

**WELCOME**

TO

**COCHIN**

THE VENUE OF

**THE SYMPOSIUM ON MOLLUSCA**

UNDER THE AUSPICES OF

**THE MARINE BIOLOGICAL ASSOCIATION OF INDIA**



**SOUVENIR**

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# COCHIN —

## The Centre of Fisheries and Oceanography

— R. Raghu Prasad

Cochin, known as the "Queen of the Arabian Sea" is the only natural harbour in South India. Together with Ernakulam, situated on the mainland, it is the most picturesque city in Kerala. With palm-fringed lagoons, backwaters and a beautiful beach bordering one of the most productive seas, this city *inter alia* affords a diversity of environments for the theoretical as well as applied oceanographers and biologists.

Though the coast-line of Kerala is only about 580 kilometres of the entire Indian coast-line of 5,600 kilometres, the annual fish landings of the State are of the tune of three hundred thousand tonnes or nearly one-third of the total fish landings from the seas of India. The west coast of India alone accounts for about 80% of the country's total marine catch. Naturally during the last one and a half decades oceanography and fishery interests have begun to converge to this small city, which has now grown into an important centre of marine research. The following is a brief account of the various institutions engaged in the study of marine sciences.

### **Central Marine Fisheries Research Substation**

The Central Marine Fisheries Research Institute, Mandapam Camp, now under the

control of the Indian Council of Agricultural Research, is the pioneer institute in India tackling the problems of fisheries research and allied subjects on an All-India basis. This institute started its major Substation at Cochin in 1951. Housed in a small rented building, the Station began to function with a small band of research workers on the problems connected with prawn fisheries. With the tremendous development in the fishing industry, the Substation's programmes were intensified and more staff was posted to this Substation and at present it has a strength of 86 inclusive of the auxiliary staff. The Substation currently is housed in two rented buildings about 2 kilometres apart.

In the early stages the investigations conducted at this Substation were confined mainly to the coastal areas. But in 1957 oceanographic investigations on a wider scale were initiated with M. O. KRISTENSEN, one of the fishing vessels of the Indo-Norwegian Project made available to the Institute. By the end of 1957 this vessel was replaced by R. V. KALAVA which made regular oceanographic cruises along the west coast of India.

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till 1961. Towards the end of 1961 a modern research vessel VARUNA, specially built in Norway for oceanographic investigations, was made available by the Indo-Norwegian Project and has been regularly conducting fishery and oceanographic research since then. Investigations on the various aspects of the pelagic and demersal fish resources, hydrography, primary organic production and plankton of the west coast of India and compilation and processing of marine fishery statistics on an All-India basis are the main programmes that are being handled at the Substation.

### **Central Institute of Fisheries Technology**

Sponsored by the Ministry of Food and Agriculture of the Government of India, this Institute started functioning at Cochin in 1957 with the Craft and Gear wing only. In 1958 the Processing Wing was added partly by the transfer of the Chemistry Division of the Central Marine Fisheries Research Institute from Mandapam Camp. Now the Headquarters of the Institute and the Processing Wing are at Ernakulam and the Craft and Gear Wing at Kochangadi.

The activities of the Processing Wing cover all aspects, fundamental and applied, of fish processing technology. The various research projects undertaken include Chemistry, Microbiology, Processing and Processing Engineering, Fish Curing, By-Products, Quality Control and Inspection. The Craft and Gear Wing designs boats, conducts investigations on craft, gear, mechanical accessories, fishing methods and gear materials and also on the engines used in fishing boats. This wing has two branches, the Gear Branch and the Craft Branch of which the latter is now under the Ministry of Food and Agriculture while all the rest are under the Indian Council of Agricultural Research.

During the last decade the Institute has taken many rapid strides and has grown in stature and activity. The Institute is also authorised for the preshipment inspection and quality control of frozen and canned prawns and of frozen frog legs.

### **Offshore Fishing Station**

Nestled among the fish processing plants in Kochangadi is the Offshore Fishing Station, a Substation of the Government of India Deep Sea Fishing Station, Bombay. This station was started in 1957 with the object of exploring the fish resources of the continental shelf of the Kerala coast and to determine the effective gear and accessories to be employed in fishing for the various types of fish. The station operates boats and gears of different types and trains many young people in the techniques of mechanized fishing. The scope of activities of the station include advice and guidance to private industries in the matter of fishing gear, fishing technique and allied subjects.

### **Central Institute of Fisheries Operatives**

This Institute was established by the Government of India in 1963 to train operatives of different skills in both theoretical and practical fields suitable to conduct fishing in the high seas with the help of larger, modern fishing fleet. All categories of skilled personnel required to man and maintain the high sea fishing vessels, such as Skippers, Fishing Mates, Marine Engineers, Electronic Engineers, Gear Technicians, Boat Building Foremen, Shore Mechanics and Radio-telephone Operators are being trained here.

This International Symposium on Mollusca is being held in the salubrious campus of this Institute and the delegates to the

Symposium can have a first-hand knowledge of the various facets of this Institute and also the dynamism and leadership which is behind this organisation

### **The Indo-Norwegian Project**

In 1953 an agreement between the Governments of Norway and India and the United Nations was signed under which Norway was to conduct a programme of technical assistance in India. The project envisaged mechanisation of fishing boats, provision of repair facilities, construction of one or more ice plants, supply of insulated vans for transport of fish, organisation of fishermen's co-operatives, improvement of environmental sanitation with emphasis on the supply of drinking water and establishment of a health centre.

The programme commenced in the project area at Neendakara 14 years ago. After a year the mechanical workshop and boat-building yard began production of indigenous mechanised boats. Later for examining the economic aspects of shrimp-trawling, four medium sized boats of 36 feet (M-boats) were brought from Norway. These, together with three exploratory fishing vessels required harbour facilities for operation and Cochin naturally was chosen as the most suitable site for the location of the Project. In 1956, under a new agreement the present project site facing the Cochin backwaters came into being. After 14 years of fruitful Indo-Norwegian co-operation the Project Site in Cochin has risen up as a symbol of international co-operation. With a fleet of fishing vessels conducting exploratory fishing as far out as 800 kilometres and covering the area from Kanyakumari to Goa, this fishing centre is perhaps the best in India now.

### **Kerala University Oceanography Laboratory**

The Department of Marine Biology and Fisheries was organised in 1938 at Trivandrum by the erstwhile University of Travancore. In 1940 a new building, the present Aquarium at Trivandrum, with laboratory facilities on the first floor was constructed. As an offshoot of this, the Oceanography Laboratory was established temporarily in the Naval Base at Willingdon Island in Cochin. In 1962 the Laboratory was shifted to the newly constructed building on the Fore-shore Road facing the Cochin backwaters. The facilities here include Laboratories for biological and chemical work, research rooms for scientists and students, reference library, air-conditioned room for instruments, dark-room for photography, lecture hall, museum, preparation room for biological specimens and a modern hostel. An aquarium for marine and fresh water organisms is also being completed.

Studies on plankton, bottom fauna, bottom deposits, hydrography of the coastal region, as well as taxonomical, morphological, physiological and ecological studies on fishes and invertebrates are being conducted here. R. V. CONCH, the research vessel of the Laboratory, was commissioned in 1957. It is a 50-foot vessel with a 30 ton gross displacement and has a cruising range of over 500 kilometres. This vessel is used for training post-graduate and research students in oceanographic work and for marine biological collections. The Laboratory publishes a journal "Bulletin of the Department of Marine Biology and Oceanography".

This Department has facilities for research and training in Oceanography and offers courses in Marine Biology and Oceanography leading to the degree of Master of Science. A few students are working towards Ph. D. and D. Sc. degrees also.

### **Indian Naval Physical Laboratory**

This Laboratory, situated within the Naval Base in Willingdon Island was established in 1952. Originally formed as an establishment under the Naval Headquarters, the Laboratory was absorbed into the Defence Research and Development Organisation in 1958. The Laboratory is thus under the joint control of the Director of Research (Labs) at the R & D Headquarters and that of the Director of Scientific Research (Navy) at the Naval Headquarters.

The Laboratory is divided into four research groups *viz.*, Acoustics, Mines, Electronics and Oceanography. The Oceanography Group is responsible for collecting, processing and storing all the data about the Indian waters that are of interest to the Navy. The main fields of interest are oceanographic instrumentation, processing of BT and related oceanographic data necessary for Naval operations, microseisms and studies on waves and swells.

### **National Institute of Oceanography**

The latest addition to the group of organizations is the National Institute of Oceanography, one of the National Laboratories under the Council of Scientific and Industrial Research. The Institute started functioning from January 1966 taking over all the then existing units and activities of the Indian Ocean Expedition Directorate. Three Divisions of this Institute are functioning here now *viz.*, The Indian Ocean Biological Centre, Physical Oceanography Division and Biological Oceanography Division.

The Indian Ocean Biological Centre came into existence as part of the International Indian Ocean Expedition programme and it receives assistance from the UNESCO. The Centre receives, processes and stores plankton samples collected by the research vessels belonging to various countries which participated in the Expedition. Altogether over 2,500 samples have been received by this Centre for sorting, which is supervised by an UNESCO appointed Curator. The Centre has developed into one of the important sorting centres in the world.

The Physical Oceanography Division is handling mostly problems relating to the physics of the seas around India. It is also engaged in the study of bottom topography, geology, beach erosion, accretion, sand movement, coastal currents, storm surges and sea level variations, wave refraction, and statistical studies on the chemical and physical characteristics of the sea water.

The Biological Oceanography Division is concerned with the hydrography and primary productivity of Cochin backwaters, hydrography of inshore waters, studies on the osmo-regulation in crabs and studies on interstitial fauna.

### **Other Institutions**

The Kerala State Fisheries Department, the Kerala Fisheries Corporation and thirty and odd fish canning and freezing companies spread over Cochin and the surrounding areas have made this City the nerve centre of Fisheries and Oceanography.

