitions, *kisangosthi, kisanmela*, discussions with farmers, *etc*., so that farmers could acquire latest knowledge which will lead to reduction in adoption gap [7].

According to Dhayal et al. credibility is the perceived trustworthiness and expertise accorded to a source or channel by its audience at any given time. He defines Credibility of a

particular agricultural information channel as the degree to which a source or channel is perceived as trustworthy and competent by the receiver. Thus, credibility of information sources and channels affect the adoption of improved agricultural and allied practices by farmers [8].

1.1 Objectives

The present study was made with the following objectives:

I. To prioritise the sources of information utilized by the fish farmers of the three districts of Manipur *viz.,* Imphal East, Imphal West &Thoubal.
II. To help in better understanding of the sources of information accessible to the fish farmers.
III. To better understand the trustworthiness and reliability of those sources to the fish farmers.
IV. To help select the information sources best suitable for any extension related programs/activities for the fish farmers and thereby helping to effectively guide them.

2. METHODOLOGY

The study was conducted in three districts of Manipur viz., Imphal East, Imphal West and Thoubal of Manipur in the year 2018- 2019. Based on the prevalence of fish farmers, an ex-post- facto research was followed and the districts were purposively selected. A sample of 60 fish farmers were selected randomly from these three districts; twenty (20) from each district. A structured interview schedule was used to collect the information through personal interview. In this context, a study was conducted with the specific objectives to find out the information sources used by farmers and to find out the credibility of information sources as perceived by them. Collected data were tabulated, analyzed and interpreted in the light of the objectives set for the study.

In the present study, information sources and their credibility utilized by the fish farmers were categorized broadly into three categories *viz.,* personal contact, group contact and mass contact. Responses of the farmers were taken on three point continuum as per their accessibility. 'Regularly', 'Occasionally' and 'Rarely' with a scoring of 3, 2 and 1 respectively for information sources. Highly Credible; Moderately Credible; Least Credible with a scoring of 3, 2 and 1 respectively for credibility of information sources.

2.1 Analytical Tools

2.1.1 Frequency and percentage

While the frequency (or absolute frequency) of an event is the number of times the event occurred in an experiment or study, percentage is a fraction expressed with 100 as its denominator. It was used to any set of data for comparison.

2.1.2 Weighted mean

A weighted mean or average is an average where each value has a specific weight or frequency to it. It is worked out by using the following formula.

$$\bar{x} = \frac{\sum_{i=1}^{n} (x_i * w_i)}{\sum_{i=1}^{n} w_i}$$

Where,

Weighted mean= $\Sigma w_i x_i / \Sigma w_i$
Σ = total sum
x_i= average score value of i^{th}respondent
w_i = the weight of i^{th}category of response

2.1.3 Ranking

Ranking, as an expression of respondents' assigned priority about their feeling against a set of structured questions/statements, was utilized in the present study for classifying the responses in order of perceived importance and also for preparing an order of the observed data derived from the study.

3. RESULTS AND DISCUSSION

In the present study, the results can be discussed under the following heads:

i) Information sources utilized by fish farmers.
ii) Degree of credibility of information sources utilized by fish farmers.

3.1 Information Sources Utilized by Fish Farmers

The frequency of information source utilized by the fish farmers are presented in Table 1. Which

reveals that friends and neighbours followed by contact with progressive fish farmers and opinion leaders were the most frequently used information sources among all the personal contact methods with 2.46 and 2.32 mean scores respectively. Contact with line departments, personal contact with faculty/ scientist stood III and IV rank with mean scores 1.67 and 1.54 respectively. Office call and KVKs (V, 1.32), personal letter (VI, 1.14), personnel of NGOs & cooperative societies (VII, 1.12) and bank personnel (VIII, 1.04) were the least frequently used sources of information by the fish farmers. The line departments have vast practical experiences and act as reliable sources for acquiring farm information. The localities sources like friends and neighbours are more easily accessible and available to attain farm related information timely.

Among the group contact methods, group discussion and meeting was the most frequently used information source by the fish farmers with 2.74 mean score. This may be due to their participatory approaches which enable fish farmers to acquire basic skills and knowledge on different aspects of fisheries. Discussion with fish farmers served as the second most frequently used sources with 2.54 mean score which may be due to their ease in making personal contacts as and when required by them. Training programmes (III, 1.77), followed by field day (IV, 1.28) and field trip (V, 1.23) were the least frequently used sources of information.

Among the mass contact methods, Radio was the most frequently used source of information with 2.88 mean score followed by newspaper and television with mean scores of 2.21 and 1.97

Table 1. Information sources utilized by the fish farmers (n=60)

Sl. no.	Information sources	Regularly		Occasionally		Never		Weighted Mean	Rank
		F	P	F	P	F	P		
	A. Personal contact								
1.	Personal Letter	-	-	8	13.33	52	86.67	1.14	VI
2.	Office Call	4	6.67	11	18.33	45	75	1.32	V
3.	Contact With Progressive Fish Farmers& opinion leaders	20	33.33	39	65	1	1.67	2.32	II
4.	Friends and Neighbours	30	50	28	46.67	2	3.33	2.46	I
5.	Personal contact with faculty/scientist	-	-	32	53.33	28	46.67	1.54	IV
6.	Krishi Vigyan Kendra(KVK)	-	-	3	5	57	95	1.54	IV
7.	Personnel of NGOs & Cooperative societies	1	1.67	5	8.33	54	90	1.12	VII
8.	Line Departments	2	3.33	36	60	22	36.67	1.67	III
9.	Bank personnel	-	-	2	3.33	58	96.67	1.04	VIII
	B. Group contact								
1.	Group Discussion & Meeting	46	76.67	13	21.67	1	1.67	2.74	I
2.	Training Programmes	4	6.67	38	63.33	18	30	1.77	III
3.	Discussion with farmers	34	56.67	25	41.67	1	1.67	2.54	II
4.	Field day	2	3.33	13	21.67	45	75	1.28	IV
5.	Field trip	1	1.66	3	5	56	93.33	1.23	V
	C. Mass Media								
1.	Radio	53	88.33	7	11.67	-	-	2.88	I
2.	Television	25	41.67	20	33.33	3	5	1.97	III
3.	Newspaper	20	33.33	33	55	7	11.67	2.21	II
4.	Farm magazine	5	8.33	9	15	46	76.67	1.32	VI
5.	Research papers	-	-	1	1.67	59	98.33	1.01	VII
6.	Agricultural fair/Exhibition	4	6.67	49	81.67	7	11.67	1.94	IV
7.	Internet	8	13.33	24	40	28	46.67	1.67	V
8.	Others								

**F-Frequency, P-Percentage*

Table 2. Degree of credibility of information sources utilized by the fish farmers (n=60)

Sl. no.	Degree of credibility	HC		MC		LC		Weighted Mean	Rank
		F	P	F	P	F	P		
	A. Personal contact								
1.	Personal Letter	-	-	31	51.67	29	48.33	0.58	VIII
2.	Office Call	-	-	8	13.33	52	86.67	1.04	VII
3.	Contact With Progressive Fish Farmers and opinion leaders	26	43.33	31	51.67	3	5	2.38	II
4.	Friends and Neighbours	29	48.33	34	56.67	24	40	2.98	I
5.	Personal contact with faculty/scientist	22	36.67	37	61.67	1	1.67	2.34	III
6.	Krishi Vigyan Kendra(KVK)	-	-	2	3.33	58	96.67	1.14	V
7.	Personnel of NGOs & Cooperative societies	1	1.67	5	8.33	54	90	1.12	VI
8	Line Departments	5	8.33	8	13.33	47	78.33	1.3	IV
9.	Bank personnel	-	-	2	3.33	58	96.67	1.04	VII
	B. Group contact								
1.	Group Discussion and Meeting	47	78.33	12	20	1	1.67	2.76	I
2.	Training Programmes	4	6.67	38	63.67	18	30	1.77	III
3.	Discussion with farmers	32	53.33	28	46.67	-	-	2.53	II
4.	Field day	1	1.67	13	21.67	46	76.67	1.25	IV
5.	Field trip	1	1.67	3	5	56	93.33	1.08	V
	C. Mass Media								
1.	Radio	52	86.67	7	11.67	1	1.67	2.84	I
2.	Television	26	43.33	32	53.33	2	3.33	2.39	II
3.	Newspaper	4	6.67	49	81.67	7	11.67	1.94	IV
4.	Farm magazine	6	10	8	13.33	46	76.67	1.33	VI
5.	Research papers	-	-	1	1.67	59	98.33	1.01	VII
6.	Agricultural fair/Exhibition	7	11.67	23	38.33	30	50	1.62	V
7.	Internet	20	33.33	32	53.33	8	13.33	2.19	III
8	Others								

**HC- Highly Credible; MC- Moderately Credible; LC-Least Credible; F-Frequency; P- Percentage*

respectively. Being easily available, ease in understanding farm technology/innovation, broadcasting of different programmes in different regional languages and being more entertaining, radio, newspaper and television served as the most preferred source of information by the respondents. Agri. fair/exhibition (IV, 1.94), internet (V, 1.67), farm magazine (VI, 1.32) and research papers (VII, 1.01) were the least frequently used sources of information among the mass contact methods. As such, extension workers/agents must try to broadcast more programmes which would help disseminate the information to the fish farmers.

3.2 Degree of Credibility of Information Sources Utilized by Fish Farmers

The credibility of information source utilized by the fish farmers are presented in Table 2. The table reveals that friends and neighbours contact with progressive fish farmers and opinion leaders, personal contact with faculty/ scientist were the most credible sources among all the personal contact methods with mean scores of 2.98, 2.38 and 2.34 respectively followed by line departments (IV, 1.3). KVKs (V, 1.14), personnel of NGOs & cooperative societies (VI, 1.12), office call (VII, 1.04), bank personnel (VII, 1.04) and personal letter (VIII, 0.58).

Among the group contact methods, group discussion and meeting was the most credible information source with 2.76 mean score as perceived by the fish farmers. Discussion with fish farmers served as the second most frequently used sources with 2.53 mean score followed by training programmes (III, 1.77). Field day (IV, 1.25) and field trip (V, 1.08) were perceived as the least credible sources of information by the fish farmers.

Among the mass contact methods, radio was the most frequently used source of information with 2.84 mean score followed by television and internet with mean scores of 2.39 and 2.19

respectively. Newspaper (IV, 1.94), agri. fair/exhibition (V, 1.62), farm magazine (VI, 1.33) and research papers (VII, 1.01) were the least credible sources of information as perceived by the fish farmers.

4. CONCLUSION

The present study revealed that majority of the respondents sought information from friends and neighbours followed by contact with progressive fish farmers & opinion leaders and contact with line departments. These are the sources most frequently used by the farmers for seeking fisheries related information. This study also revealed that farmer's preference for getting fisheries information is based on the credibility of the source as they perceived. The access of fish farmers to the most competent source of information such as office call and KVKs (V, 1.32), personal letter (VI, 1.14), personnel of NGOs & cooperative societies (VII, 1.12) and bank personnel (VIII, 1.04) were found to be relatively low sources of information utilized by the fish farmers. This could be improved by developing a regular interaction programme between the fish farmers and other relevant stakeholders. This will enable the fish farmers to update their knowledge with the latest innovations and developments in the field of fisheries. Efforts should be made by the extension functionaries to extend and impart farm information using various extension publications in different local languages comprehensible to the fish farmers.

CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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