

# Promoting Skilled Manpower for the Fishing Industry: The Contribution of CIFNET

The Central Institute of Fisheries Nautical and Engineering Training, perhaps better known as CIFNET, was set up in Cochin (now Kochi) in 1963 under the Ministry of Agriculture. Its main objective was to develop manpower for ocean-going fishing vessels, on the basis of recommendations made by a government committee on fisheries education. The committee had assessed manpower requirements in fisheries and suggested measures to meet these requirements.

The Institute was initially named Central Institute of Fisheries Operatives. One unit of CIFNET was set up in Chennai in 1968, another in Visakhapatnam in 1981. The Institute was subsequently renamed as Central Institute of Fisheries Nautical and Engineering Training. Courses to train candidates for manning fishing vessels under the Merchant Shipping Act, 1958, are conducted by the Institute regularly in the three centres.

The Institute has a total sanctioned staff strength of 298 at its Cochin headquarters and the two units at Chennai and Visakhapatnam. The other facilities at the three units are as follows:

The Institute is equipped with library facilities, laboratories, an engineering workshop, fishing gear fabrication hall, trainees' hostels, information and publication sections, etc. The Institute's faculty includes doctorates/ post-graduates in engineering, fishing technologists, computer application specialists, masters in nautical science with rich theoretical and practical experience with merchant and naval ships.

Mr G Hassan Manikfan, 57, Director of CIFNET, holds a degree in zoology, a diploma in fisheries science from the CIFE and a diploma in business administration. In his 31-year career with the Ministry of Agriculture, he has served two fisheries organizations – CIFNET and the Integrated Fisheries Project (IFP), Cochin – as well as the Union Territory of Lakshadweep.



Beginning his career as fishing instructor with CIFNET in 1977, Mr Manikfan moved on to the IFP which he served in different capacities – as Assistant Director, as Deputy Director for Experimental Fishing and as Director. He took charge of CIFNET in February 2002; during the first four years of this period, he also held additional charge as Director of IFP. Between 1993 and 1998, he was Director of Fisheries of Lakshadweep.

At IFP, Mr Manikfan helped draw up long-term and short-term strategies for development. Significant contributions were made by IFP during his period to improve marine products development, impart training to the industry in fish processing, and carry out fabrication and repair of fishing gear. He helped reorganise the IFP by transferring various staff to CIFNET and the Fishery Survey of India. At Lakshadweep, Mr Manikfan was responsible as Director of Fisheries for planning and implementation of projects, purchase operations, and coordination between fisheries and other departments.

As Director of CIFNET, Mr Manikfan plans and implements training programmes, formulates policies, liaises with the fishing industry, with various governments and international bodies. He manages fishing vessel operations and organises manpower development for deep-sea fishing vessels. He has helped introduce new courses, conducted a study on the efficacy of LPG as a fuel for outboard motors used by fishermen, and established an engine room simulator for students.

## Objectives of CIFNET

- To create trained manpower for the operation of ocean-going fishing vessels. To run infrastructural establishments with technical teachers for manning fishermen training centres attached to maritime states and Union Territories (UTs).
- To conduct studies on fishing craft, gear and equipment. To provide extensive training for advancement in fishing technology aimed at enhancing fishermen's productivity and increasing marine fish production.
- To help developing nations in the South-east Asian, Middle-east

### Facilities with CIFNET

Facilities	Headquarters Kochi	Chennai	Visakhapatnam
Total land area (acres)	4.35	1.41	1.035
Building area (sq.mt)	5 730	2 903	3 300
Training Vessels	M V Prashikshani; 34 meter LOA; training in trawling and longlining	MV Skipper; 28.3 meter LOA; training in trawling	M V Skipper III; 28.3 meter LOA; training in trawling

### The Technical Divisions of CIFNET and their activities

Technical Division	Activities
Nautical Division	Seamanship & navigation, marine meteorology, chart work, etc.
Fishing Gear Division	Fishing gear material and design, fabrication of fishing techniques, fishery biology section, deck equipment, etc.
Marine Engineering Division	Marine engineering, electrical engineering, electronics & computer applications, hydraulics, refrigeration, etc.
Boatbuilding Division	Fishing, boatbuilding technology, materials, design, construction, installation of engines and accessories, etc.
Maintenance Division	Maintenance and repair of fishing vessels, equipment and machinery, etc.
Training Division	Programming and conduct of various training courses, post-institutional training, examinations, employment guidance, etc.

and African regions to create technical manpower for development of marine fisheries.

- To provide consultancy services in all matters with special reference to technical manpower requirements.

### Vision of CIFNET

To impart quality training in order to upgrade skills, prevent obsolescence, and develop a

constructive attitude with a focus on competitiveness to meet the changes and challenges of contemporary needs in both fishing and the merchant marine.

### Recent achievements of CIFNET

- Introduction of a 4-year Bachelor of Fisheries Science (Nautical Science) degree course approved and affiliated by Cochin University of Science and Technology, Kochi.

*CIFNET Headquarters at Kochi, Kerala*



- Introduction of 2-year trade courses for Vessel Navigator and Marine Fitter approved by the Director-General of Employment and Training (DGET), Ministry of Labour, New Delhi, affiliated to National Council of Vocational Training (NCVT).
- CIFNET has conducted a study on the efficacy of LPG as fuel on outboard motors used by fishermen in fishing vessels. The project was successfully completed and a report was submitted to the Ministry of Agriculture in 2007.
- Establishment of Engine Room Simulator for the benefit of students of various engineering colleges undergoing short-term training programmes at CIFNET, and students of the Marine Fitter Course at CIFNET.

### Contributions of CIFNET

#### A. On the training front:

**Fishing industry:** The Institute conducts a Mate Fishing Vessel Course, an Engine Driver Fishing Vessel Course, a Vessel Navigator Course and a Marine Fitter Course for operative personnel for fishing vessels. The Institute provides post-institutional training to help candidates acquire sea services for the competency examinations conducted by Mercantile Marine Department (MMD) – they are eligible for a remission of the sea service requirements prescribed in the Merchant Shipping Act, 1958.

**Foreign nationals:** The Institute trains foreign nationals, mainly from Africa and Asia, under various bilateral schemes. 124 candidates from Nigeria, Zambia, Tanzania, Ghana, PDR Yemen, Myanmar, Laos, Sri Lanka, Bangladesh, Maldives and Philippines, etc. have been trained so far.

**Inter-institutional activities for marine fisheries development:** CIFNET is associated with various Central and State Government organizations, the Indian Coast Guard, universities, colleges and the fishing industry. It imparts technical

knowledge on marine fisheries development to their representatives.

**Training for officials of Government organizations and financial institutions:** The Institute regularly conducts trainers' training programmes for officials of the Marine Products Export Development Authority (MPEDA) on marine electronics & equipment, capture fisheries, hygienic handling of catch onboard fishing vessels, etc. The Institute provides refresher courses for in-service certified hands of fishing vessels from institutes like the Fishery Survey of India (FSI), Central Institute of Fisheries Technology (CIFT), etc. These courses update knowledge on nautical science and electronic equipment and prepare candidates appearing for higher-level competency examinations conducted by the MMD.

The Central Institute of Coastal Engineering for Fishery (CICEF) regularly deposes its officials for the training courses on 'Operation of outboard engines and navigation' and 'Nautical and engineering technology'. The institute has also conducted customized courses for officials of financial institutions like NABARD on 'Fish preservation and processing' to acquaint them with the subject.

The Institute is connected with the National Institute of Ocean Technology, National Institute of Oceanography and Department of Ocean Development by way of designing and fabricating suitable fishing gear for experimental operation onboard the research vessels belonging to these organisations.

**Training courses for State Directorate of Fisheries and UTs of Lakshadweep:** CIFNET has been conducting various short-term training programmes for candidates sponsored by the Fisheries Departments of States and UTs. These include 'Operation of patrol boats' (Orissa), 'Introduction of intermediate craft for pelagic

trawling' (Andhra Pradesh) and 'Marine electronics & equipment' (Maharashtra, Orissa, and Goa). The Institute has conducted courses for candidates sponsored by the Lakshadweep Administration and the Lakshadweep Development Corporation. These include 'Shore mechanic's course', 'Junior signal man course' and 'Course on practical trawling operations'.

**Training of Coast Guard officers:** The Institute has been imparting training in fisheries technology to officers of the Indian Coast Guard since 1984 to acquaint them with fishing activities. The Assistant Commandants undergo this training for a week.

**Training courses for college and university students:** CIFNET's expertise, training facilities and infrastructure are offered to college and university students. Short-term sandwich training programmes are arranged in subjects like fishing gear, fisheries technology, marine engines, marine refrigeration, marine electrical technology, marine

electro technology, marine electronic equipment & power supplies. Students from various vocational institutions, graduate and post graduate students in science and fisheries, and students of engineering colleges, benefit from these specially designed programmes.

**Extension activities for the traditional fisheries sector:** The Institute makes its expertise available to meet any specific demand for updating / upgradation of new fishing technology. Some of the training programmes organized by CIFNET for traditional fishermen to enhance their fishery activities and uplift their socio-economic status are 'Operation and maintenance of outboard motors', 'Hygienic handling of catch onboard', 'Safety of life at Sea', etc.

### ***B. Contribution to the fishing industry***

**Location of tuna grounds in the Indian EEZ:** Tuna longline fishery was introduced in the early 1980s, and was established after the initial

**Foreign Candidates Trained at CIFNET (as on 31.12.2007)**

Country	Scheme	Number Trained
Nigeria	FAO Fellowship	15
Philippines	FAO Fellowship	2
	TCS Colombo Plan	2
Fiji	TCS Colombo Plan	4
Zambia	SCAAP	8
Ghana	FAO Fellowship	2
	SCAAP	5
Laos	ESCAP	2
Burma	FAO Fellowship	12
	TCS Colombo Plan	1
PDR Yemen	FAO Fellowship	3
	Bilateral	15
Tanzania	CFTC	4
Maldives	CFTC	5
	ITEC	4
Bangladesh	CFTC	16
	TCS Colombo Plan	1
Kiribati	CFTC	1
Namibia	CFTC	10
Sri Lanka	CFTC	10
	ITEC	1
	TCS Colombo Plan	1

SCAAP - Special Commonwealth African Assistance Plan; ESCAP - Economic & Social Commission for Asia and Pacific; CFTC - Commonwealth Fund for Technical Co-operation; ITEC - Indian Technical & Economic Co-operation; TCS - Technical Co-operation Scheme

breakthrough around 1986-87. CIFNET undertook a new exploratory tuna longlining programme jointly with the FSI. The training-cum-survey conducted by the institute's training vessel MV Prashikshani during the 1980s helped in locating potential tuna grounds in the Indian EEZ. The institute has also trained personnel required for this sophisticated fishing method.

**Selective shrimp trawl fishing:** CIFNET in association with the Institute of Marine Research, Bergen, Norway, was identified for the conduct of Selective Shrimp Trawl Fishing operations. The Institute's 28 meter trawler MV Skipper III in the North-eastern coast, carried out the experiment during 1995-96.

**Ferro-cement boat construction:** CIFNET and FAO conducted a technical co-operation programme on the introduction of ferro-cement as an alternative construction material for fishing vessels. Six such vessels were constructed under this programme by CIFNET. They were later handed over to various fisheries corporations for further operations.

**Energy conservation programme:** A programme for energy conservation in the Indian fishing fleet was specially undertaken by CIFNET in 1988 under a bilateral agreement signed between India and Norway. Technical tests were carried out on these vessels for hydrodynamic properties and characteristics of propulsion machinery. The findings showed good fuel-saving potential in the Indian fishing fleet through economic operational measures.

**LPG project of CIFNET:** Considering the importance of alternate fuel, the Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture decided to take up a feasibility study on the efficacy of LPG for use on Outboard Motors (OBMs) operated in traditional fisheries. The Department identified CIFNET as



*CIFNET Director addressing the trainees*



*Trainees acquiring practical skills in the Institute's laboratory*

the agency to undertake this study. CIFNET took up this project study in November 2006, on a 9.9 HP OBM and a 25 HP OBM respectively at two different centers. The result of the study has been submitted to the Department.

**Major constraints**

CIFNET's facilities are meant to cater to the training requirements of two regular 24-month courses – Mate Fishing Vessel and Engine Driver Fishing Vessel. A number of faculty have been proposed and sanctioned to handle classes for these courses. Many posts have been abolished or surrendered because of various reasons as well as government policy decisions. Now, the staff strength has been reduced drastically because of government curbs on filling up posts earmarked for direct recruitment.

Considering the demand for technically qualified hands in

fisheries, the institute has commenced a four-year degree course recognized and affiliated by the Cochin University of Science & Technology during 2005. The certificate courses of 18-month duration have also been upgraded to 24-month courses and approved by DGET, Ministry of Labour, New Delhi and affiliated by NCVT.

Earlier, the total strength of the candidates in regular courses at the three centres was 200. Now the strength has gone up to 272. In addition to these courses, the Institute is conducting short-term training courses for fisheries organizations/ universities/ professional college students/ fishermen, etc. More than 1 000 people are trained every year in the short-term courses. The workload and training efforts have gone up considerably during recent years. The Institute could not add facilities

or faculties proportionately to the increase in the training activities. No new posts have been sanctioned for starting the degree course; on the other hand, the staff strength got reduced during the last four years because of general government policy.

Three training vessels presently available with the institute are more than 27 years old and have already outlived useful life. The machinery and equipment onboard these vessels are very old; frequent breakdowns have occurred in all three vessels. It is essential to procure new training vessels complete with equipment to impart practical training to the candidates undergoing regular courses at CIFNET. The practical training onboard fishing vessels is compulsory.

More training institutes have been established in the private sector for developing manpower for merchant shipping. Their training courses lead to CDC (Continuous Discharge Certificate), the document required for employment in merchant ships. These courses attract many candidates because of the job opportunities they provide in shipping. It is necessary for CIFNET to diversify the courses to suit the requirement of modern days.

Lack of proper hostel facilities to accommodate all the candidates undergoing regular courses affects the welfare of students undergoing regular courses. It is therefore necessary to overcome the shortcomings in the area to make the training programmes more efficient and quality-based.

CIFNET has long experience in developing technical manpower for the fishing industry. It has also designed and conducted short-term and long-term courses for fisheries organizations/ universities/ banks/ professional colleges/ fishermen, etc. The Institute has also organized field training programmes for fishermen in fishing villages. The Institute can design the programmes

according to the requirement of target groups and sponsoring agencies. More training programmes can be taken up by CIFNET, provided facilities and faculty are upgraded.

### **Job potential for CIFNET trainees**

Candidates who successfully complete the 24-month Mate Fishing Vessel Course at CIFNET can appear for the Mate Fishing Vessel Competency Certificate Examination after acquiring 24 months of sea service working onboard fishing vessels. Candidates who obtain such Competency Certificates can appear for a Skipper Gr. II Competency Certificate – they will need 18 months of sea service after the Mate Certificate Examination or 30 months of sea service towards eligibility for Skipper Gr. I examination.

Similarly, candidates who successfully complete Engine Driver Fishing Vessel Course at CIFNET have to follow it up with 6 months workshop service and 9 months sea service towards eligibility for Engine Driver (FV) Competency Certificate Examination and further 21 months sea service for Engineer (FV) Examination.

As per available information, most CIFNET-trained candidates secure

suitable jobs on their own. The Institute is proud that most large fishing vessels in the country are managed/ manned by CIFNET-trained and certificated personnel. Some CIFNET-trained personnel have also obtained jobs in fisheries and allied sectors in African and Middle-east countries.

### **Future development activities**

- Upgradation of the present NCVT trade courses to 3-year diploma courses;
- Acquisition of modern training vessels;
- Construction of a laboratory complex at CIFNET, Kochi;
- Setting up of new IC engines, pneumatic and refrigeration laboratories;
- Setting up a new bio-chemistry and processing laboratory;
- Setting up a working model of a marine power transmission system – CIFNET Visakhapatnam;
- Establishing an experimental hatchery unit – CIFNET Kochi;
- Construction of a new hostel complex – CIFNET Kochi;
- Construction of a swimming pool at CIFNET Kochi; and
- Upgradation of the Simulator Centre by adding GMDSS, navigation and fishing simulation software.

*CIFNET Trainees onboard fishing vessel*

