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**Public Policy Territorially and Tragedy of  
The Commons in Marine Fisheries**

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**Working Draft**

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PUBLIC POLICY TERRITORIALITY AND TRAGEDY OF  
THE COMMONS IN MARINE FISHERIES

**Introduction**

- K. K. Khakhar

Public policy appears to be more confused in the area of managing marine fish as compared to any other common property resource. Some aspects of marine fisheries policy have still remained masked by ambiguity and contradiction. With the result, Government action often produces results contrary to what may have been perceived by the policy makers.

Marine fisheries policy, particularly in the Third World Countries, is almost non-existent, Government measures geared to develop and manage the fisheries sector are often prompted by popular notions in these countries. But, this may destabilise the process of fisheries development and cast serious implications on those who manage their living from the sea.

Developing maritime nations, however, have an advantage to clean their policy in light of the experience of advanced countries. This can help them avoiding costly mistakes done by their developed counterparts.

With this in mind, marine fisheries policy, as adopted in India, is discussed in this paper. Whereas, Canadian illustrations are used on some important points for comparison.

Any exercise, such as this, may sound like attempting a comparison between non-comparables, in view of the visible difference between India and Canada in terms of levels of economic development in general and fisheries development in particular. The commonality, however, may significantly be seen in the 'nature' of fisheries of both the countries.

Marine fisheries, not only in India and Canada, but in any part of the world is based on small, decentralised communities (Stiles, 1976 : 235) and characterised by a dualistic pattern of development (Brox, 1972; Wadel, 1969). India's fisheries sector is compared of a sizeable component of artisanal sub-sector, like Canadian fisheries - particularly of the North Atlantic coasts. Broad similarities between India's traditional marine fisheries and fisheries of 'under developed pockets' of the North Atlantic provinces have been identified by some social scientists (Paine, Skolink and Wadel, 1969:2). It would, therefore, not be out of place to attempt such a comparison and draw lessons from the Canadian experience, if any, in formulating marine fisheries policy of a third world country like India.

#### Concepts and Constraints of Fisheries Policy

Public policy in marine fisheries constitutes development and management aspects, in general. These two, though inseparable, are often treated individually without

reference to the other. Such a partial approach has confused the policy in a number of cases and produced contrary results, when used.

Resource realities in marine fisheries very clearly demonstrate that its use is severely constrained by the variabilities of the resource and risks and uncertainties involved, typical of the marine eco-system. Data in marine fisheries are known to be poor and less reliable. With the result, ignorance about stocks and biological secrets of the seas has always remained greater than the knowledge. This has left MSY - MEY based fisheries management models vulnerable and, what is popularly described as "tragedy of the common", continued.

Why the most scientific bio-economic resource management models fail to solve the basic problems of resource management in marine fisheries ? Is this because of the 'common property nature' of the resource ? If we concede the point that privatisation - as an answer to the common property ills - is a faulty prescription, then, what should constitute an alternative public policy ? These are some of the issues which deserve serious attention.

Concepts of Common Property and Open - accessness

The neo-classical common property theorists ( Gorden, 1953, 1954; Scott, 1955, 1957; Crutchfield and

Zelner, 1962; Christy and Scott, 1965 ) have continued influencing even current Official Thinking in Canada. For example, the Task Force on Atlantic Fisheries held a view that "The most fundamental problems of fisheries management arise from the 'common property' nature of the resource ( Canada, 1983 ). Such explanations take it for granted that 'open-accessness' is an inherent characteristic of the 'common property nature' of the resource which results, in the ultimate analysis, into stock depletion (the biological outcome) and dissipation of rent (the economic outcome), through indiscriminate competition. 'Open-accessness,' logically drawn from the 'common property' nature of the resource is criticised as fallacious. The term "property" is suggestive of some kind of ownership or ownability of the resource. When the United Nations Law of the Sea Conference, in 1970, resolved the resources of the open oceans as the "Common heritage of mankind", it implied the 'ownability' of the resource for the common good.

Similarly, the resource, particularly of the in-shore fisheries, is locally perceived as "property-in-common" held by the community of users. The term "community" here implies a group of people characterised by close cooperation, social bonds and homogeneity. That is, a common property resource is necessarily not an open-access, free for all, type of a resource.

## Marine Fisheries Policy in India

India has a vast marine fisheries sector having of about 7500 km long coast line and more than 2 million sq. km of EEZ. Marine fisheries in India is predominantly artisanal type, comprised of about 2 million traditional fishermen operating 154 thousand country crafts and 25 thousand small mechanised boats. They live in about 25 hundred coastal villages and fishing hamlets. This sector contributes almost entire - 99 percent - fish production to the total. Whereas, little more than 100 deep sea fishing trawlers contribute around 1 percent to the total fish landings.

Though fisheries development is a state subject, deep sea fishing, fisheries research and education are on the list of the Union Government. There is not a separate department of fisheries. BUT a fisheries division in Union Ministry of Agriculture and Rural Development exercises a coordinating role and assists State Governments on various developmental programmes.

India is one of the leading maritime nations, but has not been able to evolve a well articulated national fisheries policy so far. One may, however, try to synthesise the periodical statements issued at the national level and identify the basic approach to the public policy in marine fisheries.

India's marine fisheries policy, from the very beginning, has remained biased in favour of modern fishing practices. Efforts for developing off-shore fisheries in India, with the help of large vessels, have been recorded as taken place before the world war-II ( NCAER, 1962 : 84 ), but could not be sustained in absence of the shore facilities required. A similar effort geared by the West Bengal Government had to be abandoned because of the adverse cost structure of trawl fishing ( Bhattacharya, 1965 : 38, 41 ).

Later, during mid-sixties, the Government decided to import 40 foreign trawlers. This policy continued through the decade followed ( The Economic Times, May 26, 1983 ).

The declaration of 200-mile EEZ in January 1977 injected fresh enthusiasm, at official level, to further develop industrial fisheries in India. The Union Cabinet of Ministers declared a ten years' perspective plan of manufacturing 1250 big trawlers within the country. This policy was supported by 33 per cent subsidy and 10 per cent price preference on the purchase of these trawlers ( The E. T., Feb. 10, 1980 ). The Union Government also established Trawler Development Support Fund ( T D S F ) to provide long term financial support to the vessel manufacturers.

Government could attract quite a few big business houses, in the beginning, to enter into deep sea fishing activity. They, however, found in a short time that fishing with big trawlers in Indian EEZ was not economical ( The E. T., April 4, 1980 ). They suffered heavy losses because of price and catch fluctuations. The Union Minister of Agriculture, however, was not happy with the industrialists for their growing reluctance to expand the deep-sea fishing activity ( The E. T., June 24, 1982 ).

The fish-boom predicted on the basis of expansion of trawler fleet, never materialised ( The E. T. May 26, 1983 ). Research scientists had provided earlier a detailed picture of resource realities with the help of data on resource distribution across different depth zones. It was demonstrated that only 11.2 per cent of the total potential yield of marine fish resource was available in 79.4 per cent of the total area of Indian EEZ, falling under deep sea fishing zone. It was further explained that the commercial variety of marine fish was concentrated within in-shore area only ( George, Antony and George, 1977; Kurien, 1978 ).

Several companies, which had applied for the <sup>deep</sup> sea fishing earlier, withdrew their applications. India had, in all, 130 deep sea Vessels at the end of 1983 of which 70 were owned by the Indian companies and the remaining were chartered vessels.



The Government, however, did not modified the policy of expanding deep see fishing in Indian EEZ. The Exploratory Fisheries Project of Bombay claimed, later, that they had located rich fishing grounds of many varieties along the east coast, in the Bay of Bengal (Fishing Chimes, Jan. 1983). Some of the companies, which had left fishing in 1982, started returning (Fishing News International, 1985 : 52 ). A working group on fisheries development recommended purchase of 200 deep sea fishing trawlers, besides 40 more vessels to be chartered during the seventh plan period, of 1985-'90 (Fishing News International, Feb. 1985:51 ). The Fisheries Minister of West Bengal announced a 156 million-rupee project to expand deep see fishing in the Bay of Bengal (The E.T., Jan. 1, 1986). This, however, could not help much to the development of deep-sea fishing. The Union Minister of Agriculture had to admit that production of prawns in the country had stagnated during the 1980s ( The E.T., Sept. 9, 1987 ).

The above experience - failure of the policy of expending industrial fisheries in the deep-sea areas-has not so far discouraged the planners in India. The Planning Commission made it clear, once again, in the Seventh Five year plan document that in marine fisheries sector " main thurst is on exploitation of EEZ by introduction of deep sea fishing trawlers, construction of indegenous trawlers and chartering of foreign Vessels " (Government of India, 1985 :

1.202 ). Towards this objective, it was made further clear that the number of deep sea Vessels shall be increased from 75 to 350 by the year 1990.

Following the above policy, the Government significantly eased the terms of setting up of joint Ventures by big business houses and attract foreign capital in the deep sea fishing and fish processing activity. The ratio of mandatory purchase of locally manufactured trawlers was lowered and no limit was placed on the number of trawlers that could be imported.

Notwithstanding the incentives offered, as above, the organised industry remained as disinterested as it used to be in the past. On the contrary, 36 companies had to be declared as defaulting due to the decline in catches per boat and the consequent failure of making repayment of the loans ( The E.T. April 14, 1987; May 19, 1988 ).

But the Shipping Credit and Investment Corporation ( SCICI ) came forward with fresh plans. It offered 750 million rupees for acquisition of about 100 deep-sea fishing trawlers. The SCICI further declared that since several fishing companies in the North sea were idle due to over exploitation of the area around them and willing to participate in joint ventures on liberal terms, discussions will be held with them to help Indian fishing companies ( The E.T. May 11, 1988; June 16, 1988 ). The SCISI offered funds at just 7.5 per cent rate of interest per annum (The

E.T., July 17, 1988 ). The news paper advertisements continued luring the non-fishermen to form fishing companies with their own investment of only 5 per cent in the total, as against 62 per cent as security free loan and 33 per cent as subsidy.

Inspite of a vigerons policy adopted by the Government in India, to subsidies and expand the 'ultra modern' sector in marine fisheries, its contribution to the total landings could not exceed its previous level of 1 per cent.

Since the commercial varieties of fish, estimated to be available in the Indian EEZ, have largely been concentrated within in-shore areas only ( Kurien, 1978 ), in a number of instances, fishing companies pushed their large vessels in shallow waters, violating Government directives to confine their operations outside the 40 fathom depth zone. This obviously resulted into conflict cases on in-shore fishing grounds ( The E.T., 'editorial,' June 6, 1984). A series of spontaneous clashes between traditional fishermen and trawlers have been witnessed in Kerala and in other states, as well. This led to the state wide agitation against indiscriminate trawling in the shalow waters, particularly on Kerala coasts ( Iyengar, V., 1985 ).

If increasing pauperisation and stock depletion in the in shore areas are " tragedy of the commons," the tragedy begins from the other end, that is, from the end of intensive fishing by big trawlers.- initiated through public

policy and supported by subsidised funds, first in the deep-sea fishing zone and creeping into in-shore areas in the process.

### **The Canadian Experience**

Though Canada has been able to develop scientific models of resource use in marine fisheries, based on the comprehensive resource profile, the development aspect of its marine fisheries policy has been excessively biased in favour of the use of capital and modern technology. Canada has had enough experience of increased competition, greater intensity of efforts and resultant crawling of catches, averaged around 2 million tonnes a year in the early Seventies from the leap of 2.7 million tonnes landed during the previous decade (Canada, 1983 : 17). But, this 'leap and crawling' type of experience could not prevent Canada from the 'development fever' started with the declaration of EEZ in January 1977. Provincial Governments rushed for the maximum harvest from the sea, well before the neighbouring provinces take away the fish. They had overlapping plans of fisheries development ( Canada, 1983 ) and rushed to the Federal Government so as to raise funds to implement their plans. Other agencies, including Banks, added fuel to the fire. By 1982, the expansion fever resulted into the "fleet that was too big for the expanded resource ( Canada, 1983, 1983 : 21 ). Fish processing plants, in Newfoundland alone, shot up from 147 to 255 within 4 years after 1977 ( Canada, 1983 : 31 ).

Implications of the above, expansionary policy, were obvious. A single company, like H.B. Nickerson, incurred losses to the extent that company's burden of debt to the Government and the Bank of Nova Scotia rose to 117 million dollars. This threatened the closure of the company which immediately became a political issue. The Government was ultimately compelled to establish a new organisation named Fisheries Products International (FIP) to take over ailing deep-sea fishing companies (Sinclair, 1985 : 3 ). This Canadian experience is very instructive, particularly with regard to the use of finance capital in marine fisheries. This supports the view that indiscriminate use of capital to extract highly "Variable" type of natural resource results in its own destruction (Christy, 1973).

Under the above circumstances, all remedial measures of the regulatory type, such as, catch quota, license restrictions, etc., failed to control the access and prevent the biological as well as economic wastes. On the contrary, as has been observed by some scholars, the remedies themselves become disease and made Atlantic fisheries more unmanageable (Davis and Kasdan, 1984; Apostle, et al, 1984).

Excessive use of capital made the resource management measures deceptive as they left little place for the degree of under fishing necessary to secure a stable fishery in the long run.

The Canadian experience is suggestive of the fact that free use of technology, in an open access situation comes closer to the Hardin's perception of the "tragedy". But this happened largely because of the public policy.

Indian and Canadian experience demonstrate, in common, that the stock abundance hypothesis - based on the fact of extended jurisdiction, induced state to adopt a policy of production maximisation through subsidising capital. Subsidy to the capital, turned out to be negative in the sense that it helped more to destabilise the resource through effort intensification. Whenever it could realise more catch, it was like an accidental outcome, influenced by the factors like seasonality.

Effort intensification in deep-sea fishing when results into destabilisation of stocks of the in shore - fisheries ( because of the resource being the same, in several cases ) and income of the artisanal fishermen are labelled as "tragedy of the commons" for which inshore fishermen are hardly responsible.

#### Perception of Territoriality

A commonality is seen, in Canadian as well as Indian marine fisheries that inshore fishermen have been defending strongly their fishing places in one way or the other. Their fishing territories are common property resource but

not characterised by "open accessness."

Social scientists of the Memorial University of New Foundland, besides others, have studied such cases of "territoriality" in the Canadian Context. If one visits a small finishing Community of Petty Harbour, just close to St. John's it is not surprising to find how cod-fishermen of this village allocate their fishing rights through a 'draw system.' Parellals of the Petty Harbour case are documented in other studies, as well (Acheson, 1981; Emerson, 1980; Levine, 1984; Andersen, 1979; Berks, 1987; McCay, 1980; McCay and Acheson, 1987 ).

Not many studies are undertaken in India to study various forms of "territoriality" perceived by fishermen communities in their diverse local settings. It would however be interesting to refer to our study undertaken at Saurashtra University ( Khakhar and Patel, 1984 ) which documents how three local fishermen communities of Southern Saurashtra Coasts defend their fishing territories from poaching by outsiders and control access through strong community regulatory mechanism.

Fishing "territories" of three neighbouring communities of Veraval, Bhidiya and Jaleshwer, are seggregated on the basis of religion and castes. No fishermen belonging to one community can enter into the water places reserved for the use of the other neighbouring community.

Within the community of Veraval, for example, a strong caste council of nearly 60 members, representing 14 constituencies of a population of 40 thousand fishermen and a President, elected through ballot system, manage to resolve conflicts and see that detailed rules and regulations framed by the council are observed strictly. Cases of violence of such laws are handled by the caste-council and judgements are issued. Judgements may bring severe punishments to the offenders.

The Marina Beach incident of 1985, in Madras, revealed how strongly three fishermen communities, settled close to the Beach site, perceived "territorially" - a collectively conceived and developed informal property rights over their fishing spaces. After violent conflicts between the state police and fishermen of these three communities, the Supreme Court had to pass a judgement and ask the State Government to allow these communities to enjoy their rights (Vasanthi Surya, 1986 ). The entire incident revealed that three communities - Mattankupam, Ayodhyakupam and Nadukuppam could not be shifted to any alternative sites, as water places all along the Madras coasts were found allocated, by understanding, among a number of communities and no community was ready to accommodate any other community on 'their own' predetermined water places.



**Summing up :**

It appears that the public policy in marine fisheries, in developed as well as developing countries, has been very much biased in favour of use of capital, under the influence of hypothesised stock abundance available in the extended jurisdictions. This is suggestive of excess /on the <sup>reliance</sup> 'development' considerations which often fail to incorporate management aspect in view of the resource realities. Use of capital without adequate reference to the resource realities defeats the development task as it makes the stock destabilised. This in turn, destabilises, self-managed inshore fisheries.

In the developed as well as developing countries, inshore component of fisheries has been a sole or a major one. It is observed, with the help of the empirical evidence, that in a number of cases, fishermen communities across various nations and cultures, have developed a perception of "territorially" and access management strategies. This, however should not lead to on another extreme of 'rural romanticism' as the Task Force on Atlantic Fisheries ( Canada, 1983 ) has made subject to severe criticism.

But, if we accept the fact that inshore fishery is a sole or a major component and because a small fisherman cannot chase the resource to a long distance and he and his

community very much depend on their fishery, the care has to be taken that fishery remains with fishermen.

The process of development should, therefore, be initiated from the end of the artisanal fisheries and grow, in a close correspondence to the resource realities, upto a socially optimum level of development. In this process, development and management aspects of the public policy in marine fisheries should go hand in hand.

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