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**SEMINAR ON POTENTIAL
MARINE FISHERY RESOURCES**

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Central Marine Fisheries Research Institute

(Indian Council of Agricultural Research)

P. B. No. 2704, E. R. G. Road, Cochin-682 031, India

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EXPLOITATION AND UTILIZATION OF MARINE FISHERY RESOURCES

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With a coastline of over 6,000 km, India has a very rich marine fish potential. The potential yield from our Exclusive Economic Zone (EEZ) has been conservatively estimated at 4.5 million tonnes. The major marine fishery resources of India comprise :

- a) Pelagic resources such as oil sardine, mackerel, seerfish, tuna;
- b) Demersal fishery resources like perches, catfish, pomfrets, sharks;
- c) Midwater fishery resources of bombayduck, silverbellies;
- d) Crustaceans consisting of prawns, shrimps, lobsters and crabs; and molluscan resources such as oysters, mussels, clams, squids;
- e) Seaweeds.

Our marine fish landings, which had been at 1.08 million tonnes in 1970, increased to about 1.24 million tonnes in 1980, registering an increase of about 15% over a decade. The current level of production is estimated to be about 1.5 million tonnes. Thus, we are exploiting only an insignificant part of our available resources in the sea.

According to estimates, the traditional non-mechanised sector, consisting of about 1,60,000 countrycraft, account for 67% of the total catches. Small mechanised craft, numbering about 16,000, are estimated to bring in 32% of the catches. Trawlers and other modern fishing vessels, numbering between 80 to 100, contribute about 8,000 to 10,000t of fish annually. Over five lakh fishermen out of an estimated population of twenty six lakhs are reportedly engaged in full-time fishing.

On the one hand marine fish production has been stagnating and on the other hand major part of our resources other than those in the inshore waters within 50 m depth remain unexploited. This paradoxical situation is obviously detrimental to the interests of the country. The average per capita consumption of fish and fishery products in India is extremely poor, being about 4 kg per annum. Our exports of marine products stagnate near 80,000 tonnes per annum on the average. We are neither able to make available fish and fishery products in large quantities for increasing internal consumption nor able to step up our exports. The adverse consequences on the nutritional levels of our people and on our foreign exchange earnings are too obvious to be stressed.

There is absolutely no doubt that for achieving any major break-through in our marine fish production, we have to expand and intensify fishing efforts beyond 50 m depth. But our technical know-how, infrastructure and experience in tapping even the identified resources of the deep sea are extremely limited. There is general consensus among experts that the major constraints in the exploitation of our deep sea resources are the following:

- a) absence of reliable data on commercially exploitable resources in different areas of our EEZ
- b) lack of specific information about the types of vessels, fishing gear and other equipments required
- c) lack of know-how and technical skills required for different types of fishing
- d) absence of basic infrastructure
- e) lack of adequate finances and incentives
- f) lack of adequate marketing outlets

Resource-surveys have for long been undertaken by the Exploratory Fisheries Project/Fishery Survey of India, the Integrated Fisheries Project, the Central Marine Fisheries Research Institute, the National Institute of Oceanography, etc. But un-

fortunately the periodical reports on resources published by them have not been found to be reliable/adequate enough for enabling the industry to undertake commercial fishing operations by making large capital investments. Therefore, a time-bound programme for completing the resource-survey of our EEZ within a period of say five years has to be effectively coordinated at Governmental level for this purpose.

Prospective entrepreneurs have been reluctant to undertake deepsea fishing ventures for want of reliable data on resources and economics of operations. Therefore, till we properly survey, test fishing may be allowed and encouraged. A group of experts can be entrusted with the task of compiling and analysing the available data on resources and scrutinising and recommending proposals for test-fishing. Based on the recommendations of the group of experts, proposals for test-fishing may be cleared by the Ministry of Agriculture, on the merits of each proposal.

Based on the resource-data already available or which would become available as a result of test-fishing and completion of the proposed resources survey, the number, types and specifications of the fishing boats and gear required for commercial exploitation of fishery resources may be got assessed and prescribed. The Ministry of Agriculture may make use of the expertise available in institutions like the CIFT, the CMFRI and the IFP to make an immediate assessment of short-term requirements. Based on this exercise, the first stage can be completed within two-three months, and information on the number, types and specifications of boats and gear required can be made available to industry and State Governments.

With reference to the fishery resources available for exploitation and the types and specifications of vessels and gear sought to be introduced, fishing technology and skills have to be provided. There are many institutions already engaged in imparting know-how and skills, and the basic infrastructure for providing the requisite training already exists. But it is absolutely necessary to co-ordinate their activities and re-orient their curriculum and courses to meet the specific requirements.

This task, again, has to be undertaken by the Ministry of Agriculture with the involvement of the specialised institutions like CIFNET and CIFE and private parties, who have actual experience, though limited, in deep-sea fishing.

The large infrastructure requirements for the development of deepsea fishing like fishing harbours, boat repairing yards, cold storages, etc. would have to be provided by the Central and State Governments. The requirements of such facilities have been, by and large, identified, but necessary resources have to be provided for creating the facilities. Construction and management of such facilities that would come up in different parts of the country also deserves special attention. The present administrative systems and set-up are totally inadequate to cope with the work. Therefore, the Ministry of Agriculture has to take the initiative in setting up suitable machinery and in preparing specific action plans for each facility in consultation with the state Governments concerned.

Commercial fishing in the deepsea waters is capital intensive, technology-oriented and risk-prone. Therefore, it is unrealistic to expect the traditional sector to contribute significantly to the exploitation of the potential resources in the deep sea. Organised efforts with adequate financial, managerial and technological backing have to be made for tapping the available resources. Government has to consider making suitable institutional arrangements to provide funds for financing deepsea fishing activities. At the same time, keeping in view the large risk element in the operations, some kind of incentives would also have to be provided.

Exports have contributed very significantly to the development of marine fishery industry so far. Fortunately for us, it is possible to enlarge our share of the world market. Therefore, immediate steps are required to diversify our export products, particularly in view of the limited scope for larger shrimp landings. After clearly identifying the fishery items which can be exploited on commercial basis, strategies and specific plans aimed at finding suitable international markets for them would

have to be evolved. To some extent, this exercise would form part of the project planning for the successful economic exploitation of particular types of fishery. The MPEDA which has done considerable work in gathering market information and promoting our products abroad can be asked to intensify its efforts in this direction more systematically at the appropriate time and to involve itself suitably in the preparation of the export components of fishery projects.

Creation of a domestic marketing chain, either regionwise or Statewise, is another important requirement for sustaining the exploitation of deepsea resources. Total dependence on export markets for the deepsea marine products would not be prudent. Therefore, besides encouraging private initiative by providing infrastructure facilities and finance, the Central/ State Government may have to, in the initial stages at least, enter the field of domestic marketing directly or through co-operatives.

Development of marine fishery in India during the last one and a half decade seems to have been an export-led growth. Good demand for a high-value product, namely prawns and shrimps, in the expanding export markets has spurred and sustained the fishing and fish processing industry. Most of the fishing efforts and even the developmental and promotional measures were aimed at increasing the production and export processing of shrimps and prawns. Stagnating or declining catches of shrimps and prawns (during the year 1985, landings apparently declined by about 10,000 tonnes) must awaken us to the urgent need for evolving an integrated long-term strategy for the development of our marine fishery. Such a strategy should lay down clear policies and specific action plans for:

- a) the judicious management of our resources in the inshore waters with due emphasis on conservation;
- b) the exploitation and utilisation of our deepsea resources roughly on the lines indicated in this paper;
- c) the integration of the large fishermen community with the development of the fishery sector in the context of emerging technological and socio-economic compulsions.

The views and suggestions expressed in this paper are those not of the MPEDA.