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**SEMINAR ON THE ROLE OF SMALL-SCALE FISHERIES AND COASTAL
AQUACULTURE IN INTEGRATED RURAL DEVELOPMENT
6-9 DECEMBER 1978, MADRAS-RECOMMENDATIONS**

INTRODUCTION

In the recent years, the imperative need for uplifting the rural sector for achieving an overall development of the Nation's economy and status has been recognised. The coastal sector is essentially rural and is composed predominantly of fishing villages. The development of this sector would thus largely depend upon the improvement of the economic and social status of the fishermen communities. In spite of the significant role played by the fisheries sector in contributing to the Nation's wealth and export earnings, the majority of the fishermen belong to the low-income group and economically backward segment of the society and live below the poverty line. The traditional fisheries sector is not organised and the operational and marketing aspects are beset with problems.

Recently technologies of coastal aquaculture have been developed in India for increasing the production from the coastal and brackishwater areas. It is envisaged that these technologies could advantageously be blended with the existing avocation of the fishermen as well as with the agricultural and livestock practices. However, it is necessary to identify the technologies with reference to their adoptability by small fishermen and landless labour and financial and socioeconomic implications.

Realising that the time is ripe for opening a dialogue on the status of small-scale fisheries and the prospects for an integrated development of this sector through improvements in its traditional set-up and adoption of coastal aquaculture technologies, the Central Marine Fisheries Research Institute created the forum at the Seminar on the "Role of small-scale Fisheries and Coastal Aquaculture in Integrated Rural Development" which was held at Madras from 6th to 9th December 1978. Perhaps for the first time, fishermen representatives and leaders were actively involved in the discussions along with scientists, administrators, financing agencies and social workers.

Forty working papers and keynote addresses presented at the eight sessions of the Seminar formed the subject matter for discussions and several points of importance were highlighted by the participants. The papers and discussions lead to the adoption of several recommendations by the Seminar. These have been carefully scrutinised, edited and grouped and are presented here.

RECOMMENDATIONS

1. SMALL-SCALE FISHERIES

1.1. Diversification of Coastal Fisheries

The Seminar,

noting that the resources available to the small-scale fisheries consist of multiple species that co-exist in the same fishing grounds and that certain fish stocks which are in high demand are heavily fished while the others are under-exploited, and

realising the urgent need for the development of small-scale fisheries both for enhancing production and for improving the economy of the small fishermen,

recommends that more attention be paid to the development of small-scale fisheries by diversification of fishing effort through evolving appropriate technologies and that a critical evaluation of the impact of the recent introduction of new gears such as purse seine, mid-water trawl and pelagic trawl on the resources exploited by traditional crafts and gears be made for formulating regulatory measures, if necessary, to ensure rational fisheries development through diversification.

1.2. Fishery Resources

The Seminar,

realising that continuous assessment and monitoring of resources are essential to evolve viable management measures for the proper development of small-scale fisheries and to avoid over investment in developing any fisheries,

recommends that the resources assessment and monitoring systems may be strengthened so as to provide the data required for the regulation/conservation of the fisheries.

1.3. Craft and Gear

The Seminar,

noting that the fish stocks available to the small-scale fisheries could be harvested by simple crafts and gears and that the greater part of the investment in this sector is on these production means, and

realising the need for improvements in the existing designs of craft and gear for more efficient harvest,

recommends that improvements be effected, keeping operational efficiency and cost in view, to the existing craft types and gears using local material, expertise and skills with the full involvement of all concerned including the fishermen, and that besides the conventional timber used at present, suitable alternate material for the construction of traditional fishing crafts may be identified, tested and made available.

1.4. Transmission of Fisheries Information

The Seminar,

realising the need for quickly transmitting all fisheries information relating to developments in the field, prospects for fisheries in different regions, environment etc. to the fishermen for their use,

recommends that proper systems be developed on a regional basis for the quick collection and dissemination of fisheries information including forecasts, through All India Radio, Doordarshan, and other media.

2. COASTAL AQUACULTURE

2.1. Water and Species Resources

The Seminar,

noting that our country is endowed with immense water and species resources suitable for large-scale coastal aquaculture ventures, but

realising that specific data on the extent and ecological parameters of the different water areas with reference to their suitability for aquaculture are lacking.

recommends that a survey of the coastal and contiguous water areas be carried out in all maritime States and Union Territories to locate and map out suitable areas and to evaluate the cultivable species resources for coastal aquaculture.

2.2. Technological Base

The Seminar,

noting the recent technological advances in coastal aquaculture made in our country,

considering the need for strengthening the technological base, and

realising that the availability and timely supply of fish and shellfish seed are the most important prerequisites without which further development towards establishing commercial culture fisheries would not be possible,

recommends that intensive research be taken up to develop economically viable low-cost technologies for the farming of all cultivable species of economic importance in the coastal and contiguous waters and that emphasis be given to adopt the technology of hatchery production of seed leading to establishment of commercial seed-production centres for supply of quality seed to the farmers.

2.3. Economics of Culture

The Seminar,

noting that the small-scale entrepreneurs are hesitant to take up coastal aquaculture on commercial

scale due to lack of adequate and proven data on the economics of culture operations,

recommends that efforts be made to collect reliable data on the economics of operations of different culture systems in different areas and, after proper evaluation, these data be made available to the aquaculturists and others interested in their use.

3. INTEGRATED RURAL DEVELOPMENT

3.1. Integrated Development of Coastal Zone

The Seminar,

noting with great interest the concepts of blending traditional capture fisheries and coastal aquaculture and integrated farming of crop-livestock-fish/prawns towards proper utilisation of the synergy of the coastal ecosystem and increasing production, and

pointing out that adoption of such integrated operational practices would not only accelerate the harmonised development of the coastal sector but also would bring in a new economic order,

recommends that priority should be given to formulate and implement integrated systems of fisheries utilising the available technology, skills and materials throughout the coast and programmes for productive utilisation of coastal land area with suitable plantation crops and livestock.

3.2. Development of Fishermen Community

The Seminar,

noting that, in spite of the significant development of fisheries during the last three decades, the majority of fishermen still live below the poverty line,

and

realising that the uplift of the fishermen community, socially and economically, is an urgent need so that they are not left out of the mainstream of National development

recommends that the State Governments accelerate their fishermen-welfare programmes to provide adequate facilities, aid and conces-

sions to the fishermen community for simultaneous development of the community along with others, and encourage and provide necessary technical and infrastructure facilities for taking up employment-and-income generating additional avocations in the coastal areas.

4. INFRASTRUCTURE FACILITIES

4.1. Landing Facilities

The Seminar,

noting that at present landing facilities for the crafts engaged in small-scale fisheries are meagre and that during adverse weather conditions and monsoon beach landing of the crafts is extremely difficult, and

realising that high investments would be required to provide modern fishing harbour facilities,

recommends that effective beach landing facilities be established at all important landing centres and approach roads and other infrastructure facilities be provided.

4.2. Fish Preservation and Processing

The Seminar,

noting that the present conditions of handling of fish catches at sea and on landing leave much to be desired, and

realising that proper preservation and processing are essential for producing quality products and realising better prices and that sophisticated techniques are beyond the reach of artisanal fishermen,

recommends that simple but effective preservation and processing techniques within the technical ability and economic capacity of fishermen should be evolved; particular attention be paid to the use of solar energy; fish curing yards with required facilities be established/re-established; canning of fish in suitable cheap containers be evolved; and steps be undertaken to minimise the loss of protein quality and vitamin contents during processing of fish products.

4.3. Marketing

The Seminar,

recognising that the marketing and distribution of fish catches are beset with many problems due to small landings, middleman problem, inadequate infrastructure facilities and marketing opportunities, and

realising that one of the means for the uplift of the economic conditions of the fishermen is to ensure him a fair price for his produce,

recommends that effective systems be established in all maritime States and Union Territories to take up distribution and marketing of fish catches landed by small-scale fisheries and that immediate steps be taken to carry out indicative surveys to collect market intelligence and to promote internal marketing.

5. EDUCATION, TRAINING AND EXTENSION

5.1. Assessment of Needs and Training Facilities

The Seminar,

realising the vital need for expertise and manpower for the development of coastal aquaculture and small-scale fisheries, and the importance of creating the manpower through phased-out training programmes, and

noting that no reliable estimates are available on the requirements of different categories of personnel and training needs,

recommends that an assessment of requirements of technical, managerial and operative personnel for a phased development of small-scale fisheries and coastal aquaculture for the next 25 years be made and, on this basis, adequate training facilities at different levels be established; that need-based training be imparted to fishermen and fish farmers through Fishermen Training Centres and Krishi Vigyan Kendras; and that, besides these training facilities, the fishermen be educated through other means of non-formal education on the self efforts needed for improving their saving habits, nutritional and hygienic standards and socio-economic conditions, and the fishermen

leaders themselves should endeavour to give the necessary guidance and assistance in this.

5.2. Extension

The Seminar,

realising that extension service has a pivotal role to play in the development and advancement of small-scale fisheries as well as coastal aquaculture as an agency between the R & D programmes and end-users, and

noting that the extension facilities available at present are totally inadequate for playing a meaningful role,

recommends that the existing extension activities may be strengthened to meet the growing demands of technology transfer and developmental programmes and new extension facilities be created wherever they are not available at present so that each State and Union Territory will have full-fledged fisheries extension service.

6. FISHERMEN CO-OPERATIVES

The Seminar,

realising that quick progress of the small-scale fisheries depends to a great extent on the credit facilities and other services available to fishermen on favourable terms and conditions and that the Co-operative System is the best means for providing such services, and

noting with concern that at present the fishermen co-operatives are generally ineffective due to an interplay of many factors,

recommends that functional co-operatives to serve all the activities and needs of the fishermen be established.

7. FISHERIES FINANCING

The Seminar,

considering the immense potential for the development of coastal aquaculture and small-scale fisheries in the country and the large investments needed for the purpose, and

noting that the fishing industry has certain unique characteristics different from other land-based industries and that any financing agency will have to take these conditions and the general illiteracy of fishermen into consideration.

recommends that separate provisions and guidelines be made by the commercial banks for providing financial assistance and loans through simplified procedural formalities and with minimum delay to help the quick development of the fisheries sector, eventually leading to the establishment of Fisheries Banks.

8. PUBLIC POLICIES AND PLANNING

8.1. General Policy and Priorities

The Seminar,

drawing attention to the need for sustained Government support and interest which are essential for the development of both the small-scale fisheries and coastal aquaculture, and

suggesting that the Government may announce well-defined policies, strategies and guidelines for the development of these fisheries, in the making of which the fishermen/fish farmers themselves may be fully involved,

recommends that high priority be assigned for the development of these fisheries and that coastal aquaculture be recognised as an industry to facilitate its quicker growth.

8.2. Distribution of Water Areas for Farming

The Seminar,

noting the availability of water spreads suitable for coastal aquaculture under the control of the State Governments and the possibility of utilising the same by the small, marginal and landless fishermen and fish farmers for the purpose,

recommends that a viable policy for the distribution of such water areas to the coastal fishermen and fish farmers for aquaculture purposes be formulated and implemented.

8.3. Subsidy and Incentive Schemes

The Seminar,

noting that coastal aquaculture is a rapidly developing field in the country and for its proper development and growth liberal Governmental aid and incentives are necessary in the initial stages, as was the case with the introduction of mechanised boats,

recommends that suitable subsidy and incentive schemes be instituted for the quicker establishment and proper growth of the coastal aquaculture industry and constraints in respect of taxes, high cost of material etc. may be removed.

8.4. Accident and Natural Calamity Benefits

The Seminar,

realising the hazardous and risky nature of the fishing profession, frequent occurrences of natural calamities such as cyclones and tidal waves hitting the fishermen out at sea and at their abodes, and the disabilities and loss of life and property caused while engaged in fishing,

recommends that they be provided adequate compensation promptly under all the above circumstances and appropriate accident reliefs be instituted, and that the function of compensation in cases of injuries, loss of life, and equipments be taken over by the Government of India as a package measure.

9. PROTECTION AGAINST DAMAGES TO ENVIRONMENT

The Seminar,

noting that human interference is upsetting the natural balance of the ecosystem through indiscriminate denudation of mangroves and quarrying of corals leading to extensive coastal erosion, and through uncontrolled discharge of domestic, agro and industrial wastes leading to pollution of the environment, and

stressing the need for maintenance of natural balance of the ecosystem for the protection of all the living resources therein,

recommends that the State Governments take immediate steps to develop necessary action

plan for the protection of the coastal zone against such damages and that effective steps be undertaken to protect the living resources therein from destructive human interference and pollution based on criteria and guidelines that may be framed by expert committees constituted in all the maritime States and Union Territories.

In order to bring a better economic order in the rural sector, proper follow-up action on these recommendations by the various nodal agencies is necessary. The respective agencies may be identified as: Department of Agriculture and Department of Rural Development, Ministry of Agriculture and Irrigation, Government of India; Department of Science and Technology, Government of India; Indian Council of Agricultural

Research; Governments of maritime States and Union Territories; Agricultural Universities; Marine Products Export Development Authority; Directorate of Marketing and Inspection, Government of India; Statistical Bureaus of maritime States and Union Territories; Reserve Bank of India; Agricultural Refinance Development Corporation; Industrial Development Bank of India; State Financial Corporations; General Insurance Corporation of India; State Pollution Boards; Council of Scientific and Industrial Research; Indian Board for Wildlife; Bombay Natural History Society, Bombay; Voluntary and other Social Welfare organisations and media such as All India Radio and Door-darshan. These recommendations are published in the Marine Fisheries Information Service so as to make them available to all concerned.

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Seminar on the role of small-scale
fisheries and coastal aquaculture
in integrated rural development

