Training Needs and Associated Variables of Fisheries Officials in Kerala and Andhra Pradesh

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Training needs assessment is a pre-requisite to prepare good training schedules and this paper deals with the training needs of fisheries officials and its association with their job characteristics. The study data were collected from random samples of 52 fisheries officials in the Department of Fisheries, Kerala, and 40 fisheries officials in the Department of Fisheries, Andhra Pradesh using mailed questionnaires. The data were analysed by using various statistical techniques. The results revealed that the overall job satisfaction index scores were 56.47% and 62.83% for the two samples. The role performance index scores among Kerala and AP officials were 57.43% and 57.71% respectively. It was seen that the training needs were comparatively higher among the Kerala officials ($\bar{X}$=71.78%) than the AP officials ($\bar{X}$=61.17%) in most of the subject areas of fishery technology and these differences were highly significant at 1% level. The major thrust areas in which the fishery officials need training were identified and presented in the paper. Simple correlation coefficients were calculated between the socio-personal characteristics of the fisheries personnel and their training need index scores. The major constraints reported by the respondents were also listed out.

Key words : Training needs assessment, technological gaps, fisheries extension personnel

For effective technology transfer, there should be periodical linkages between the research, extension and client systems, and this would reduce the technological gaps between the research institutions and clients. Several technologies developed at Central Institute of Fisheries Technology, Cochin have been transferred to the fishing and fish processing industry through regular and adhoc training courses, publications, consultancy services and other extension activities (Anon, 2004). Training of different categories of clients would provide qualified personnel to meet the problems in increased fish production, export and inland marketing requirements of the country.

In this context, training needs assessment is a pre-requisite to prepare good training schedules at CIFT and the training courses will not be effective if they are not organized based on the needs and requirements of candidates. Keeping this in view, the present study was conducted with the following specific objectives: (i) To assess the training needs of fisheries officials in the various subject areas of fishery technology and (ii) To determine the job characteristics of fisheries officials, the extent of association of job characteristics with training needs and to analyse the constraints in their job performance.

Materials and Methods

The research study was conducted among the fisheries officials of the states of Kerala and Andhra Pradesh. The State Institute of Fisheries Technology (SIFT) at Kakinada, Andhra Pradesh and the Staff Training Centre (STC) at Ernakulam, Kerala provide refresher courses and in-service

training courses on almost all subject areas of fisheries for the respective department officials. In this study, to assess the training needs of these fisheries officials, thirty five subject areas dealt by CIFT, Cochin were prepared. The study data were collected from random samples of 52 fisheries officials in the Department of Fisheries, Kerala and 40 fisheries officials in the Department of Fisheries, Andhra Pradesh, using mailed questionnaires. The respondents were asked to indicate the areas in which they need training on a three point scale of 'most needed' if it was highly relevant in their present job requirement, 'needed', if they considered the areas as of potential application in the near future and 'not needed' if they considered that they had sufficient proficiency in these subjects.

In extension research, previous studies (Bhagat & Khurana, 1991; Majhi & De, 2002; Nikam & Rajmane, 1995; Singh et. al., 1998) had measured training needs on a three point continuum viz., 'much needed', 'needed' and 'not needed' having scores of 3, 2 and 1 respectively. In this study also, the above scoring pattern was followed and the

Training Need Index scores were calculated as the ratio of actual scores obtained to the maximum scores possible and expressed in percentages. Job satisfaction of fisheries personnel was measured through an index developed and used in an earlier study (Balasubramaniam & Perumal, 1991).

Role performance variable was measured through an index developed for the purpose in the study. Availability of organizational facilities was measured through a rating scale. Apart from these variables, data on the variables viz., age, years of service in the fisheries department, number of training programmes undergone, duration of training preferred and the operational constraints in job performance were also collected. The data were analysed by using various statistical techniques viz., percentage, mean, standard deviation, correlation and 't' test.

Results and Discussion

The profiles of the fisheries personnel studied in Kerala and Andhra Pradesh States are given in Table 1. The results revealed that the average age of the respondents was above 40 years in both States and they had

Table 1. Profile of Fisheries Personnel studied

Sl. No.	Variables	Kerala (n:52)		Andhra Pradesh (n:40)		't'
		Mean	SD	Mean	SD	
1.	Age (years)	43.60	5.29	41.18	8.74	1.6461
2.	Number of years of service	17.12	6.37	14.89	7.63	1.5257
3.	Number of training programmes attended	1.54	1.38	2.88	3.00	2.8506**
4.	Job satisfaction index (%)	56.47	8.57	62.83	6.82	3.8487**
5.	Role performance index (%)	57.43	13.24	57.71	12.98	0.1042
6.	Annual income ('000)	92.00	17.63	107.88	23.06	3.7439**
7.	Availability of organizational facilities (perception scores)	1.48	0.73	2.63	0.70	7.5809**
8.	Duration of training preferred (weeks)	1.50	0.75	1.55	0.60	0.3444

** Significant at 1% level

Table 2. Job satisfaction of Fisheries Personnel

Sl. No.	Job factors	Kerala (n:52)		Andhra Pradesh (n:40)		
		Mean	SD	Mean	SD	't'
1.	Department policies and administrative practices	1.73	0.49	1.90	0.30	1.9186
2.	Behaviour of the superiors	2.04	0.39	1.95	0.55	0.8962
3.	Responsibility and advancement	1.90	0.45	1.95	0.45	0.4851
4.	Recognition for achievement	1.60	0.60	2.03	0.36	3.9910**
5.	Self-esteem	1.92	0.44	2.00	0.39	0.8759
6.	Opportunity for promotion	1.23	0.55	1.68	0.47	4.0900**
7.	Working conditions	1.62	0.57	1.63	0.49	0.0856
8.	Feeling of security	1.60	0.57	1.90	0.50	2.6818**
9.	Attributes of the work itself	1.85	0.41	2.00	0.23	2.1147*
10.	Salary and other benefits	1.46	0.58	1.83	0.45	3.2990**
	Job satisfaction index (%)	56.47	8.57	62.83	6.82	3.8487**

** Significant at 1% level   * Significant at 5% level

more than 14 years of service in the Fisheries Department. On the variables such as number of training programmes attended, job satisfaction, annual income and availability of organizational facilities, the AP fisheries officials had higher average scores and the mean differences between the two categories were highly significant as shown by the 't' values. The availability of organizational facilities for doing their job include infrastructural facilities in the office, transportation facilities, budget allocation for extension programmes, travelling allowances, audio-visual equipments, availability of specialists and key inputs. The duration of training preferred was one to two weeks and the average role performance index scores (57.43% and 57.71%) of officials, did not vary significantly between the two states.

The average job satisfaction scores of respondents with regard to ten job factors are given in Table 2. The mean scores revealed that only on two job factors such

as opportunity for promotion ($\overline{X}$=1.23), and salary and other benefits ($\overline{X}$=1.46), the officials from Kerala were not satisfied and on other eight job factors, they were satisfied. In all the ten job factors, the AP officials' mean scores had varied from 1.63 to 2.03 in a rating scale of 1 to 3 and indicated that they were satisfied with their job conditions. The overall job satisfaction index scores were 56.47% and 62.83% for the two samples with significant difference between them at 1 percent level. As higher job satisfaction and morale among officials would often motivate them to perform the job with missionary zeal, their job factors such as opportunity for promotion, working conditions, feeling of security, salary and other benefits could be further improved through appropriate extension administration and supervision policies.

The extent of role performance by the respondents on the various roles are given in Table 3. In general, the nature of

Table 3. Role performance of Fisheries Personnel

Sl. No.	Roles performed	Kerala (n:52)		Andhra Pradesh (n:40)		
		Mean	SD	Mean	SD	't'
1.	Administration and supervision	2.12	0.68	1.78	0.77	2.2569*
2.	Research/seed production	1.40	0.75	1.70	0.82	1.8027
3.	Coordination work	2.02	0.64	2.08	0.73	0.3893
4.	Extension/training	1.81	0.74	2.25	0.54	3.1715**
5.	Supply of inputs and services	1.83	0.86	1.68	0.76	0.8831
6.	Department schemes- inland fisheries (including reservoir and brackish water)	1.63	0.74	1.80	0.69	1.0945
7.	Department schemes- Marine fisheries	1.69	0.78	1.98	0.80	1.7032
8.	Welfare schemes	2.00	0.74	1.85	0.86	0.8954
9.	Credit, subsidy and marketing	1.73	0.77	1.38	0.54	2.4880*
10.	Linkage with other departments	1.62	0.60	1.58	0.64	0.3120
11.	Providing infrastructural facilities	1.38	0.60	1.45	0.60	0.5197
12.	Development of entrepreneurs/ industry/ commercial fisheries	1.44	0.57	1.28	0.55	1.4063
	Role performance index (%)	57.43	13.24	57.71	12.98	0.1025

** Significant at 1% level * Significant at 5% level

Table 4. Training needs of Fisheries Personnel in major subject areas of Fishery Technology

Sl.	Major subject areas	Training need				
		Kerala (n:52)		Andhra Pradesh (n:40)		
		Mean	SD	Mean	SD	't'
1.	Fishing Technology	73.50	13.29	59.17	15.90	4.7062**
2.	Fish Processing	71.03	21.45	67.83	13.83	0.8183
3.	Quality Assurance & Management	71.79	17.48	61.88	16.97	2.7320**
4.	Biochemistry and Nutrition	67.73	19.21	55.56	16.50	3.2001**
5.	Microbiology & Bio-technology	69.23	18.23	58.06	18.05	2.9257**
6.	Fishery Engineering	71.92	16.77	58.00	18.07	3.8160**
7.	Extension, Economics & Statistics	72.97	18.25	65.14	14.99	2.2006*
	Overall training need index	71.78	12.83	61.17	12.97	3.9112**

** Significant at 1% level *Significant at 5 % level

activities of the officials of Department of Fisheries are as follows: (i) implementing developmental activities through extension work (ii) promoting participation of co-operatives and private sectors and Non-Governmental Organizations (iii) taking up pilot projects for the introduction of new technologies (iv) enforcement of fishing regulations (v) promoting social welfare aspects of the fisherfolk (vi) utilization of centrally sponsored schemes to create required infrastructure (vii) encouragement of weaker sections under the Government schemes and acting as coordinating agency

Table 5. Major thrust areas of training needs – Kerala

Sl. No.	Thrust areas of fishery subjects	Mean	SD
1.	Fishing gear materials and standards	2.25	0.59
2.	Inland fishing techniques	2.33	0.62
3.	Low energy fishing techniques	2.38	0.60
4.	Fishing regulations and management measures	2.62	0.60
5.	Post harvest handling and transportation of fish	2.21	0.72
6.	Value added fish products viz., pickles, cutlets, wafers, battered and breaded products, etc.	2.27	0.77
7.	Fishery by-products viz., fish meal, fish maws, shark fins, chitin, etc.	2.21	0.72
8.	Public health and hygiene practices	2.40	0.63
9.	Electronic instruments and systems for fishing industry	2.23	0.65
10.	Fish detection and navigation equipment	2.21	0.67
11.	Extension methods and their uses	2.31	0.64
12.	Development of extension programmes and implementation	2.35	0.62
13.	Methods of evaluation and social research tools	2.23	0.67

(Subjects having mean score of >2.21)

Table 6. Major thrust areas of training needs – Andhra Pradesh

Sl. No.	Thrust areas of fishery subjects	Mean	SD
1.	Fishing craft designs and construction materials	1.95	0.78
2.	Fishing regulations and management measures	1.95	0.75
3.	Fish processing methods viz., freezing, canning, curing etc.	2.20	0.61
4.	Value added fish products viz., pickles, cutlets, wafers, battered and breaded products, etc.	2.15	0.70
5.	Fishery by-products viz., fish meal, fish maws, shark fins, chitin, etc.	2.00	0.55
6.	Packaging of fish and processed marine products	1.93	0.76
7.	Public health and hygiene practices	2.10	0.67
8.	Techniques for identification of bacteria in fish & fishery products	2.00	0.60
9.	Fish detection and navigation equipment	2.05	0.75
10.	Drying equipment	2.03	0.80
11.	Development of extension programmes and implementation	2.28	0.72
12.	Technology transfer management and constraints	2.08	0.69
13.	Statistical aspects in fisheries	1.95	0.68

(Subjects having mean score of >1.93)

with Universities, Educational Institutions, Fisheries Colleges and Research Institutions. The overall role performance index scores among Kerala and AP officials were 57.43% and 57.71% respectively. The results revealed that the roles such as administration and coordination work, extension or training work, work under marine fisheries schemes, inland fisheries schemes and welfare schemes, and supply of inputs and services

Table 7. Correlation between socio-personal characteristics and training need index scores

Sl. No	Variables	Correlation values (r)	
		Kerala (n:52)	Andhra Pradesh (n:40)
1.	Age	0.0937	- 0.3842*
2.	Number of years of service	0.1285	-0.3519*
3.	Number of training programmes attended	0.1866	0.1113
4.	Job satisfaction index	-0.0758	0.1958
5.	Role performance index	0.0586	0.1378
6.	Annual income	0.0189	-0.2103
7.	Availability of organizational facilities	-0.4543**	0.0598
8.	Duration of training preferred	0.1901	0.4543**

** Significant at 1% level   *Significant at 5 % level

were more often performed by the fisheries officials in both the States. The roles such as providing infrastructural facilities, development of entrepreneurs or industry, research or hatchery work, linkage with other departments and providing credit, subsidy and marketing facilities were less performed by the department officials and indicated that private agencies were more involved in these activities.

The mean scores on the extent of training needs in the major subject areas of fishery technology are given in Table 4. In the Kerala sample, the mean training need scores were high for all the seven subject areas of fishery technology and the average training need index score of the respondents was 71.78% with a standard deviation of 12.83. Among AP officials, the mean training need score was high for the fish processing subjects (67.83%), followed by extension, economics and statistics (65.14%), and quality assurance and management (61.88%), and the average training need index score of the respondents was 61.17% with a standard deviation of 12.97. Further, the results revealed that the training needs were comparatively higher among the Kerala

officials than the AP officials in most of the subject areas of fishery technology and their differences were highly significant at 1 percent level.

The major thrust areas in which the fishery officials need training in the two States are given in Tables 5 and 6. Accordingly, the thrust areas reported by the officials of both States are as follows: (a) Fishing regulations and management measures (b) Production of value added fish products viz., pickles, cutlets, wafers, battered and breaded products etc. (c) Production of fishery byproducts viz., fish meal, fish maws, shark fins, chitin etc. (d) Public health and hygiene practices (e) Fish detection and navigation equipment and (f) Development of extension programmes and implementation.

These results suggested that groups of fishery officials from these Departments could be periodically sponsored for short-term training courses in the major thrust areas of fishery technology. Alternatively, they could also be deputed for a comprehensive training course covering all the thrust areas atleast once in five years of service of

officials for updating the technological requirements. Krishna (1993) reported that "in the semi active mode of technology transfer, training of development and extension personnel in new innovations assumes great importance. Organizing training programmes in relevant areas based on the actual needs of the officials will be very useful in the practical utilization of the knowledge".

The correlation coefficient values calculated between the socio-personal characteristics of the fisheries personnel and training need index scores are given in Table 7.

Among the sample respondents from Kerala, seven variables did not have any association with the training need while only one variable viz., 'availability of organizational facilities' was found to have negative correlation with the training need index scores. It indicated that when the organizational facilities were available, the training need scores could be less and vice versa. In the sample from AP, the results revealed that two variables such as age and number of years of service were found to have negative correlation with the training need index scores and thus, suggested that relatively younger officials would have to be sent for training in the training institutions. The 'duration of training preferred' variable was found to have positive relationship with the training need and it was observed that the duration of training required by the officials mostly varied from one to two weeks.

The major constraints in their area of work reported by the respondents are as follows: (i) Non-availability of adequate number of extension personnel and vast field area with less manpower (ii) Non-availability of sufficient funds (iii) inadequate organizational infrastructural facilities and (iv) political interference in carrying out developmental schemes. The projected needs are (i) Need for training of untrained personnel in the specialized jobs and (ii) Need for more schemes on fish culture, fishing and fish processing.

Thus, the study revealed the extent of job satisfaction (56.47% and 62.83%) and extent of performance of various roles (57.43% and 57.71%) by the fisheries officials in the two States. Training needs in the major subject areas of fishery technology were assessed (71.78% and 61.17%) and the thrust areas of training requirements were listed out. For utilizing the facilities and expertise available in the Central Institute of Fisheries Technology, the fisheries·officials would have to be periodically deputed for short-term training courses. Technology transfer through trained extension personnel would further improve the adoption of innovations in the capture fisheries and post harvest fisheries sectors.

References

Anon. (2004) Annual Report-CIFT, Central Institute of Fisheries Technology, Cochin.

Balasubramaniam, S. and Perumal, G. (1991) Job performance and characteristics of Fisheries Extension Personnel. *Indian Journal of Extension Education*. Vol. XXVII (1 & 2).

Bhagat, G.R. and Khurana, G.S. (1991) Training Needs of Horticulture Inspectors. *Indian Journal of Extension Education*. Vol. XXVII (3 & 4).

Krishna, S. (1993) Training Needs of State Fisheries Officials. *Fishing Chimes*. May, 1993, pp 21-22.

Majhi, S.K. and De, H.K. (2002) Training needs of fishery extension officers of Orissa. Paper presented at the *National Symposium on Fisheries Enhancements in Inland Waters-Challenges ahead*, Indian Fishery Society of India & Central Inland Fisheries Research Institute, Barrackpore, 27-28 April 2002.

Nikam, T.R. and Rajmane, B.V. (1995) Training Needs of Tribal Farmers in Dairy Management Practices. *Indian Journal of Extension Education*, Vol. XXXI, pp 1-4.

Singh, S.P., Narwal, R.S., Malik, R.S. and Hudda, R.S. (1998) Training Needs of Extension Personnel in Haryana. *Indian Journal of Extension Education*, Vol. 34 (3 & 4).