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PLANNING FOR FISHERY DEVELOPMENT - SEARCH FOR APPROPRIATE POLICY INSTRUMENTS

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ABSTRACT

The Indian fisheries economy for the last several years has been characterised by sluggish growth rates in production (3.5%), inadequate marketing infrastructure, demand and supply imbalances, inter-sectoral conflicts insignificant contribution of deepsea fishing (1%), Lack of diversification in export trade and apathetic entrepreneurship in offshore fishing. Further, gains from extension of Exclusive Economic Zone (EEZ) are likely to elude us for want of well-identified technological options along with production incentives for the exploitation of living resources of EEZ.

Unlike marine fisheries, inland fisheries have registered a higher growth rate of production. Despite imperfections of marketing system, land-based culture fisheries have been favourably placed, Fish Farmers Development Agencies (FFDA's) have brought 1,50,000 ha under scientific fish farming. Reservoirs (3 million ha) afford opportunities for enhancing inland fish production for augmentation of domestic availabilities.

The present paper purports to examine some of these areas so as to have a sound basis for the task of policy formulation for both marine and inland fisheries.

Of late, there has been a growing realisation that aquatic resources can contribute substantially to supplies of domestic food. Fish and fishery products being in the category of protective food, offer immense scope and potential for improving the nutritional status of mal-nourished millions who are, often afflicted with ailments due to protein and vitamin deficiencies. Lower per capita availability and high prices of fish do indicate demand and supply imbalances in the fishery economy. Without undermining the significance of research and development efforts during Plan periods, the Indian fishery scene has been marked by sluggish growth rate in production (3.5%), pronounced upsurge in fish prices, chronic shortages, distributional failures, lack of infrastructural facilities; predominance of traditional crafts, mainly due to higher capital requirements of mechanisation; and negligible contribution of deep sea fishing.

OVERVIEW OF INDIAN FISHERY ECONOMY

The Indian fisheries sector provides employment to 1.75 million skilled and unskilled persons in different activities. The total fish production as per available estimates is 2.8 million tonnes, of which one million tonne is

contributed by inland sector. The fisheries sector contributed about 2% to the Gross Domestic Product in 1982-83 and export earnings of marine products amounted to Rs. 461 crores in 1986-87.

The marine fisheries comprises three distinct subsectors: (i) traditional sector involving inshore water fishing with non-mechanised crafts and gears which operate upto 16km from the coast, (ii) modern sector consisting of small mechanised boats and (iii) ultramodern sector consisting of large vessels designed to operate in high sea, beyond the areas of the first two sub-sectors.

The traditional sector accounts for 67% of the current marine production of 1.8 million tonnes. The other two sectors contribute 32% and 1% respectively. This sectoral division is more academic than real. Often, there have been inter-sectoral conflicts, having Socio-economic ramifications. The emphasis in the recent past has been on the development possibilities of Exclusive Economic Zone (EEZ) but the primary producers of fish in traditional sector have not received adequate attention.

In inland fisheries, there exist vast opportunities for augmentation of domestic availability of fish. Fish production from inland waters is a significant activity as it is widely dispersed throughout the country. In the context of inland fisheries it was observed in the Sixth Plan that in spite of vast resources of culturable waters available in the form of ponds, lakes, jeels, swamps, estuaries and reservoirs, and availability of improved technology for intensive fish culture, levels of production and productivity had not been adequate. Therefore, the Plan laid emphasis on research efforts to maximise production and follow it up with promotional programmes in the field to reduce the gap between the potential and the actual yield. While the marine sector has largely sustained Indian export trade, the inland fisheries has contributed sizeably to domestic fish supply. The present annual production is about one million tonnes forming about 40% of the total fish production but accounts for 50% of the internal fish utilisation. Compared with the marine sector, the growth rate of inland fisheries has been more encouraging but still there exists a great scope for increasing inland fish production. Demand projections made by various expert bodies envisage that 50% of the demand of the total 12.5 million tonnes by 2000 A. D. is likely to be met by inland fish.

DATA BASE OF POLICY PLANNING

The planning has long been recognised as a potent instrument of socio-economic transformation in recent economic history of the world. A pre-requisite for sound planning is thorough survey of the existing resources and the extent of their exploitation so as to have a base for future projections. Unfortunately, the fishery sector in general and Inland fisheries in particular suffered largely due to almost non-existent data base for control and policy planning in respect of statistics pertaining to production, marketing intelligence and utilisation though foreign trade statistics have been in a better shape.

Data base for marine fisheries in general and of marketing and consumption segments in particular are very poor. There is a need for

developing sound data acquisition systems with cooperation from different sectors like small scale fisheries, mechanised sector and distant water fishing systems (IIM, 1983). Data base for inland fisheries suffers from the following limitations:

- i) Data on many aspects, particularly on marketing and economic aspects, are not collected in a systematised manner.
- ii) Data often reflect incomplete coverage.
- iii) Data are sometimes unusable because these are in aggregated form.
- iv) Market data on arrivals and prices are almost non-existent.

There is a need to strengthen, streamline and improve data base but our success in this direction is largely circumscribed owing to our ignorance as to how much resources in terms of finance and manpower we can commit to the task of data collection (Paul, 1987)

OVERVIEW OF FISHERY DEVELOPMENT

Despite massive development effort fishery economy had a sea-sawed journey during Plan periods. Though India's share in export trade increased progressively over the years, domestic fish markets continued to starve. Further, ever-firming fish prices resulted in reduced availability. Whereas exporters earned huge profits artisanal fishermen received unremunerative prices for their produce for the varieties that had no export market. According to findings of Indian Instt. of Management, Ahmedabad, the fisherman's share in consumer price was maximum (91.5%) in direct sales to the consumer and lowest (21.9%) in sales involving multi-distributional channels. Likewise, in inland capture fisheries the producer's price was only 35% of the consumer's price. However, the produce of pond-reared fish in eastern India was better placed (71-91%). Nursery rearing techniques along with a number of hatcheries were significant developments in the inland sector. Further, the role of F.F.D.A. as catalyst of technological transformation in culture fisheries was well recognised. In marine sector, the Government of India and research organisations

were fully seized of the problems relating to exploitation of living resources of the Indian Exclusive Economic Zone. Artisanal fishing is one of the high risk areas of economic activity and the entire traditional sector particularly engaged in inland capture fisheries, continues to be in a state of strife and turmoil. Research studies in Central Inland Fisheries Research Instt. as also in Indian Institute of Management, Ahmedabad, have revealed that vast majority of fishermen continued to be below the poverty line. There is a popularly held belief that capture fisheries in rivers, reservoirs, estuaries and oxbow lakes cannot contribute substantially to future increase in fish production thereby making a case for propagation of aquaculture. Natural fisheries, despite environmental degradation encountered in recent years, are still yielding 88% of the inland fish. Most of the thinking at policy and research level with regard to riverine and reservoir fisheries centered round the view that capture fisheries were beyond redemption. Diversification in export trade and research in end-uses of fish varieties having no domestic or overseas market rarely occupied the attention.

AREAS WARRANTING POLICY INTERVENTION

An attempt is made in the succeeding paras to identify certain areas deserving close attention in order to accelerate the pace of fishery development in India.

MARINE SECTOR

The major share of our fish production is contributed by a narrow belt along the coast, 35-40 fathoms deep. Diversification in this sector has shown marked improvement in quantity and quality of products.

With the declaration of 200 miles Exclusive Economic Zone, immense possibilities for exploitation of living resources do exist but our success will depend on rational utilization of resources along with appropriate techno-economic adjustments.

The labour-surplus countries like ours may improve employment prospects but capital intensive nature of investment besets the task with serious limitation. The absence of sizeable

and appropriate fishing fleet, adequate manpower and infrastructural facilities often reduce financial viability of operations. Research needs to be speeded up with regard to availability of commercially exploitable varieties and their end uses both in respect of domestic and overseas markets. For realistic investment appraisal, elaborate feasibility studies should be undertaken clearly outlining the technological inputs and post-harvest technology for the final disposal of the produce. Besides information inputs, financial assistance in the form of subsidies and soft loans is a condition precedent for giving initial *big push* to investment area unexplored so far. Research carried out so far reveals that potential yield beyond inshore water comprises low priced species like catfish, ribbon fish and 'dhoma'. The possibility of higher offtake in domestic market shall depend on income level, expenditure elasticities, consumer preferences and prices of close substitutes. In order to create favourable investment climate, existing policy relating to finance from S.F.D.C. and other regulations should be the subject matter of constant review. The investment in this sector may be largely induced by public sector allocations to infrastructure comprising landing and berthing and outfitting and repair facilities for handling, processing, storage and marketing network. (Jhingran & Paul 1987)

INLAND SECTOR

Riverine Fisheries

The various river systems in the country have an estimated linear length of 45,000 km comprising 113 rivers and their tributaries, 80% being contributed by 14 major rivers (Jhingran, 1986). The average catch ranged from 0.643 t to 1.605 t/km with an average of 1 ton/km (N.C.A. 1976). According to another study on the Ganga river, fisherman income is very low ranging from Rs. 1,000 (Hoshangabad, M. P.) to Rs. 5,316 in Mathura (U.P.). The riverine capture fisheries have been an area of low productivity and consequent low income due to seasonality of catch and unstable catch composition. The limited dent that research has made on the situation is not due to apathy or caprice of the scientist or policy makers but due to inherent limitations emerging out of

common property nature of riverine fisheries (Paul, 1983). Gulland (1971) has aptly remarked, "It is fallacy to think that scientists given time and perhaps money could produce complete answer to management problem e.g. specify the precise value of the maximum sustainable yield from a particular stock of fish and also the exact levels of fishing and population abundance required to produce it" Instead of delaying management decision for want of absolutely correct information it is better to take decision on the basis of sufficiently correct advice for the immediate purpose.

Financing of indian fisheries

Unlike marine sector, inland fisheries are labour intensive but still investment needs arise for purchase of boats and nets. However, capital requirements in case of intensive fish culture are higher. A sector's ability to attract loanable funds depends largely on evaluation of risk element by funding agency. Compared to culture fisheries which are site-specific, capture fishery operations have some ambulation about them. The migratory character of capture fisheries based on availability of stock and marketing consideration, does affect investment appraisal and assessment of credit needs (Paul, 1986). The vessel as a chattel mortgage is acceptable only if it is insured. The high degree of control puts aquaculturists on sound footing regarding anticipated output and repayment capacity as compared to capture fisheries. Capture fisheries are surrounded by innumerable and uncontrollable variables. This calls for innovative research in matter of efficient craft and gears along with insurance coverage. Further, traditional lending criteria need to be suitably modified keeping in view the level of assets of fishermen as a class.

Management strategy

Conventional prescriptions for regulations of fisheries comprises limited access, leasing and auctioning, closure of seasons and areas, licensing of gears, gear restrictions, aquacultural practices for enrichment of natural streams or rivers and security measures. The past experience shows that it is uncommon for Government to apply limited access concepts to communities utilizing riverine inland fisheries.

The main exceptions are leasing and auctioning of sections of rivers to local cooperatives as in South India. As a Government enforced mechanism, licensing of gear (especially boats and / or nets) has proved to be a reasonable mechanism only in inland fisheries which are relatively accessible (small lakes e.g. Lake Kyle in Zimbabwe; Anon, 1985). Their effectiveness can be increased further if loanable funds or subsidies can be restricted to licensees. If production and living standards of fishing communities are to rise without affecting adversely fish stock, management strategies should be well designed, implemented and periodically evaluated. Their effectiveness should be the subject matter of constant review by multi-disciplinary team of experts who should take cognizance of relevant data on commercial fishing, fluctuations in production, productivity, environmental and meteorological factors.

Fisheries cooperatives

The ills of cooperatives in fisheries are too well known to need elaborate mention. Cooperatives and state level corporations should enter into marketing of fish so that the influence of middleman is reduced to minimum if not eliminated altogether. The total membership of fishery cooperatives in the country is 7.77 lakh constituting about 1% of the fishermen population. Despite historicity of cooperative movement marketing continues to be the weakest link (Natarajan and Paul, 1981). The role of inland fishermen's cooperatives has been of less consequence when compared to marine fisheries. There is a need to create economically viable, technically sound and professionally managed fishery cooperative structure which should be able to lend stout support to fishermen. Creation of sound fishery cooperative network would open channels for financial assistance from National Cooperative Development Corporation and cooperative banking structure which should lead to creation of infrastructure assuring flow of effective services to the members. Once cooperatives and corporations attain commanding heights in fish marketing fishermen can certainly hope for a better tomorrow.

Fisheries legislation

The Indian Fishery Act, 1897 arms the states to frame rules for regulation of fisheries. By and large, this Act has been devoid of teeth at implementation level. It is too anachronistic to serve the objectives of present day fishery development. There is a need to have fresh thoughts with regard to its provisions. In riverine fisheries rules relating to mesh size and gear restrictions should be strictly implemented. Much of the damage to rivers, streams and reservoirs has been caused by discharge of untreated domestic sewage and industrial effluents. Therefore, there is a need for better coordination between fishery regulations and antipollution measures. The element of deterrence is sadly lacking in existing laws. Any conceivable piece of legislation should have twin objectives of conservation and development.

To sum up, the pace of fishery development can be accelerated by an ideal blend of regulatory measures and production incentives such as selective subsidies, soft loans for private sector, appropriate postharvest technology and remunerative returns to producers. Major thrust areas should include development of Exclusive Economic Zone, evolution of sound hatchery management practices in inland aquaculture and efficient marketing mechanism.

Any conceivable scheme of fishery development should have a strong bias in favour of small scale fishermen who have been denied the fair deal so far due to excessive reliance placed on the development of industrial fisheries in policy planning. Even, the current boom in export trade of marine products is sustained by the contribution of traditional sector. The possibilities of fishery development become bright only when we invest our present policies with much needed pragmatism.

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