Communication Behaviour of Traditional Fishermen

S.Balasubramaniam, Braj Mohan and M.K.Kandoran
Central Institute of Fisheries Technology, Cochin - 682029, India

This paper analyses the communication behaviour of traditional fishermen operating motorised and non-motorised crafts. The results revealed that among the 12 independent viariables, technological gap variable had negative correlation with the communication behaviour of fishermen operating motorised crafts. For the fishermen operating non-motorised crafts, information need had positive correlation and the variable, experience, had significant positive influence on their communication behaviour. Further, the results revealed the socio-personal and technological characteristics of fishermen who had low and high communication behaviour scores.

Communication behaviour of the clientele is one of the important variables which influence the diffusion and adoption of technologies (Rogers & Shoemaker, 1971; Murthy & Singh, 1974). In marine fisheries, the communication characteristics of traditional fishermen have to be assessed periodically to plan and implement the various fishery technological schemes. Further, in order to reorient the methodologies for small-scale fisheries development, it is necessary to analyse the communication behaviour of traditional fishermen.

Keeping this in view, the present study was undertaken with the following specific objectives: (i) to find out the information needs of fishermen on the various subject areas of fishery technology and (ii) to analyse the communication behaviour and variables associated with the communication behaviour of traditional fishermen operating motorised and non-motorised crafts.

Materials and Methods

The study was conducted in the Ernakulam district of Kerala State. Forty seven fishermen operating motorised fishing crafts and 23 fishermen operating non-motorised crafts were selected from the six fishing villages of the district as the sample for this study.

The communication behaviour was measured as an average of the standard scores obtained by a fisherman on the 'information source utilization index', 'source credibility index' and 'outward communication pattern index'. The information source utilization index was calculated through an index developed for the study which considered the frequency of use of the channels, the extent of information received and the utility of the information received from each source. The credibility of each communication source utilized was measured through a four point rating scale and the source credibility scores of each respondent was calculated by an index developed for this study. The outward communication pattern refers to the extent of transmission of technological information among the fellow fishermen and others related to their work. It was calculated by an index developed for the purpose. Since the component indices had different ranges and scale units, the raw scores of these three indices were converted into'Z' and 'T' standard scores for calculating the communication behaviour scores of respondents. Twelve socio- personal and technological variables were selected to analyse their influence on the communication behaviour and their measurement procedures were determined. Structured

interview schedules were used to collect the data from the respondents.

Results and Discussion

The subject-wise information need quotient scores of fishermen operating motorised and non-motorised crafts (INQ_1 and INQ_2 respectively) and their ranks are given in Table 1.

Among the fishermen operating non-motorised crafts, the subject areas such as improved fishing gear materials, gear designs, co-operatives and institutional agencies, and fishing craft maintenance were evaluated as the most needed subject areas. Similar to the fishermen operating motorised crafts, they had perceived least information need on the fish processing

Table 1. *Information needs of motorised and non-motorised traditional fishermen*

Subject areas	Motorised category		Non-motorised category	
	INQ_1	Rank	INQ_2	Rank
Selection & use of craft materials	61.70	VII	52.17	VII
Fishing craft maintenance	76.59	II	68.11	IV
Use & maintenance of engines	80.85	I	53.62	VI
Selection & use of gear materials	66.67	IV	78.26	I
Improved fishing gear designs	65.25	VI	75.36	II
Use of ice & hygienic handling on-board	51.06	VIII	40.58	VIII
Improved fish curing methods	46.81	XI	39.13	IX
Preparation of fishery products	48.23	IX	37.68	X
Handling, packing & transportation	47.52	X	36.23	XI
Fishery resources forecasts	66.67	IV	65.22	V
Cooperative & Institutional agencies	70.21	III	72.46	III

Mean Information Need Quotient (INQ_1) = 61.61 (n_2 = 47); Mean Information Need Quotient (INQ_2) = 57.06 (n_2 = 23); t value = 1.467

It is evident that the fishermen operating motorised crafts needed more information on the subjects such as use and maintenance of engines, fishing craft maintenance, co-operative and institutional agencies, gear materials and fishery resources forecasts as seen from their respective ranks. It is also seen that the motorised fishermen had least information need on the fish processing subject areas such as fish curing methods, handling, packing and transportation of fish, preparation of fishery products and use of ice on-board the crafts.

subject areas. Further, the non-significant 't' value reveals that the overall information need scores of fishemen operating motorised and non-motorised crafts did not differ significantly. In general, these results re-emphasized the role of marine fisheries extension services and schemes to fulfill the needs and aspirations of artisanal fishermen.

Table 2 reveals the communication behaviour of respondents in terms of its three components. Since the communication behaviour scores of fishemen are expressed

Table 2. *Communication behaviour of motorised and non-motorised fishermen*

Components of communication behaviour	Motorised (n:47) Mean (Raw scores)	SD	No-motorised (n:23) Mean (Raw scores)	SD	*t*
Information source utilization index	21.97	9.97	16.85	8.12	2.14*
Source credibility index	62.47	13.26	50.06	21.31	2.99**
Communication output pattern index	42.87	20.63	47.60	11.86	1.02

Communication behaviour (T score): Low (<50) = 31 (44.29%)
High (>50) = 39 (55.71%); * Significant at 5% level; ** Significant at 1% level

here as 'T' scores (normalised standard scores), they have a mean of 50 and standard deviation of 10. It is seen that on the whole a good number of respondents (44.29%) had low communication behaviour scores. This is because, their information source utilization pattern was very low among fishermen operating both motorised and non-motorised crafts. This might be the reason for their average communication output pattern as seen in Table 2. Further, the results reveal that whatever channel the fishermen had utilised, they had accorded credibility to these channels. The *t* values reveal that fishermen operating motorised and non- motorised crafts had significant differences on the two components of communication behaviour.

It is seen in Table 3 that among the fishermen operating motorised crafts, only technological gap had significant negative correlation with the communication be-

Table 3. *Correlation and regression analysis between the independent variables and communication behaviour of fishermen*

Var. No.	Independent variables	Motorised (n_1 : 47) Cor.Coeff.	Reg.Coeff.	Std.error	Non- motorised (n_2 : 23) Cor.coeff.	Reg.coeff.	Std.error
X_1	Age	-0.025	-0.622	0.332	-0.057	-0.648	0.304
X_2	Education	0.085	0.347	1.966	0.258	3.927	2.850
X_3	Experience	0.013	0.566	0.325	0.047	0.809*	0.316
X_4	Total no. of fishing days/year	0.033	-0.021	0.023	- 0.074	-0.047	0.031
X_5	No. of family members	0.187	0.051	0.451	-0.235	-1.648	0.838
X_6	No. of crew members	0.039	-0.033	0.116	0.124	6.730	4.975
X_7	Annual income	0.182	0.001	0.0004	-0.341	-0.0001	0.001
X_8	Radio & Newspaper utilisation	-0.271	-0.657*	0.319	0.344	0.884	0.467
X_9	Total investment (Rs. in 1000)	0.240	0.005	0.007	- 0.195	-0.027	0.143
X_{10}	Information need	0.238	0.114	0.073	0.683*	0.240	0.121
X_{11}	Technological gap	-0.359*	-0.050	0.103	0.243	- 0.157	0.255
X_{12}	Size of craft operated	0.192	0.116	0.215	0.040	- 2.969	2.094
		R^2 = 0.341; F = 1.469			R^2 = 0.816; F = 3.688**		

*Significant at 5 per cent level; **significant at 1 percent level

haviour. It is also seen that out of the 12 regression coefficients, the regression coefficient of the variable, radio and newspaper utilisation, alone had significant negative influence on the communication behaviour. In this case, the R^2 value is 0.341 and non-significant.

These results indicate that higher communication behaviour scores of fishermen operating motorised crafts had significant association with higher adoption, and lower radio and newspaper utilisation scores. This might be due to their greater utilisation of informal and formal communication sources than mass media sources. These results also confirm the earlier reports of Black (1967), Rogers & Shoemaker (1971) and Balasubramaniam *et al.* (1991).

Among the fishermen operating non-motorised crafts, information need had significant positive correlation with their communication behaviour. In the multiple regression analysis, when all the 12 variables were considered together about 82% of the variation (R^2 = 0.816) had been explained by these variables. The F value is also highly signifiacnt at 1 percent level. Among the 12 regression coefficients, the regression coefficient of the variable, experience, had significant and positive influence over the communication behaviour. These results suggest that the experienced and interested fishermen would have to be trained in the training institutions to strengthen the interpersonal communication of the fishing villages.

The mean and standard deviation values of 13 socio-personal and technological characteristics of traditional fishermen who had low and high communication behaviour scores are given in Table 4.

The *t* values show that the fishermen who had low and high communication behaviour differed significantly only in respect of two variables such as annual income and information need, and in all other 11 variables, there were no significant differences between these two groups. It is

Table 4. *Characteristics of fishermen having the low and high communication behaviour scores*

Var. No.	Variables	Low com. beh. (n_1 : 31) Mean	SD	High com. beh. (n_2 : 39) Mean	SD	't'
X_1	Age (years)	39.548	12.244	38.821	12.969	0.238
X_2	Education(scores)	3.226	0.497	3.231	0.427	0.045
X_3	Experience(years)	22.484	12.564	23.000	12.964	0.168
X_4	Total no. of fishing days/year	240.161	43.979	248.718	46.492	0.783
X_5	No. of family members	6.226	2.202	6.795	2.628	0.966
X_6	No. of crew members	28.387	18.709	25.949	19.729	0.525
X_7	Annual income (Rs.)	5929.032	2335.978	6289.744	2901.252	5.621**
X_8	Radio & Newspaper utilization (scores)	5.452	3.223	5.333	3.157	0.154
X_9	Total investment (Rs. in 1000)	104.758	125.959	125.472	138.342	0.647
X_{10}	Information need quotient	54.970	9.928	64.206	12.554	3.347**
X_{11}	Technological gap quotient	61.287	10.873	57.689	10.002	1.438
X_{12}	Size of craft operated (ft)	40.871	15.097	39.615	16.959	0.323
X_{13}	Motorisation of craft	1.709	0.461	1.641	0.486	0.600

**Significant at 1 per cent level

evident that the fishermen with higher income and higher information need were found to have higher communication behaviour. Here, these two variables might have motivated the fishermen to participate in the communication process more frequently than others.

The results of the study have the following implications: (1) the marine fisheries extension services have to be strengthened and periodical extension methodology training courses have to be conducted for the field extension functionaries (2) short-term and need-based training courses have to be organised for the fishermen in the training institutions to strengthen the interpersonal communication and dissemination of technologies.

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