

## Training Needs of Fisheries Extension Personnel in Andhra Pradesh

J. Charles Jeeva<sup>1</sup>, S. Balasubramaniam<sup>2</sup> and Krishna Srinath<sup>2</sup>

*Research Centre of Central Institute of Fisheries Technology*

*Ocean View Layout, Pandurangapuram*

*Visakhapatnam- 530 003, Andhra Pradesh, India*

*E mail: charles\_cift@rediffmail.com*

Effective extension system should have a solid technological base to facilitate the adoption of latest technologies by end users. The professional quality of fisheries extension personnel can be improved through training programmes, refresher courses and periodical meeting with the subject matter specialists in the fisheries research system. Training needs assessment is a prerequisite to prepare effective training strategies. This study was conducted with the specific objective of assessing the training needs of fisheries extension personnel in the subject matter areas of harvest and post harvest fisheries technologies. The data were collected from a randomly selected sample of 40 fisheries extension officials in the Department of Fisheries, Government of Andhra Pradesh, in 9 coastal districts of Andhra Pradesh, using mailed questionnaires. It was seen that 50% of the respondents possessed post graduation in science as their educational qualification. The average years of service in the fisheries department was found to be 15 with 5 years in marine fisheries. The study revealed that the extent of training needs was high (67.83%) for the fish processing subjects. The individual training need index score of the fisheries extension personnel varied from 38.10 to 95.24 with a mean score of 61.17 (SD: 12.97). The thrust areas of training needs have been presented in this paper. Apart from their training needs in fisheries subjects, other associated factors such as, job satisfaction, role performance, availability of organizational facilities and operational constraints in the area of work are also discussed in detail in this paper.

**Key words :** Training needs, fisheries extension personnel, technological gap, refresher courses

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Present address : <sup>1</sup>Central Institute of Fisheries Technology, P.O. Matsyapuri, Cochin - 682 029, Kerala, India

<sup>2</sup>Central Institute of Fisheries Technology, P.O. Matsyapuri, Cochin - 682 029, Kerala, India.

Even though several technologies have been developed in fisheries, most of them have not reached the actual users. This wide technological gap has to be reduced by effective linkage between research, extension and client systems. In general, the technologies are taken from the research system by the extension machinery which further conveys them to the actual end users. To ensure that the latest methods are adopted by the client system, it is necessary that the extension system should be informed of latest research developments.

Several innovations have been developed at Central Institute of Fisheries Technology in the various fields of fishery technology. These innovations are transferred to the end users through various extension methodologies. Training programmes are one of the means to transfer these innovations to the end users. The Institute has been conducting training programmes in all disciplines relating to fishing and fish processing. The training courses conducted here are well recognized by the fishing and fish processing industry. Training of different categories of clients such as Fisheries Department officials, personnel deputed by Non-Governmental Organizations and fish processing technical personnel will provide qualified hands to meet the fish production, export and inland marketing requirements in the country.

Training courses are not effective if they are not organized based on the needs of the candidates. Training needs assessment is a prerequisite to prepare effective training strategies. Majhi and De (2002), in a study on training needs of fishery extension officers of Orissa, reported that, the thrust areas in freshwater aquaculture are water quality determination, disease and health management, judicious use of drugs and chemicals, induced breeding and technology for rural aquaculture, where in-service training is required. Fishery extension officers have also expressed need to undergo training in certain areas which attracted entrepreneurial interest, such as ornamental fish culture and breeding, giant freshwater prawn culture and seed production, integrated fish farming and pearl culture.

The assessment of training needs among the various target groups in fisheries are yet to be evaluated, though a few such studies in agriculture have been reported. Keeping these factors in mind, this study was conducted with the specific objective of assessing the training needs of fisheries extension officials in the subject matter area of fisheries technologies.

### **Materials and Methods**

The data for this study were collected from a randomly selected sample of 40 fisheries extension officials (from the population of 268; 198 Fisheries

Development Officers and 70 Assistant Inspectors of Fisheries) in the Department of Fisheries, in 9 coastal districts of Andhra Pradesh, using mailed questionnaires. The respondents were asked to indicate the areas in which they needed training on a three point scale of 'most needed' if it is highly relevant in their present job requirement, 'needed', if they consider the areas as of potential application in the near future, and 'not needed', if they think that they have sufficient proficiency in these subjects. Apart from training needs, data on the associated factors, viz., years of service in the fisheries department, number of training programmes undergone, job satisfaction, role performance, availability of organizational facilities, preference of training duration and the operational constraints in the area of work were also collected. The data were analysed by using statistical techniques.

### Results and Discussion

The roles of the Department of Fisheries, Government of Andhra Pradesh include; implementing developmental activities through extension work, promoting participation of co-operative and private sectors and Non-Governmental Organizations; taking up pilot projects for the introduction of new technologies, enforcement of fishing regulations, promoting social welfare aspects of the fisherfolk, utilization of centrally sponsored schemes to create required infrastructure, encouragement of weaker sections under the Government schemes and acting as coordinating agency with Universities, Educational Institutions, Fisheries Colleges and Research Institutions. The Department has been equipped with Fisheries Training Institutes (FTIs) at Machilipatnam, Badampudi (West Godavari), Kurnool and Warangal and State Institute of Fisheries Technology (SIFT) at Kakinada. The SIFT, Kakinada undertakes refresher courses and in-service training of the officers of the Department and conducts awareness training programmes in fishermen villages.

The profile of the fisheries extension personnel studied is given in Table 1. The average years of service in the fisheries department was 15, with 5 years in marine fisheries, 5 years in inland fisheries and the remaining in other areas. 50% of the respondents possessed post graduation in science as their educational qualification. Mode of recruitment to the present cadre was through direct recruitment (57.50%) and by promotion (42.50%). The annual income varied from Rs. 72,276 to Rs. 1,62,840 with an average annual gross income of Rs. 1,07,884. On an average, each respondent had undergone three training programmes in the last six years. Most of the training programmes were undergone at SIFT, Kakinada and the main subject matters in which they had undergone training were, refresher courses on Andhra Pradesh Marine Fishing Regulation Act, Diseases of Fish and

Prawn - Diagnosis and Remedial Measures, Cyclone Disaster Preparedness, Designs of Modern Fishing Craft and Gear, Soil and Water Analysis in Aquaculture, Freshwater Pearl Culture, Mariculture, Brackishwater Finfish and Shellfish Culture, Culture of Freshwater Prawn, Participatory Rural Appraisal, and Office Automation. They had also undergone training programmes on Trainer's Training on Marine Electronics and Equipment for Fisheries, and GPS and Fish Finders at Central Institute of Fisheries and Nautical Engineering Training, Cochin and Communication Techniques and Extension Methodology, at Extension Education Institute, Hyderabad (Anon., 2001).

**Table 1. Profile of extension personnel studied (n=40)**

Variables	No.	%
<b>Sex</b>		
Male	35	87.50
Female	5	12.50
<b>Age (years)</b>		
< 35	13	32.50
35 - 45	12	30.00
> 45	15	37.50
<b>Education</b>		
SSC	5	12.50
Graduate (Science)	3	7.50
Graduate (Arts)	10	25.00
Post Graduate (Science)	2	5.00
Post Graduate (Arts)	20	50.00
Professionals	0	0.00
<b>Mode of entry into service</b>		
By recruitment	23	57.50
By promotion	17	42.50

**Table 2. Job satisfaction of fisheries extension personnel (n=40)**

Job factors	Mean $\pm$ SD	Rank
Department policies and administrative practices	1.90 $\pm$ 0.30	VI
Behaviour of the superiors	1.95 $\pm$ 0.55	IV
Responsibility and advancement	1.95 $\pm$ 0.45	IV
Recognition for achievement	2.03 $\pm$ 0.36	I
Self-esteem	2.00 $\pm$ 0.39	II
Opportunity for promotion	1.68 $\pm$ 0.47	IX
Working conditions	1.63 $\pm$ 0.49	X
Feeling of security	1.90 $\pm$ 0.50	VI
Attributes of the work itself	2.00 $\pm$ 0.23	II
Salary and other benefits	1.83 $\pm$ 0.45	VIII

The degree of satisfaction or dissatisfaction with regard to the factors relating to their job has been given in Table 2. The total job satisfaction index score was 62.83%. From the table it could be observed that the factors in which they were most satisfied were, recognition for achievement, self-esteem and attributes of the work itself. The dissatisfied areas were, working conditions and opportunity for promotion. The mean scores on the extent of role performance by the respondents in their present job have been presented in Table 3. The role performance index score was 57.71. It could be inferred from the table that the more often performed roles were, extension, training, co-ordination and department schemes in marine fisheries. The availability of organizational facilities for doing their work, as assessed by the fisheries extension personnel is given in Table 4. The mean perception score for the availability of organizational facility was 2.63. The results revealed that 45% of them had expressed that the facilities were 'available', 42.5% as 'somewhat available', 10% as 'very well available' and 2.5% as 'not available'.

**Table 3. Role performance of fisheries extension personnel (n=40)**

Roles performed	Mean± SD	Rank
Administration and supervision	1.78±0.77	VI
Research/seed production	1.70±0.82	VII
Coordination work	2.08±0.73	II
Extension/training	2.25±0.54	I
Supply of inputs and services	1.68±0.76	VII
Department schemes- inland fisheries (including reservoir and brackish water)	1.80±0.69	V
Department schemes- Marine fisheries	1.98±0.80	III
Welfare schemes	1.85±0.86	IV
Credit subsidy and marketing	1.38±0.54	XI
Linkage with other departments	1.58±0.64	IX
Providing infrastructural facilities	1.45±0.60	X
Development of entrepreneurs/ industry/commercial fisheries	1.28±0.55	XII

**Table 4. Availability of organizational facilities**

Assessment of facilities	No	%
Facilities are very well available	4	10.00
Available	18	45.00
Somewhat available	17	42.50
Not available	1	2.50

The extent of training need in the major subject areas of fishery technology is given in Fig. 1. The mean training need index was high for the fish processing subjects (67.83%), followed by extension, economics and statistics (65.14%) and quality assurance and management (61.88%). The individual training need index score of the respondents varied from 38.10 to 95.24 with a mean score of 61.17 (SD: 12.97). The thrust areas in which they need training are given in Table 5. The thrust areas were; development of extension programmes and implementation, fish processing methods, viz., freezing, canning, curing etc., value added fish products such as pickles, cutlets, wafers, battered and breaded products, public health and hygiene practices, technology transfer management and constraints, fish detection and navigation equipment, drying equipment, techniques for identification of bacteria in fish and fishery products. In terms of preference on the duration of training, 50% of the respondents preferred the duration of 1 week, 45% preferred 2 weeks and 5% preferred 2-4 weeks.

The correlation coefficient values showing the relationship between the socio-personal characteristics of the extension personnel with the training need

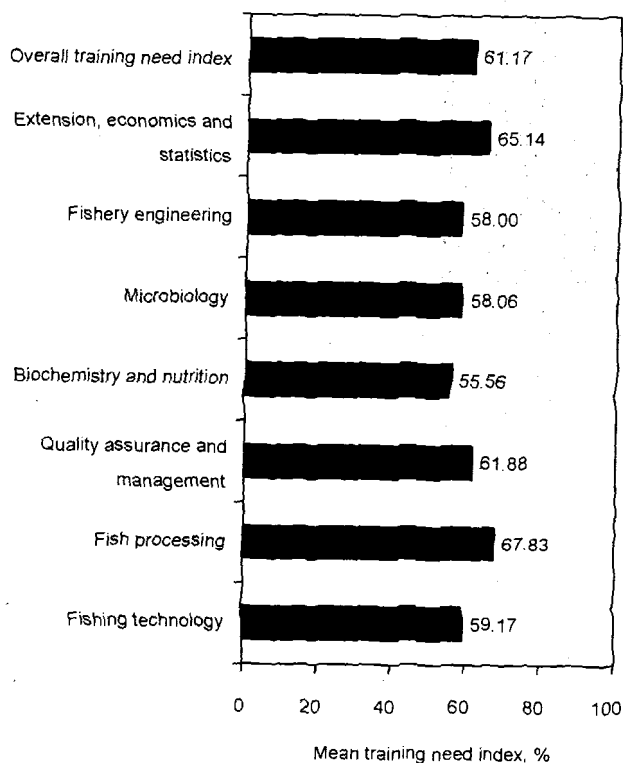


Fig. 1. Training needs in major subject areas of fishery technology

index have been given in Table 6. It could be observed from the table that the variables, viz., number of training programmes attended, job satisfaction index, role performance index, availability of organizational facilities and duration of training were positively correlating with the training needs of the extension personnel, while the factors such as age, number of years of service and annual income were negatively correlated.

**Table 5. Major thrust areas of training needs**

Thrust areas	Mean± SD
Fishing craft designs and construction materials	1.95±0.78
Fishing gear materials and standards	1.85±0.58
Low energy fishing techniques	1.85±0.83
Fishing regulations and management measures	1.95±0.75
Post harvest handling and transportation of fish	1.90±0.55
Fish processing methods (Freezing, canning, curing, etc.)	2.20±0.61
Value added fish products (Pickles, cutlets, wafers, battered and breaded products, etc.)	2.15±0.70
Fishery byproducts (Fish meal, fish maws, shark fins, chitin, etc.)	2.00±0.55
Packaging of fish and processed marine products	1.93±0.76
International standards and testing of quality levels	1.85±0.66
Public health and hygiene practices	2.10±0.67
Techniques for identification of bacteria in fish & fishery products	2.00±0.60
Fish detection and navigation equipment	2.05±0.75
Drying equipment	2.03±0.80
Extension methods and their uses	1.90±0.55
Development of extension programmes and implementation	2.28±0.72
Technology transfer management and constraints	2.08±0.69
Economic appraisal of fishery technologies	1.85±0.62
Statistical aspects in fisheries	1.95±0.68

The major constraint in their area of work was the inability to achieve the target, because of poor infrastructural facilities (35%). The other operational constraints as expressed by them in the order of their significance were; political interference in carrying out development and welfare schemes (30%), vast field area with less manpower (30%), gap in the communication of recent developments and research results to the fishery extension officials (20%), insufficient budgeting for official tours (20%), lack of manpower and machinery (20%), not taking into consideration the participation of field level functionaries in project and policy formulations (20%) and lack of official transportation facilities (15%).

**Table 6. Correlation between socio-personal characteristics and training need index scores**

Variables	Correlation values (r)
Age	-0.3842*
Number of years of service	-0.3519*
Number of training programmes attended	0.1113
Job satisfaction index	0.1958
Role performance index	0.1378
Annual income	-0.2103
Availability of organizational facilities	0.0598
Duration of training preferred	0.4543 **

\*Significant at 1% level: \*\*Significant at 5% level.

The suggestions to improve the efficiency of work as expressed by them were, strengthening of infrastructural facilities (42.5%), periodical communication of the research results to field level functionaries (22.5%), encouraging the participation of field level functionaries in project or policy formulations to represent ground realities (20%), establishment of well- equipped laboratories at various parts of the state (10%) and coordination with Non-Governmental Organizations to improve the technology transfer process (5%).

The study revealed that the mean training need index was high for the fish processing subjects, followed by extension, economics and statistics, and quality assurance and management subjects. The thrust areas were development of extension programmes and implementation, fish processing methods (freezing, canning, curing, etc.), value added fish products (pickles, cutlets, wafers, battered and breaded products) and public health and hygiene practices. The results will be useful to fine tune the training programmes for the fisheries extension personnel and make them more efficient.

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## References

- Anon (2001) *Departmental Activities 2000-01*, Commissioner of Fisheries, Government of Andhra Pradesh, Hyderabad.
- Majhi, S.K and De. H.K. (2002) Training needs of fishery extension officers of Orissa, *National Symposium on Fisheries Enhancements in Inland Waters - Challenges Ahead*. Indian Fishery Society of India and Central Inland Fisheries Research Institute, Barrackpore, 27-28 April 2002.