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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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POTENTIAL FISHERY RESOURCES, THEIR EXPLOITATION AND UTILISATION

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Over the years various estimates have been made of the maximum sustainable yield of the total fish resources in the Indian waters. These estimates are by fisheries experts, exploratory teams, trial fishings conducted by independent agencies and Fisheries Survey of India. While the estimates vary from 2.4 to 6 million tonnes annually, there is a near unanimity in the projection of an annual yield of 4.5 million tonnes from our EEZ, which remains largely unexploited. It is well-known that the marine resources exploitation in the Indian Ocean have stagnated at the level of 1.5 million tonnes for more than a decade. While there has been some increase in the value of exports, and this has been largely due to the better international prices and greater quality control, the annual quantitative catch has remained almost the same, and there is also not much diversification achieved. Our fishing attitudes remain shrimp oriented only and we have made no tangible headway in increasing the production of various other varieties as has been the case in other countries. Hence, the attention of the planners should be focussed to tap this additional resource potential of the EEZ, which is 3.0 million tonnes over the present annual catch of 1.6 million tonnes.

In the opinion of the industry, it is possible to achieve a target of at least half of this potential almost immediately by increasing the present catch from inshore waters and by organising more effective efforts to exploit the off-shore and deep sea areas. This calls for a new, bold, imaginative and multi-dimensional approach through application of an innovative action plan. The industry looks forward to more specific data of resources assessment area-wise and species-wise. It is hoped, Fisheries Survey of India will undertake further research in this direction. Within the limitations of present information and according to the resource position known to the Industry, it is

tuna-like fishes and sharks are mostly available on the north-east coast, squids cuttlefishes and swimming crabs on the south-east coast, deep water prawns and lobsters on the south-west coast, Lakshdeep & Andaman group of islands and the anchovies are mostly available around the Cape Comorin bank.

For the exploitation of the above varieties of marine resource, the following type of fishing will have to be undertaken:-

- 1) Long lining/pole and line fishing/purse seining/trolling, drift netting for tuna, tuna-like fishes and sharks.
- 2) Jigging and midwater trawling with light attractions for cephalopods.
- 3) Purse seining/midwater trawling for anchovies and catfishes.
- 4) Trawling, trolling, lining and trap fishing for Cape Comorin bank resources.
- 5) Trawling for deepwater prawn/lobsters/perches, pomfrets, catfishes and sciaenids.

We would suggest that, in view of the present state of fisheries, we must undertake commercially oriented surveys by the highly trained and experienced crew, for, if, done otherwise, a potentially valuable fishery may appear erroneously uneconomical for exploitation. This will go a long way in regulating our efforts in the right direction. Once the economic feasibility is established, the training objective can take precedence because, if the fishery is not economically feasible, there is no meaning in training personnel for the chosen type of fishing. It is therefore very essential to demarcate areas, identify resources and new markets of commercial significance for the economic viability of the fishery venture.

We must also organise in a much better manner the system of information transfer on fisheries so that the industry gets timely information intelligibly disseminated, avoiding scientific jargons. There must not be much time lag between collection of valuable information and data and its transmission to the

industry. If this is done in a methodical manner, the industry can play an effective role in reaping the fruits of research efforts put in by FSI and other organisations. There must be better co-ordination of research, exploratory survey, experimental fishing and commercial operation in EEZ.

For exploitation of the resources, the industry has to determine the economy of the scales and to identify the right type of vessels required to carry out fishing operations. However, it is considered prudent for the present to think of only three sizes of vessels, of the size ranges of 20-25 m, 26-30 m and 31-35m. Larger sizes may be considered for resources like tunas, for purse seining and long lining methods, which would undoubtedly give a good rate of return on investment capital. In the estimation of the industry at least 250 fishing vessels must be inducted in the EEZ over and above the present fleet of 86 vessels already in operation in the Indian waters.

This alone would enable us to achieve optimum results, EEZ holds out great promise of marine resources which can be harvested only by modern fishing vessels of adequate endurance. Any delay in their procurement, from whatever source by import character, joint venture or indigenous production, would mean delay in the fishery development programme and letting the inexhaustible resources to go waste.

Looking into the present resources position, it is imperative today, more than ever before, to think seriously in terms of joint venture for diversified fishery, which will not only result in acquisition of permanent national assets but also pave the way for appropriate transfer and absorption of modern technology. This would also simultaneously provide ready export market. There is vast scope of improvement in our fish handling and marketing, including export. The basic infrastructure required for proper handling and utilisation of fish resources consists of facilities in harbours for berthing space, for fuel, water, ice, provision, shipways, workshops, auction, cold storages, and transportation, etc. Though much progress in this direction has been made, particularly with the initiative of Ministry of Agriculture and MPEDA, the facilities are not adequate and require

further improvement. With the materialisation of more deep-sea fishing vessels in the near future, there will be further strain on these services. Therefore, advance planning in this direction is called for. It will be in the ultimate interest of our country if a National Fishery Infrastructure Development Programme is undertaken on a war footing to match the forthcoming fleet being acquired. Programmes may also be formulated accelerating internal consumption and also generating demand for varied species available in the EEZ.

The two most powerful forces in reducing poverty in the developing countries are increasing food production and declining food prices. As is well known, fishery is a rich source for protein food. The utilisation of fish resources harvested from nearshore areas may be reserved for the domestic market, except the high priced varieties which may be exported to earn foreign exchange. The deepsea fishes may be exported totally to the international market. However, in case some of the varieties from these operations are not acceptable in foreign markets, these will automatically get diverted for domestic consumption. The local processing industry can also thereby find a very promising raw material rich in protein for commercial exploitation to benefit the weaker sections of society. In the estimation of the industry, if the potential fishery resources as known in EEZ are fully exploited, it will easily attain the target of export of Rs. 700 crores per annum by the turn of the seventh plan period besides substantially raising the growth rate in domestic consumption of this protein-rich diet.

It is well known fact that several fish species are either not exploited at all or lightly because of consumer taste. Therefore, in order to utilise fully the harvested fishery there is a need for a consumer promotional programme in the domestic market.

As regards management of fisheries, there are various educational and training institutes in the country to cater to the requirements of qualified manpower, who obviously form the

backbone of this sophisticated industry. With the bulk acquisition of trawlers, trawling activity will considerably expand. This will mean more trained personnel, such as skippers, engineers, fishing 2nd hand radio operators etc. Recently, the Central Government have taken a stock of the trained manpower requirements during the next five years, and it is hoped the prevailing situation of shortages in this respect will considerably improve. Besides this, we must also encourage employment of more and more scientists and biologists in key posts in fish processing plants with some subsidy from MPEDA, which we understand is being done now in a number of cases. Needless to say that this is an encouraging trend and would yield very positive results.

To bring about the 'Blue Revolution', we must augment fishery operations in every sector for fuller and optimum utilisation of our resources. To achieve, we have to move away from the regime of control and regulation towards major thrust for technological upgradation through a series of administrative measures for attaining the fastest growth in marine fishery production.

I would like to conclude by suggesting that Govt. of India may establish a Fisheries Guidance Bureau or a Control Board for transfer of innovative technology, at a most central location, preferably in a coastal area, for rendering valuable advice to the industry, individual entrepreneurs and the fishing community on all vital fishery matters such as suitable training programmes, sophisticated fishing techniques, processing methods and the best plants therefor, latest quality control techniques, most advantageous marketing arrangements and promotion of aquaculture etc. In short, the Guidance Bureau will assist us not only in all the field of fishery but also in the nature of a human encyclopedia by providing us the much needed exposure to modern technology.