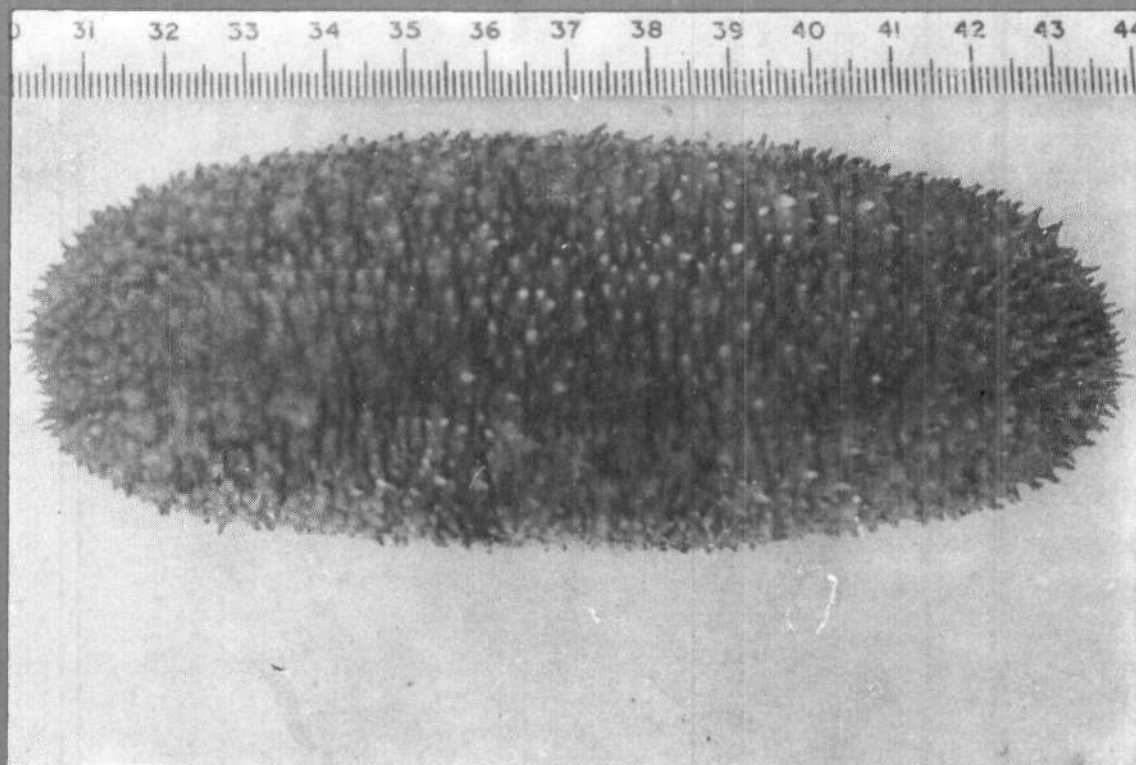




समुद्री मात्स्यिकी सूचना सेवा MARINE FISHERIES INFORMATION SERVICE

No. 137

APRIL - MAY 1995



तकनीकी एवं TECHNICAL AND
विस्तार अंकावली EXTENSION SERIES

केन्द्रीय समुद्री मात्स्यिकी CENTRAL MARINE FISHERIES
अनुसंधान संस्थान RESEARCH INSTITUTE
कोचिन, भारत COCHIN, INDIA

भारतीय कृषि अनुसंधान परिषद
INDIAN COUNCIL OF AGRICULTURAL RESEARCH

RESEARCH PERSPECTIVES OF THE CMFRI*

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In July 1994 the Indian Council of Agricultural Research has reconstituted the Staff Research Council (SRC) and created a new body called the Research Advisory Committee (RAC) for each ICAR Research Institute by incorporating Rule 71 (A) to (M) under Chapter XIII of the Rules of the ICAR Society. The RAC and the SRC have been so constituted that the external experts in these two bodies will have a key role in advising the Institutes on the thrust areas for R & D. Besides, they would be critically reviewing and assessing the research activities and achievements. This exercise is expected to help the Institutes take appropriate strategies and tactical steps to minimise the impediments stalling progress and to maximise R & D outputs.

At this moment when we are being made more alert and conscious of our R & D responsibilities through the induction of external experts in the RAC and the SRC, we need to re-examine and place before us the major R & D concerns of the marine fisheries sector of the country. The major areas of concern in today's Indian marine fisheries R & D need to be identified and the research projects so designed that they address these problems effectively. The RAC and the SRC have the responsibility to look into this question in depth and guide us in the right direction. The research projects are the real instruments through which the Institute achieves its goals and objectives and therefore we need to ensure that these serve our purpose well. Some of the major areas requiring immediate attention are outlined below.

1. Over exploitation of certain stocks and fishing zones is currently an area of concern. The gravity of this problem, where it occurs, should be assessed and resolved. We need to assess the status of the constituent stocks and their fisheries for each major ecological province. We also need to indicate the optimum level of exploitation in the context of multi-species/multi-gear fisheries in terms of the bioeconomically optimum effort and mesh size.

As a logical corollary to this study, we should

determine the idle fleet capacities, the idle manpower and the idle processing plant capacities, where they exist, so as to progressively contain the problems of economic mismanagement which have become so very characteristic of our marine capture fisheries sector.

The active involvement and participation of the fishing community and the industry in the judicious management of marine fisheries is crucial in sustaining production at the optimum levels. It is therefore urgent and important to implement a comprehensive programme of community education of the fishermen on the mechanism and modalities of fisheries management for progressively restoring the over capitalised fleets and suboptimal mesh sizes to their optima. Towards this, we must have an interdivisional/interdisciplinary national research project on fisheries management with well defined objectives and technical programmes with the active participation of the CMFRI Divisions of: a) Fisheries Resources Assessment and b) Socio-economic Evaluation and Technology Transfer and possibly others including the trade, processors, exporters, NGOs, the fishermen organisations and the fisheries departments. In this regard the recommendation of the Quinquennial Review Team (from 1986 to 1993) of the CMFRI to create a new Division of Fisheries Management is being implemented by the Institute.

2. Fishery forecasting in the Indian tropical, multispecies marine ecosystem should be attempted with the CMFRI database in conjunction with the meteorological data from the Indian Meteorological Department (IMD) and the potential fishing zone maps issued by the National Remote Sensing Agency (NRSA). We can have distinct ecological provinces identified as the basic geographical units for such fishery predictions. The following areas can be considered as the major ecological provinces in the Indian continental shelf: (i) the high tidal amplitude province comprising the Saurashtra-North Maharashtra coast, (ii) the Malabar upwelling province between Ratnagiri

* Extract from the introductory remarks of the Director for the first meeting of the re-constituted Staff Research Council of CMFRI in March 1995 at Cochin.

and Vizhinjam, (iii) the Gulf of Mannar province, (iv) the palk strait province, (v) the Coramandal coast (vi) the seasonally low saline Godavari-Krishna coastal Andhra Province, (vii) the Sandheads province, and (viii) the high tidal amplitude north Orissa-West Bengal Mahanadhi-Hooghli coastal province. The CMFRI is orienting some of the existing research projects towards this objective, and the results of such studies, as they emerge, would be instantly disseminated through the media for the benefit of the fishing industry.

3. The role of mariculture in the context of dwindling opportunities in the capture fisheries sector is becoming increasingly clearer to the scientific community and the industries. The Institute has an excellent record of mariculture technology development, which has witnessed a modest level of transfer to the various user groups, ranging from the small-scale traditional fishermen to the resource rich entrepreneurs. The entire coastline of the country's mainland and the islands of the Andamans and the Lakshadweep provide wide range of opportunities for the mariculture of a number of candidate species, for which indigenous technologies are available with the Institute (except finfishes). However, the essential infrastructure for the operation of these technologies and their demonstration is available only at Tuticorin, and to a limited extent at Mandapam. More facilities are being planned for the Calicut and Vizhinjam centres and the headquarters at Cochin in the immediate future. Location testing for various mariculture practices has indicated potential farming zones along the coasts of the mainland and islands, but these efforts need to be matched with the required infrastructure at all the eleven research centres, the regional centre and the headquarters.

Efforts should be made on a priority basis to integrate small-scale mariculture with small-scale capture fisheries, and the fisherfolk motivated to adopt the technologies as integral components of their profession. Private agencies like the Fisheries Research Cell (FRC) of the Programme for Community Organisation (PCO), Trivandrum; the Marianad Fishermen Co-operatives, Trivandrum; the South Indian Federation of Fishermen (SIFE), Trivandrum; and similar active groups located in

almost every major fishing centre, in the country need to be involved in this task.

Our research and development programmes need to be oriented towards fulfilling these goals within a reasonable time frame, and the SRC has the responsibility of giving proper direction to our current research projects. Considering that our major R & D responsibilities are in the two thrust areas of marine capture fisheries and mariculture, our priorities in respect of the former include stock assessment, monitoring, prediction and sustained production through a realistic regime of management, while the priorities in mariculture include technology development, upgradation, farm trials, training and transfer on a regular basis.

The Institute's achievements in regard to externally funded projects and paid consultancy services have been extremely good and we need to strengthen these programmes to help generate, refine and transfer technologies and thereby also generate increasingly larger funds to invest in the core infrastructure of experimental/pilot hatcheries, growouts and laboratories for nutrition, disease, physiology, endocrinology and genetics research. Each centre should aspire for and work towards at least two externally funded research projects and one consultancy project in the immediate future. The Agricultural Produce Cess Fund of the ICAR, the DBT, DOD, DOE & F, DST, State Councils of S & T, State Departments of Rural Development (IRDP/TRYSEM), MPEDA, NABARD, Indian Bank etc. are some of the organisations to which we propose to submit projects for funding.

Each research centre of the CMFRI will organise monthly meets with fisherfolk, fish farmers, exporters and traders and render the required advisory services. Priority problems like shrimp disease in the farms in Tamil Nadu and Andhra Pradesh require our special attention and we need to orient our research projects suitably.

The Institute can rightly be proud of its rich contribution to the advancement of knowledge and skills in the areas of marine capture fisheries and mariculture and the related scientific, technological and technical manpower development. We have a duty to ensure continuity of this tradition.