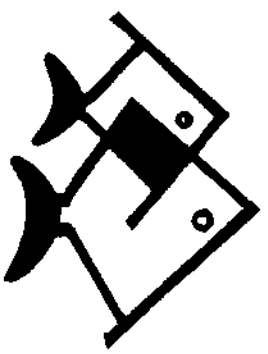
INDIAN FISHERIES

1947 – 1977



ISSUED ON THE OCCASION OF THE FIFTH SESSION OF
THE INDIAN OCEAN FISHERY COMMISSION HELD AT COCHIN FROM
19TH TO 26TH OCTOBER, 1977

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fisheries education and training

In the year 1945, the Government of India sponsored the All-India Fisheries training courses at Barrackpore, Calcutta, for training in inland fisheries, and at Madras, with emphasis on marine fisheries as a part of the post-war reconstruction programme for training district level officers. For development of deep-sea fishing as a part of the post-war reconstruction programme, an *ad hoc* scheme for training of deck and engine side officers was initiated in 1948 to meet with the statutory requirements for manning of deep-sea fishing vessels. The above marked the beginning of organised programmes for education and training of fisheries in India, although the various State Departments of Fisheries had, even then, their own in-service training programmes for the staff recruited into their departments.

With the introductin of mechanised fishing and the accent on fish farming under the first and second Five Year Plans, it became clear that a programme of education and training had to be carried out simultaneously if these developmental programmes had to succeed. The Fishermen Training Centre established with FAO assistance at Satpati in 1954 was a forerunner of a chain of such centres in all the maritime States of India to train fishermen in operating mechanised fishing boats. Subsequently, to put the pattern of education and training in India on a firm base, a committee on Fisheries Education was constituted in 1959. This Committee recommended the setting up of two national level institutions. This resulted in the establishment of the Central Institute of Fisheries Education (CIFE) at Bombay in 1961, and the Central Institute of Fisheries Nautical and Engineering Training (CIF NET) (erstwhile Central Institute of Fisheries Operatives) at Cochin in 1963, thereby paving the way for proper institutionalised education and training programmes for fisheries in India.

The Indian Council of Agricultural Research (ICAR) has been playing a significant role in the field of Agricultural education as the University Grants Commission does in the case of general education. With the transfer of Central Fisheries Research Institutes to ICAR, the Council started taking active interest in promoting fisheries education in the country through Agricultural Universities, arranging advanced training of teachers and scientists in reputed institutions within and outside the country, awarding scholarships and fellowships, and through Krishi Vigyan Kendras (Farm Science Centres) and Trainers Centres. These activities are further strengthened with the creation of Department of Agricultural Research and Education (DARE) in 1973 which liase closely with the Central and State Governments. The various technical programmes of fisheries education and training under Indian Council of Agricultural Research are entrusted to the Scientific Pannel on agricultural education.

The aim of fisheries education and training in India is to develop skills and proficiency to increase the fish production through resources assessment, improved fishing techniques, handling, preservation, distribution and utilisation by applying modern know-how, and by efficient managment for achieving greater profitability and also for the social advancement of the fishing community, which has been traditionally backward. To achieve the above objectives, the fisheries education and training in India has been evolved under a four-tier pattern, namely;

Operative technical personnel for the artisanal fisheries (Base level);

2. statutorily required personnel for manning ocean going vessels and trained personnel for handling, processing and marketing as well as shore-based personnel for maintenance of vessel and machinery and fabrication of fishing gear etc. (Under- graduate level);

3. development and managerial personnel to plan and to be incharge of developmental programmes (Graduate and Post-graduate level); and

4. scientific and technical personnel for stock assessment, exploration, introduction of new technology etc. (Post-graduate level).

As the education and training requirements for each of the above category of personnel were different, necessary separate establishments had to be created at the State, national and University levels. In addition to regular institutionalised programmes, *ad hoc* training programmes are also conducted to meet specific needs.

Operatives for artisanal fisheries (basic level training)

The training of artisanal fishermen was started in 1954 with the establishment of Fishermen Training Centres in different States. These training centres have limited objective of training the fishermen in the operation of small mechanised fishing vessels and their maintenance. This is achieved by a combination of class room teaching and practical demonstration at sea over a period of 6 to 10 months, the subjects covered being fishing methods, fishing gear technology, elementary principles of navigation and running and maintenance of small internal combustion engines.

There are at present 31 such Fishermen Training Centres in the country with a total intake capacity of around 900 candidates, details of which are furnished in Table 7.

Table 7. *Statement giving details of Fishermen Training Centres in India*

Name of the State	Location of the Training Centre	Maximum intake capacity	Duration (Months)
Kerala	Vizhinjam	40	9
,,	Neendakara	40	9
,,	Ernakulam	40	9
,,	Beypore	40	9
,,	Cannanore	40	9
,,	Ernakulam	10	10
Tamil Nadu	Mettur Dam	20	10
,,	Mandapam	60	10
,,	Colachel	50	10
,,	Tuticorin	70	10
,,	Nagapattinam	50	10
,,	Cuddalore	53	10
,,	Madras	50	10
Karnataka	Mangalore	30	10
,,	Gangolli	30	10
,,	Karwar	30	10
,,	Honnavar	30	10
,,	K. R. Sagar	20	3
,,	Bethamangala	20	3
Maharashtra	Alibag	22	6
,,	Versova	22	6
,,	Ratnagiri	22	6
,,	Bassein	22	6
Andhra Pradesh	Kakinada	20	10
Orissa	Paradeep	...	10
West Bengal	Calcutta	...	10
Goa	Panaji	...	10
Lakshadweep	Kavaratti	...	10
Gujarat	Veraval	...	10
,,	Satpati	...	10
Madhya Pradesh	Nowgong	50	10

The minimum entry requirement to these centres is a basic education upto 5th standard with at least 5 years fishing experience. The trainees are normally paid a stipend to meet their expenditure. As an incentive, some State Governments encourage these trainees to form co-operatives after successful completion of their training and give them preference in the allotment of mechanised fishing boats. About 8000 candidates have so far been trained in these centres. This course also forms the training ground for young enterprising fisher boys with necessary education, who can eventually man large fishing vessels by following up their training with advanced training for certification under the Merchant Shipping Act.

(iii) fabrication and repairs of fishing gear and
(vi) communication between ship and shore.

Each of the above disciplines requires specialised training which is imparted through the CIFNET at Cochin and Madras and the Integrated Fisheries Project at Cochin (IFP) as listed. The first 4 courses are conducted by CIFNET and the last 3 by IFP.

(1) Boat Building Foremen
(2) Shore Mechanics
(3) Fishing Gear Technicians
(4) Fishing Vessel Electronic Technicians
(5) Refrigeration Technicians

Training Vessels of CIFNET

Under-graduate level training

(a) **Technicians for shore-based establishments**

Any modern fishing industry to be succesful should be backed by the necessary facilities on the shore to look after,

(i) handling and processing of catch,
(ii) maintenance of vessel and machinery,

(6) Fish Processing Technicians
(7) Purse seine Operators

The training facilities are extended both to the personnel serving in the Departments of fisheries in the States and also in the private industry.

(b) Personnel for manning of ocean going fishing vessels

The expansion of deep-sea fishing of the country necessarily involved the introduction of large ocean

going vessels which attract the provisions of the Indian Merchant Shipping Act 1958, for purposes of manning and safety of life at sea. The rules under the Merchant Shipping Act require that all fishing vessels of 15 tonnes nett and above have to be registered with the Mercantile Marine Department and all vessels exceeding 25 tonnes gross should be commanded by duly certificated deck officer/officers. Similar regulations are existing for manning the engine rooms of fishing vessels also by similarly qualified engineers. Although from 1948 onwards an *ad hoc* programme for training these personnel through actual sea and engine room service was in existence and was implemented by the then Deep-Sea Fishing Organisation of the Government of India, and from the vessels of the Government of West Bengal and the IFP, regular institutional follow-up commenced only in 1963 with the establishment of the CIFNET, Cochin with the principal objective of training these categories of fishing vessel officers. The Madras Unit of the CIFNET was established in 1968 to meet the increased demands for trained personnel. These two organisations between them are

Workshop practice at CIFNET

imparting the necessary training to candidates who wish to qualify as Skippers (Fishing Vessel), Fishing Secondhands, Engineers (Fishing vessel) and Engine Driver (Fishing vessel), and to obtain the necessary Certificate of Competency, issued by the Ministry of Transport and Shipping of the Government of India, through the Directorate General of Shipping.

These training courses are initially institutional in nature for a period of 15 months and are followed by the requisite qualifying sea/workshop service to meet with the eligibility requirements to appear for the respective Certificates of Competency examinations. The Institute also offers refresher courses for Fishing Secondhands and Engine Drivers appearing for higher Certificates of Competency examinations and also conduct updating courses for Skippers on the application of acoustic methods in modern fishing, fishing fleet management, and so on.

The teaching faculties of the Institute are organised under 5 divisions *viz.* Seamanship & Navigation, Marine Engineering, Craft and Gear, Fishing Boat Building and Fishing Vessel maintenance & operation. The Institute has well equipped workshops and laboratories. The onboard training is imparted from 5 training vessels of the Institute. This training fleet will be strengthened by the addition of a 33.5 metre training vessel and a 17.5 metre multi-purpose fishing vessel during the Fifth Five Year Plan Period.

The Institute has capacity to train upto 160 students per batch at Cochin and Madras in the core courses of Fishing Secondhands and Engine Drivers. In addition, the Institute at Cochin can train upto 75 candidates and at Madras 35 candidates in the ancillary courses for shore-based technicians. Nearly 50% of the students is sponsored by the maritime State Governments and the industry and the balance is filled by open selection. The minimum entry qualification is a pass in matriculation or equivalent. The training is imparted free of cost. Hostel accommodation is compulsory and is free, but students will have to meet their boarding charges.

On completion of the institutional training, the trainees are given placements onboard fishing vessels of appropriate tonnage/HP and in recognised marine workshops for their sea/engine room/workshop service to enable them to obtain the necessary eligible service to appear for the respective Certificates of Competency Examinations. For this post-institutional training the trainees are paid either stipend or salary.

CIFNET at Cochin and Madras have so far trained 1449 candidates and another 209 trainees are undergoing training in the various courses. Details of the achievement of the Institute in training of technical manpower are furnished in Table 8.

Table 8. *Number of marine fisheries operatives trained at the Central Institute of Fisheries Nautical & Engineering Training*

Category of personnel trained	Total No. trained		Under training	
	Cochin (1963-77)	Madras (1969-77)	Cochin (1977-78)	Madras
Fishing Secondhands	331	206	40	40
Engine Drivers	306	192	40	40
Boat Building Foremen	78	Not offered	6	Not offered
Shore Mechanics	80	6	5	7
Fishing Gear Technicians	91	11	4	4
Fishery Electronic Technicians	76	51	14	9
Trained teachers for Fishermen Training Centres	21	Not offered	...	Not offered
Total numbers trained/ under training	983	466	109	100

Besides the above training courses, the State Boards of Technical Education of the Government of Tamil Nadu, Kerala and Andhra Pradesh organise diploma level training in Fisheries Technology and Navigation meant mainly for training junior level administrative personnel for serving in the Departments of Fisheries. While the Polytechnic in Andhra Pradesh and Kerala have since been discontinued, the Central Polytechnic in Madras continues to offer a 3-year course for post-matriculation students leading to Diploma in Fisheries Technology and Navigation.

The Marine Products Processing Training Centre established in Karnataka State in 1963 with Japanese collaboration, train candicates in handling of fish, freezing, canning, quality control and related aspects at post-matriculation level.

The Regional Training Centre for Inland Fisheries Operatives at Agra established in 1967, offers a 9 months course to post matriculation students in the various aspects of inland fish culture.

Development and managerial personnel to plan and to be in charge of developmental programmes (graduate and post-graduate level)

Fisheries as a subject for graduate level of education is a recent development in Indian Universities. The University of Agricultural Sciences, Bangalore,etablished the College of Fisheries in Mangalore, Karnataka in 1969. This was the first college to start a 4 year graduate course in Fisheries. (B.F.Sc.) The entry qualification is a pass in Pre-University or equivalent. The College has an intake capacity of 40 students each year. The University has since introduced a post-graduate level course also in Fisheries Science (M.F.Sc.) of 2-years duration after B.F.Sc. with two special subjects *viz.*, Industrial Fisheries Technology, and Fish Production and Management. This course has an annual intake of 6 students for each of the subjects. In addition to these courses, post-diploma courses in Fish Processing Technology and in Fish Culture Technology, each of one year duration, are also offered.

The Calicut University started a Faculty of Fisheries at Calicut, Kerala, with the degree course leading to B. Tech. (Fisheries) in early 1970 which has since been discontinued. The Tamilnadu Agricultural University, Coimbatore, is in the process of setting up a Fisheries College at Tuticorin initially lading upto B.F.Sc. The Inland Fisheries Training Unit of the Central Institute of Fisheries Education at Barrackpore offers Certificate Course of one year duration in inland fisheries development and administration to candidates, sponsored by State Governments and private individuals, who possess a degree with Zoology as one of the subjects.

The Central Fisheries Extension Training Centre at Hyderabad set up in 1973 imparts specialised training over a period of 10 months in extension techniques and methods in fish culture practices at post-graduate level mainly for in-service personnel from different states.

Post-graduate level training

The Central Institute of Fisheries Education, Bombay,was established in 1961with UNDP assistance and with the objective to train in-service fisheries officers of the various States in the country in a comprehensive course of fisheries science over a period of 2 years, aimed at equipping the candidates with necessary technical know-how for implementing fisheries development projects. The Institute also admits a limited number of private candidates nominated from the Fishing Industry and candidates from foreign countries. The Institute awards a Post-graduate Diploma in Fisheries Science (D.F.Sc.) which is recognised as an alternate qualification to M. Sc. degree in Biological Sciences of Indian Universities.

The syllabi of the course cover fisheries biology, fish processing technology, fishing technology, fisheries

Navigation and chart work training at CIFNET

Boat building and net mending at CIFNET

administration, fisheries economics, statistics, marketing and co-operation. The intake capacity is 60 students per year. The Institute has well equipped laboratories and a 15.25m long fishery training vessel. 2 field stations, one for brackish water fish culture and the other for freshwater fish culture have been set up at Kakinada and Balabadrapuram respectively in Andhra Pradesh. The Institute has trained so far 383 candidates.

The University of Cochin started in 1976 a post-graduate level course leading to M.Sc. degree in Industrial Fisheries with accent on management of commercial fisheries activities. The course is conducted in 5 semesters each of approximately 6 months duration. The intake capacity is 15 students per year.

Besides, the Staff Training Institute of the Department of Fisheries in the various States of India offered inservice training to the junior level officers at graduate and post-graduate level for 6 to 12 months.

The Scientific and Technological Research personnel

Conventional Universities like Kerala, Cochin, Madras, Karnataka, Andhra, Annamalai, Madurai, Bombay, Gujarat, Aligarah, Banaras etc. offer fisheries/marine biology as special subject for the Post-graduate course. These Universities also have facilities for carrying out researches on fish and fisheries leading to Doctoral and Post-doctoral degrees. Besides, National Institutions like the National Institute of Oceanography, Panaji, Central Marine Fisheries Research Institute, Cochin, Central Inland Fisheries Research Institute, Barrackpore and Central Institute of Fisheries Technology, Cochin offer training as well as research facilities on fishery science, fishery technology environmental sciences and cognate subjects.