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Information Sources Utilization Pattern among Tribal Fish Farmers

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Abstract

Tribal fish farmers in the state of Tripura constitute about 40% of the total fish farmers populace and are potential stakeholders in the overall fish production. A study was undertaken in Tripura with a sample size of 90 tribal fish farmers, selected using stratified random sampling method. Demographic profile revealed that majority (52.22%) of them were from old age group with higher literacy rate, small land holdings, low income, medium extension participation and aspiration. Respondents indicated that television was the major (85.56%) mass media source for information. Amongst interpersonal localite sources, the Panchayat emerged as main source of information, while meeting and group discussions (62.23%) and demonstration (57.78%) were major interpersonal cosmopolite information sources. Information source utilization for 59% of the respondents was at medium level. Independent variables *viz.,* income, extension participation and level of aspiration showed a positive and significant relation with utilization of communication channels. More proactive role on the part of line departments Krishi Vigyan Kendras and other information providers is emphasized in order to accelerate the usage of cosmopolite sources of information among the tribal community of the State.

Keywords: Information sources, mass media, tribal fish farmers

Introduction

In Tripura, fisheries and aquaculture are considered to be an important economic activity for income and employment generation and nutritional security of rural masses (Das, 2012). Out of the total population (150194) of fish famers in the state, scheduled tribes (ST) form about 40% (Government of Tripura, 2011). During the last decade, significant growth in fish production was registered in the state to meet the demand for fish (Debnath, 2011). However, fish import is persisting from states like West Bengal, Andhra Pradesh and from neighbouring country, Bangladesh in order to fill gap between demand and supply (Das et al., 2013). The lower productivity of fish farms in Tripura has led to this situation. Among the several reasons behind low productivity, lack of information and technical know-how about scientific fish farming is one of the major impediments (Saha et al., 2011). Further, there is no dearth of available technologies required for fish production. However the moot question is converting these available technologies into production accomplishment. This depends, to a great extent on the understanding of the totality of the situation in which the new technologies are generated, processed, communicated and integrated into the farming system.

Without considering the significance of these linkages, large number of aquaculture innovations and technologies are generated by research organizations and communicated to fish farmers by different channels of communication. As a result, such innovations and communications are not always effective and not applied by farmers. Information sources play key roles in communicating innovative technologies to the ultimate users making them aware of the useful information. These sources create interest, promote understanding, assist in mental evaluation and ultimately motivate them for adoption (Kiran et al., 2011). This study was undertaken to examine the information sources utilization pattern among tribal fish farmers of Tripura who are important stakeholders in fish production and potential users of information and technical know-how about scientific fish farming.

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Materials and Methods

The study was conducted during 2012-13 in West and South districts of Tripura and these districts were selected on the basis of population of tribal fish farmers. Multi-stage stratified random sampling method was used to select the respondents. Teliamura and Padambil Rural Development blocks from West Tripura district and Bagfa RD block from South Tripura were selected. Thereafter, a list of tribal fish farmers-dominated villages for all three RD blocks was prepared and out of the listed villages, five villages from each block were selected villages randomly. Finally, from the list of tribal fish farmers of selected village, 6 respondents were selected using random sampling procedure. Thus, the sample size comprised 90 respondents from 15 villages. Standardized scoring procedures and scales used by Yadav (2012) was applied with partial modifications to measure the attributes and variables. Level of aspiration was measured using the scale devised by Cantril (1965). The data on socio-personal characteristics and information sources were gathered using pre-tested structured interview schedules. Statistical techniques including frequency distribution, mean, standard deviation, correlation and multiple regression using SPSS-15 were applied for analyzing the data.

Results and Discussion

The socio-personal characteristics of tribal fish farmers of Tripura were mapped out and results obtained are presented in Table 1.

Majority of tribal farmers belonged to old age group (52.22%) followed by middle age group (34.45%) and only 13.33% belonged to young age group (Table 1). Higher literacy rate (91.12%) was observed among the tribal fish farmers of Tripura. However, primary (35.55 %) and middle school education (30.00%) was predominant. Participation in social organizations was observed to be poor among the respondents as only 11.11% of the respondents were members of social organizations. In respect of the size of the land holding, majority (75.56%) of the tribal fish farmers had small size (<5 acre) of land holding. Respondents were found to be poor with 44.44 and 25.55% of the respondents falling under low and medium level income categories respectively. These results indicate that a large segment of tribal fish farmers of Tripura are having low income, smaller land holding, less social participation, lower level of education and belong to old age group whereas, extension participation (65.55%) and aspiration level (73.33%) of majority of the farmers were in medium category.

Table 1. Distribution of respondents according to their socio-economic profile

n=90

Variables	Frequency	Percentage
Age		
Young (upto 35 years)	12	13.33
Middle (36-50 years)	31	34.45
Old (above 50 years)	47	52.22
Level of education		
Illiterate	8	08.88
Primary school	32	35.55
Middle school	27	30.00
High school	16	17.78
Higher secondary school	6	06.67
Graduate	1	01.11
Post-graduate	-	00.00
Social participation		
Member of organization	10	11.11
No member of organization	80	88.88
Landholding		
Small (<5 acres)	68	75.56
Medium (5 acres)	17	18.89
Big (>5 acres)	5	05.55
Income		
Low (upto Rs. 50 000)	40	44.44
Medium (Rs. 50 000-100 000)	23	25.55
High (above Rs. 100 000)	27	30.00
Extension participation*		
Low	11	12.22
Medium	59	65.55
High	20	22.22
Level of Aspiration**		
Low (<$\overline{X}$ –1SD)	12	13.33
Medium (<$\overline{X}$ ±1SD)	66	73.33
High (>$\overline{X}$ +1SD)	12	13.33

* $\overline{X}$ = 7.49, SD=3.92, ** $\overline{X}$ = 15.17, SD=3.67

Utilization pattern of various information sources used by tribal fish farmers for fish farming is presented in Table 2.

The utilization pattern of different mass media depicts that television was used by 85.56% of tribal fish farmers followed by newspapers (46.67%). Listening to programmes on radio was reported by only 14.45% farmers. The print media such as farm magazines, booklets and leaflets/folders etc. are the credible sources of farm information. The utilization pattern of different print media depicts that usage of farm magazines (2.23%), booklets (17.78%) and leaflets/folders (7.78%) were the least in spite of higher literacy rate among the fish farmers. The poor usage of these farm publications may be due to their poor circulation or limited availability. On the contrary, readership of newspapers was high among the tribal farmers. Nath & Patel (2014) reported that the tribal farm women of Tripura more frequently used neighbours, family members, friends and Panchayat member/ pradhan as a localite source of information and television and radio were the only frequently used mass media source by the farm women. A study on assessment of the effectiveness of media conducted by Indian Institute of Mass Communication (IIMC), New Delhi also showed that the majority (78.8%) of North-eastern people and 93% in case of Tripura found TV 'very effective' in imparting information and in educating masses (IIMC, 2009).

It is seen from Table 3 that majority (82.23%) of tribal fish farmers mainly consulted the Panchayat followed by fish seed dealers/hatchery (58.89%) and progressive fish farmers (40%) to acquire information regarding fisheries and aquaculture development schemes and technical know-how of fish culture. This indicates that the Panchayat and input dealers were important sources of information to the fish farming community in Tripura. Similar finding was also reported by Kumaran et al. (2012). Tripura

Table 2. Distribution of respondents according to their mass media utilization

n=90

Information Sources	Daily	Often	Sometimes	Never
Newspaper	19 (21.11)	11 (12.22)	12 (13.33)	48 (53.33)
Radio	03 (3.33)	01 (1.11)	09 (10.00)	77 (85.55)
Television	30 (33.33)	15 (16.66)	32 (35.55)	13 (14.44)
Farm magazines	-	-	02 (02.22)	88 (97.77)
Booklets	-	02 (02.22)	14 (15.55)	74 (82.22)
Leaflets/folders	-	01 (01.11)	06 (06.66)	83 (92.22)

Figure in parenthesis indicates percentage.

Table 3. Status of usage of interpersonal localite sources

n=90

Sources	Often	Sometimes	Never
Panchayat	24 (26.66)	50 (55.55)	16 (17.77)
Cooperative	-	02 (02.22)	88 (97.77)
Farmers club	02 (02.22)	-	88 (97.77)
Progressive farmers	01 (01.11)	35 (38.88)	54 (60.00)
Neighbourers	15 (16.66)	13 (14.44)	62 (68.88)
Friends and relatives	11 (12.22)	19 (21.11)	60 (66.66)
Fish seed dealers/Hatchery	04 (04.44)	49 (54.44)	37 (41.11)
Fertilizer dealers	08 (08.88)	21 (23.33)	61 (67.77)
Pesticide dealers	-	25 (27.77)	65 (72.22)
Fish feed sellers	10 (11.11)	20 (22.22)	60 (66.66)

Figure in parenthesis indicates percentage.

has a long history of good local self governance (Chaudhury, 2005). In the state, village panchayats are fully empowered to select beneficiaries for developmental schemes including fisheries. Hence, fish farmers regularly visit such grassroot level institutions to obtain information about schemes and programmes including information on government subsidies. Less usage of other interpersonal localite information sources like cooperatives and farmers club may be due to dormant and malfunctioning of fisheries cooperatives societies (as reported by the Public Accounts Committee, 2011-12) and lack of awareness about the existence of famers club among the tribal fish farmers.

The utilization pattern of interpersonal cosmopolite (institutional) information sources is presented in Table 4. Meetings/discussions (62.23%), demonstrations (57.78%) and kisan mela (55.56%) were the major interpersonal cosmopolite sources being utilized by tribal fish farmers for acquiring information. A large segment of the tribal farmers (92.22%) have never contacted Krishi Vigyan Kendra (KVK), nor attended tour/field visits, office calls and training programs. Though KVK was established about three decades ago in the district, where the study was conducted, to impart training on scientific farming practices and to work as resource and knowledge centre, few respondents are aware of its existence and use it as major information source. Restricted mobility of KVK's personnel as well as tribal farmers may be one of the reasons for limited access.

Further, on the basis of overall score on use of information sources obtained by individual farmer, the farmers were classified into low, medium and high category. This categorization had given good idea about level of information usage by the fish farmers of study area. The obtained result is presented in Table 5.

The findings of Table 5 indicates that majority (58.88%) of the respondents had medium level of exposure to information regarding scientific fish culture, while 24.44 and 16.88% of respondents had high and low level of exposure, respectively. Similar trend was observed in overall usage of information sources towards hybrid rice production technology in Surguja district of Chhattisgarh and organic farming of Chhattisgarh by Verma et al. (2012) and Lakra et al. (2012). They reported that 21.67, 62.50 and 15.83% of the farmers fall in low, medium and high category of information users respectively. Transportation and communication have been identified as major bottlenecks in the land locked state of Tripura (Anon, 2011). This restricts mobility of the farmers as well as officials involved in communication of farm information. This may also limit farmers knowledge of scientific fish culture. Moreover, low income, poor participation in extension programmes and aspiration level may also contribute to poor usage of information sources as has been proven in the correlation study in this paper.

The utilization of information sources depends on socio-personal characteristics of the farmers. Keeping this in view, correlation and regression analysis have been performed and results are given in Table 6.

Prediction of the information utilization behaviour of the tribal farmers shows that income, extension

Table 4. Usage of interpersonal cosmopolite (institutional) sources

n=90

Sources	Weekly	Fortnightly	Monthly	Quarterly	Six monthly	Yearly	Never
Office calls	01 (01.11)	-	04 (04.44)	05 (05.55)	13 (14.44)	11 (12.22)	56 (62.22)
Farm and home visit	-	1 (01.11)	13 (14.44)	17 (18.88)	04 (04.44)	04 (04.44)	51 (56.66)
Tour/field visit	-	-	-	-	01 (01.11)	06 (06.66)	83 (92.22)
Meetings/Discussion	01 (01.11)	06 (06.66)	20 (22.22)	19 (21.11)	06 (06.66)	04 (04.44)	34 (37.77)
Training	-	-	01 (01.11)	02 (02.22)	05 (05.55)	26 (28.88)	56 (62.22)
Kisan Mela	-	-	-	-	1 (01.11)	49 (54.44)	40 (44.44)
Demonstrations	-	-	-	-	15 (16.66)	37 (41.11)	38 (42.22)
Krishi Vigyan Kendra (KVK)	-	-	-	01 (01.11)	-	06 (06.66)	83 (92.22)

Figure in parenthesis indicates percentage.

Table 5. Distribution of respondents according to overall usage of information sources

n=90

Category	Frequency	Percentage
Low (<$\bar{X}$–1SD)	15	16.68
Medium ($\bar{X}$±1SD)	53	58.88
High (>$\bar{X}$+1SD)	22	24.44
Total	90	100

$\bar{X}$=10.68, SD= 6.87

source of information to fish farmers. Overall use of interpersonal- cosmopolite sources was poor and the study recommends that awareness may be created among the tribal fish farmers about these information sources. This would enable better utilisation of mass media sources for dissemination of fish production technologies. The extension agencies of the state department may focus on identified sources of information in this study for diffusion of fisheries technologies to fish farmers of Tripura. Information usage behaviour needs to be studied at regular intervals to identify sources of

Table 6. Correlation and multiple regression coefficients of the characteristics of tribal fish farmers with their utilization of communication channels.

n=90

Variables	Correlation Coefficients (r)	Regression Coefficients (b)	SE of 'b'	't'
Age (X_1)	0.113	0.639	0.956	0.668^{NS}
Education (X_2)	0.013	-0.361	0.620	-0.582^{NS}
Land holding (X_3)	-0.190	-3.656	1.078	-3.390**
Income (X_4)	0.216^{*}	1.483	0.812	1.826^{NS}
Social participation (X_5)	-0.035	-3.843	2.103	-1.827^{NS}
Extension participation (X_6)	0.425^{**}	0.814	0.181	4.500**
Level of aspiration (X_7)	0.394^{**}	0.437	0.211	2.071*

Coefficient of multiple regression R^2=0.400 'F' value =7.806**
*Significant at 0.05 level of probability, ** Significant at 0.01 level of probability, NS=Non-Significant

participation and level of aspiration which have positive and significant association with overall utilization of information sources (Table 6). However, regression analysis reflected that altogether independent variables explain 40% of total variation in the overall information utilization score. Further, the regression coefficients for extension participation and level of aspiration turned out to be significant which indicates that these are the important determinants of utilization of information sources by the fish farmers of Tripura. Hence, it may be inferred that respondents having higher income, extension participation and aspiration, are the greater users of information sources.

The above findings indicate that majority of tribal fish farmers were educated and have better access to television. Village Panchayats and fish seed dealers/hatcheries emerged as vital interpersonal information providers that the farmers prefer, or use the most. This would render information delivery system for fisheries information more effective. Factors having significant bearing on information seeking behaviour *viz.,* level of aspiration and extension participation should be paid due attention. Extension agencies may use television in view of its popularity among the tribal farmers for dissemination of fish production technologies in local languages. The extension organisations could also promote the concepts of fish farmers co-operatives, farmers clubs and progressive farmers for effective dissemination of innovations on fish culture in Tripura.

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