

Indian Fisheries A Historical Alternative

Rohan Dominic Mathews

**Centre for Civil Society, New Delhi
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Table of Contents

- I. Introduction**
- II. History of Indian Fisheries**
 - a. Acts**
 - i. Indian Fisheries Act, 1897*
 - 1. Private Waters**
 - 2. Imposition of Rules**
 - 3. Licenses**
 - ii. Private Fisheries Protection Act, 1889*
 - iii. Hyderabad Fisheries Act 1356 F. (circa 1947)*
 - b. Legislative Papers**
 - c. Gazetteers**
 - i. Town and Statistical Account Bombay 1894*
 - ii. Gazetteer of Bombay Presidency 1883*
 - d. Case Study of Bombay Presidency**
 - i. Caste rigours, Low wages and Poverty of fishermen*
 - ii. The Economics of Marine Fisheries in the Bombay Presidency*
 - iii. Equipment and Fishing Methods*
 - iv. Fishing Communities*
 - v. Fishing Co-operation*
 - vi. A Critique of the Madras Fisheries Department*
 - vii. Rampan Nets**
 - e. Fishing Co-operatives in Kerala**
 - i. Marianad: The co-operative of rebellion and unity*
 - f. Conclusions and Deductions from the History of Indian Fisheries**
- III. The Model for Indian Fisheries**
 - a. Individual Tradable Quotas (ITQs)**
 - b. The Indian ITQ system**
 - c. Community Management for the Traditional Fishermen**
 - d. A Model for Indian Traditional Fishermen**
- IV. Conclusions**
- V. References**

Transforming Indian Fisheries A Historical Alternative

Rohan Dominic Mathews*

I. Introduction

The length of the Indian coastline is about 6500 miles, with nine states and four union territories included in the coastline. The approximate potential of India's marine fisheries is said to be about 4.5 million tones, with 6 million fishermen deriving their livelihood from this industry. Our continental shelf area- the predominant area for marine fishing, is about 0.5 million square kilometres. We are the third largest producer of fish in the world (inland fisheries included). These figures paint a very rosy picture of the condition of our fishermen, yet the reality appears to present a very contradictory image, harsh and unfair at times.

The traditional craft in India have dominated the industry for a large period of time, and the mechanization process, initiated since the early 1950's¹, never had a large influence over our marine fisheries. In 2001, the approximate marine fishing fleet was 280491 vessels, with 181284 traditional craft, 44578 motorised traditional craft, and 53684 mechanized vessels. The traditional craft, motorized traditional craft and the mechanized vessels contribute 9 percent, 26 percent, and 65 percent respectively². The number of traditional craft clearly translates into a large number of traditional fishermen. They may not hold a large percentage in the total marine fish production; however, they are very important for the stability of the fisheries within the region. Many of these fishermen are subsistence fishermen, who completely rely on the sea for their livelihoods. Alternatives are not an option for these stalwarts of the Indian seas, for they have been traditionally occupying this niche within the ecosystem for centuries. The trawlers may be productive in terms of fish production, yet they are pure commercial ventures, with maximization of profit as the key factor involved. It isn't incorrect, economically or ethically to maximize profit; however, if the venture includes incursion into the traditional fishing areas, then the issue is grave and can result in mismanagement of fisheries. The traditional fishermen have a great wealth of knowledge, and have been able to sustain constant catches, without extensively harming the environment or the coastal ecosystem.

The paper aims at touching on the main divisions of fisheries management, with an insight into the state mechanism and the extra-legal systems in place. The principal focus will be the history of Indian marine-management systems, and the need for a new sustainable model. A model that is willing to accept the needs of all the constituents of the marine fish-capture industry: the fishermen- traditional and trawler, the Government, the trade unions and the other extra-legal authorities.

* The author is a research intern with the Centre for Civil Society.

¹ Indo Norwegian Project for mechanization of fishing vessels.

² (Working Group on Fisheries, Planning Commission, Government of India) 2001. Fisheries for The Tenth Five-Year Plan. New Delhi: Planning Commission, 50

II. History of Indian Fisheries

There has been a lot of documented evidence of Indian Fisheries in prose and poetry, and a few journals in the past, and then the focus shifts to post-independence times. There has never been a clear analysis of fisheries of the pre-independence times: the 19th and early 20th centuries. An essential understanding of post-independence fisheries would be brought about, once we realize what the situation was in the pre-independence times. My primary focus is to depict systems that hint at community based management systems and 'private' fisheries.

Early poems of the 1st to 4th century A.D. have evidence of fishing communities and their traditions (Kurien, 2001). A roman traveler Pliny also wrote of fishing communities in the 1st century A.D. (Kurien, 2001), while a certain Friar Ororic observed: "There are fishes in those seas that come swimming... in such abundance that for a great distance into the seas nothing can be seen but the back of fishes, which casting themselves on the shore, do suffer men for the space of three daies (days) to come and take on many of them as they please." (Day, 1865) The history is evidently very vast; however, the principal focus of this article is to analyze the period of the late 19th century and the 20th century, where the information presently known is very limited. I will start by mentioning the relevant Acts of the period, and the deductions derived from these Acts, followed by a brief insight into certain Government documents and books of that period. A complete picture is very difficult to produce because there isn't enough conclusive information regarding all states, and the archival records are not that well stocked with information regarding fisheries.

However, I have attempted to create a general picture of the fisheries of the pre-independence period with great assistance from the National Archives of India.

a. The Acts

i) INDIAN FISHERIES ACT 1897

This was a landmark act that received the assent of the Governor General of India on 4th February 1897. The act was created as a supplementary act that was meant to be a basis for all further state fisheries legislation, customized to each region. A reading of the act provides us with information that is rather extraordinary in terms of the present day fishing regulations. The simplicity of the Act itself reduces all forms of doubt, and places negligible restriction over the fishing masses.

1) Private Waters

"Private water" means water which is the exclusive property of any person, or in which any person has for the time being an exclusive right of fishery whether as owner, lessee or in any other capacity.

Explanation: Water shall not cease to be "private water" within the meaning of this definition by reason only that other persons may have by custom a right of fishery therein.³

The concept of fisheries in the present context would not even consider 'private water' as a valid term, considering the overwhelming control the Government has over the

³ Section 3 (3), The Indian Fisheries Act, 1897.

marine resources of the nation. There is also the mention of fishing “by custom”, and its also explains that ‘private water’ ownership can override this customary right to fish.

2) Imposition of Rules

“The local Government may also, by a like notification, apply such rules or any of them to any private water with the consent in writing of the owner thereof and of all persons having for the time being any exclusive right of fishery therein.”⁴

The clear mention of the word ‘consent’ always exudes a very interesting reaction in most individuals, and the fact that any regulation could be made only with the consent of the fishing parties illustrates the importance the authorities placed on the decision of the fishermen.

3) Licenses

Throughout the text of the Act, there isn’t a mention of the word ‘license’ or registration. This is rather interesting, if we were to note all the Indian Marine Fishing Regulation Acts of the late 20th century, there are clear mentions of the word ‘license’, and a clear framework for the mode of acquiring licenses, and registering vessels.

These acts strangely don’t even consider the term license, and therefore seem to insinuate the attitude of the concerned authorities, which amazingly appears to favour minimal Government intervention. We can only assume that the concerned authorities considered it unnecessary to overtly tamper with the existing system of private and customary fisheries, and the result was this Act that merely placed a framework for large-scale offenses tending to explosion⁵ and poisoning⁶ of waters.

ii) PRIVATE FISHERIES PROTECTION ACT 1889

This was a state legislation passed in Bengal, and received the assent of the Governor General on 26th June 1889.

“ Private waters” means waters

a. Which are the exclusive property of any person; or

b. In which any person has an exclusive right of fishery, and in which fish are not confined but have means of ingress or egress.⁷

iii) HYDERABAD FISHERIES ACT 1356 F. (circa 1947)

This was a state legislation passed in Hyderabad, and received the assent of the Nizam of Hyderabad on 29th Ardibehisht 1356 Fasli. (Circa 1947).

It clearly mentions Private fisheries:

⁴ Section 6, Indian Fisheries Act, 1897.

⁵ Section 4, Indian Fisheries Act, 1897.

⁶ Section 5, Indian Fisheries Act, 1897.

⁷ Section 2, Private Fisheries Protection Act (Bengal), 1889.

“Private water” means water which is the exclusive property of any person or in which any person has for a particular period an exclusive right of fishery whether as owner lessee or in any other capacity.”⁸

b. Legislative Papers

The Indian Fisheries Act (Madras Amendment) 1929 was passed, and included an amendment to the Indian Fisheries Act 1897, which was focused towards the Madras Presidency. It had certain extra provisions regarding the scope of fisheries to be included. However, the interesting factor regarding the Act came from the proceedings of the legislative council, which passed this Act. A committee was formed to analyze the amendments to the Indian Fisheries Act.

The members of the committee were:

Mr. Sami Venkatachalam Chettiyar
Mr. K. Uppi Sahib
Mr. S. Muttayya Mudaliyar
Mr. K.R. Karant
Diwan Bahadur M. Krishnan Nayar
Mr. T.M. Moidu Sahib
Diwan Bahadur S. Kumarswami Reddiyar
Mr. Daniel Thomas
Mr. Mahmud Schamnad Sahib (Chairman)
Mr. S. Arpudaswami Udayar
Mr. H.F.P. Hearson
Mr. C.E. Wood, and
The Mover
J.A. Saldanha
Biswanath Das

These were members of the legislative council and experts on fisheries. Mr. K.R. Karant, who was a member of this committee stated on 8th September 1928 that, “... As things stand at present, both in the sea and also in the tidal rivers, these fishermen have been enjoying from time immemorial the right of fishing...”⁹ Mr. Saldanha, another member of the committee states, “... the rights of fishing by the people are customary rights...” The hon. Mr. M.R. Seturatnam Ayyar states:

At present fisheries in many rivers down to their mouths, i.e., even in tidal portions, are leased out and the revenues are credited to the Government or local body in cases where such revenues have been assigned to local bodies No such right is exercised at present in respect of sea fishery which is open to unrestricted fishing by the public at large.¹⁰

⁸ Section 2 (c), Hyderabad Fisheries Act, 1356 F.

⁹ Extract from the proceedings of the third session of the third legislative council of the governor of Madras assembled for the purpose of making laws and regulations under the provisions of the Government of India act. Saturday, the 8th September 1928

¹⁰ Extract from the proceedings of the third session of the third legislative council of the governor of Madras assembled for the purpose of making laws and regulations under the provisions of the Government of India act. Saturday, the 8th September 1928

These statements by the members of the Amendment committee clearly present a very interesting image of fisheries in the period. Baseless deductions apart, it is obvious that the fishermen are clearly considered as masters of their own lives. The general message these statements give is one of non-intervention on the part of the Government authorities. It must also be mentioned that further examples will show that these statements are not isolated statements.

There is no doubt in the mind of the gentlemen that fisheries requires great support economically, but the thought of Government licensing and regulation does not appear to even stray into the discussions of the committee.

c. Gazetteers:

i) Town and Statistical Account, Bombay 1894

A letter from George Stevenson contains the following information regarding the 'koll' fishing community of Bombay Presidency in 1791:

The collector Mr. George Stevenson's letter, 1st december 1791: Conformable to the order of your honourable Board of the 7th instant, it is necessary for me to explain as briefly as possible the whole business of the coolery so far as relates to what is noticed in the 29th paragraph of the companies commands dated 28th April 1791. The number of *kolis* on this island amount to 2046, of which number 1064 are fishing *kolis*. These *kolis* possess 130 boats, which are all at the command of Government at every urgent emergency such as embarking and disembarking of troops. Fort^yfive of these boats are employed in the neap tides, when they cannot fish, in bringing ballast for the use of his majesty's fleets, the honourable company's cruisers, and such merchant ships as may want it. This is all the duty I am acquainted with exacted from these people by Government; that is, they receive as much as could be demanded by any other people for performing the same service. The indulgences granted these people are an exclusive right to all the fishery, not only in all water surrounding this island, but for several leagues out in the sea and here they and their property are protected and secured from being plundered by pirates... vessels belonging to the honorable company. On shore they are indulged by having the privilege of building their habitations on any spot of ground most suitable to the advantage of their business, and if this ground happens to be the property of the honourable company they are allowed to occupy it without paying any rent. They also have large spots of ground granted them for the conveniency of drying their fish, and other ground to repair and dry their nets on. For this likewise, if it be the property of the Honourable Company, no ground rent is exacted (Town and Statistical Account, 1894).

The above document basically gives an insight into a very interesting system of fishing rights entitlement. The *kolis* of Bombay Presidency are the traditional fishing class; however, with the inflow of the British in the mid 18th century, they started working as palanquin bearers. Thus, their fishing activities were restricted and sometimes terminated by this newfound profession. However, the letter above depicts an interesting solution proposed by the British. The British instituted a sort of a 'work-for fishing' programme. The *kolis*, when not fishing would provide ballast¹¹ for the incoming ships, and would use their boats for the purpose. For this, the *kolis* would be given the right to fish within their own lands, and all rents would be exempt. This was a very interesting compensatory system in place, and created by the British colonists who understood the value of the *kolis*' right to fish. Beyond the intricacies of the system a larger picture is provided, one of private fishing communities accepted by the Government. The British appear to be leading a 'live and let live' policy with the *kolis*, a

¹¹ Heavy metal placed in a ship's hold in order to steady it.

rarity for the British in India; however, the important aspect of this policy provides for a completely autonomous fishing system. The community is rewarded by the recognition of traditional fishing rights.

ii) Gazetteer of the Bombay Presidency, 1883

The Gazetteer of Bombay Presidency states:

The right to fix stakes in certain banks belongs to certain villages who have used the same spot for generations. These rights are well established and never become the subject of dispute. The nets when not in use, are stored in sheds or in the lofts of huts, and, if carefully used, last from two to three years (Gazetteer of The Bombay Presidency: Vol. XI, 1883).

This mention in the Gazetteer clearly states what is obvious by now, that private fishing existed, and that the right to place stake nets in certain banks belonged to certain villages. The key statement being- "who have used the same spot for generations."

This statement summarizes a general belief of that period, which was that fisheries in India have always been self-regulatory and community based.

d. Case Study of Bombay Presidency

H.T. Sorley was the Director of Fisheries of the Bombay Presidency¹², and he wrote a book depicting the fisheries in the Bombay Presidency in 1928. The valuable information within his book consists of the economic aspects of fisheries within the Presidency, a critique of the existing Madras Fisheries Department, the *rampan* system, the co-operative system, and the relative poverty of the fisher-class.

i) Caste Rigours, Low Wages and Poverty of Fishermen

First of all Sorley clearly mentions that the fishermen were not affluent, and their lives were poverty-ridden. He states: "The occupation of fishing and of dealing in fish is looked upon as a business to be carried on exclusively by the lower classes. The whole industry is left in the hands of people with no capital, no education, no initiative, and no business capacity" (Sorley, 1928: 9). He attributed the poverty of the fishermen to the rigid caste system.

"A difficulty of a different kind arises when there is an increased demand for any particular kind of labour, which the castemen concerned are unable to meet, as people of another caste will not readily take it up, although it may be profitable occupations...But caste rules will stand in the way of any large extension of fishing operations for some time to come" (Sorley 1928: 9).

However, he also clearly states that

by primitive but not ineffective methods, supplied with capital by a large number of petty owners and traders, and worked mostly by illiterate, but not unintelligent, sections of the population...There is good cause for believing that with the individuals who at present run the industry, with the tackle and gear which it employs, with the methods of distribution which are available, and with the difficulties of dealing in a hot country with an article so perishable as fresh fish, the state of the industry is almost as good as can be expected (Sorley, 1928:10).

¹² <http://www.panhwar.com/Article53.htm>

He appears to rate the system in place, as effective considering the large number of difficulties faced by the fishermen.

ii) The Economics of Marine Fisheries in The Bombay Presidency

There is no doubt that an economic analysis of the Bombay Presidency fisheries would have revealed gross mismanagement, uneven wage levels, non-cooperation, limited catches, and failure to meet fish demands. It is clear that the wages of the fishermen were tremendously low, and there were no other means of livelihood for these fishermen. Sorley writes:

The total value of the catch for the Presidency has been estimated at Rs. 80, 30,000. This figure of Rs. 80, 30,000 represents the value of fish on landing and does not make allowance for the subsequent profits of distribution and of appreciation due to alteration in the nature of the raw material (Sorley, 1928:15).

Sorley writes about the capital invested in the industry:

Large-scale capitalists are nonexistent in the fishing industry, which depends at present for its capital upon the investment of small sums by the fishermen themselves. The economic condition of the fishermen will be examined later. The average investment per fishermen will be examined later. The average investment per fisherman over the whole Presidency is something like Rs. 75 of which Rs. 50 represents the value of boats and Rs. 25 the value of nets and other tackle... Apart from capital invested in boats and nets, hardly any capital is invested (Sorley, 1928: 19).

H.T. Sorley also provides census information about the number of fishermen.

		Fishing Population			Percentage ratio column II bears to column I
		Total Population	Fishing Population		
Bombay Presidency	1901	18,574,289	109,688	0.59	
	1911	19,696,266	168,732	0.85	
	1921	19,348,219	133,195	0.68	
	1931	22,259,977	147,162	0.66	
Bombay City	1901	776,006	4,302	0.55	
	1911	979,445	5,052	0.52	
	1921	1,175,914	2,959	0.25	
	1931	1,161,383	2,451	0.2	
Karachi City	1901	116,663	9,771	8.37	
	1911	151,903	3,928	2.58	
	1921	116,883	4,804	2.21	
	1931	260,639	3,883	1.48	
Bengal	1911	45,482,605	467,598	1.02	
	1921	46,695,536	448,379	0.96	
Bihar and Orissa	1911	34,489,543	147,136	0.42	
	1921	34,002,189	118,964	0.34	
Madras	1911	41,405,404	320,843	0.77	
	1921	42,318,985	241,215	0.57	

Figure 1

Bengal had the largest number of fishermen. The fishing population of Bombay Presidency was not large; in fact it was smaller than West Bengal and Tamil Nadu.

iii) Equipment and Fishing Methods

The fishing methods in place were not very complex, and fishing never extended beyond six to seven miles from the coast, and rarely exceeded twelve hours. There were various nets in place, which have been enumerated by H.T. Sorley:

“The gear employed in catching fish in the deep sea, inshore and estuary fishing can be classified as follows:

- a. Fixed nets
- b. Seine nets
- c. Drift nets
- d. Inshore drag nets
- e. Cast nets or hand thrown nets

- f. Scoop nets
- g. Long line, and
- h. Hooks and lines" (Sorley, 1928:26).

iv) Fishing Communities

There are various communities of fishing within the west coast of India. Sorley has attempted to provide a list of the number of castes and groups present in the region. The list is provided below:

The south coast of Kathiawar as far as the Gulf of Cambay possesses good harbours and fishing grounds and this is the reason why Gujarat fishermen as far south as Bulsar visit this coast and fish in the neighborhood of Diu for three months every year. The *Machhis* are the only caste of hereditary fishermen on the Gujarat Coast. In the Konkan area, the fisheries between Kalai and Bandra and of the Bombay harbour as far south as Karanja are almost entirely in the hands of Hindu fishermen, principally *Kolis*, *Mangelas* and *Bhois*. But at Arnalla, a large fishing village north of Bassein, there is a prosperous community of native Christian fishermen. In the areas between Alibag and Vengorla the fishing industry is fairly evenly divided between *Mohammedan* and Hindu fishermen. There are also a few native Christian fishermen at Malvan and Vengorla. The Mohammedan fishermen known, as *Daldis* are first met with at Bankot and from that port southwards as far as Devgad they practically monopolize the fishing industry. The Hindu fishermen in the North as far as Bankot belong to the *Koli* caste, while those in the South are either *Kharvis* or *Gabits*. In Kanara the principal casts of fishermen are *Harkantras*, *Daldis* and *Ambis* (Sorley, 1928: 39).

v) Fishing Co-operation

The Existence of informal and traditional co-operative mechanisms is beyond doubt; however, in the Presidency there existed certain co-operative societies. These societies were based on the principle of joint ownership of capital and catch. But, their success rate was negligible and most of them closed down or downsized membership. Sorley writes,

In the Bombay Division of the Co-operative Department, four societies for fishermen are established. They are all credit societies and there is no producers' society... The *Majali* Fishermen's society and the *Bingi* Society have not yet started work though registered for a considerable time. The *Majali* society has since altered its bylaws and become a credit society (Sorley, 1928: 47).

It is clear that the credit societies were the only form of successful co-operatives. Sorley seals the case with the statement: "It will be obvious that the co-operative credit movement amongst fishermen has made very little progress in Bombay Presidency and there is little hope of much improvement in this respect in the immediate future" (Sorley, 1928: 47). Two reasons could be attributed to the failure of the co-operative societies. First, the formalization of co-operation with formal societies and tabs on deposits may have sparked dissent due to the deviation from the principle of common property rights. With the formation of these societies, there was also the implicit division of resources and the resultant feeling of selfishness within the members. Second, this system created debts among the fishermen, which could have led to a great number of conflicts. The system also had an inherent leaning towards the Government, with many societies being registered under the Co-operative department. Therefore, the system appeared to be truly co-operative, but in reality it was a simple attempt at organizing that, which was already organized.

vi) A Critique of the Madras Fisheries Department

H.T. Sorley believed that the fisheries didn't require a Department, but instead required as little intervention as possible. He quotes the Madras Committee on the working of the fisheries department, "There does not appear to have been any appreciable improvement in fishery technique in Madras as the result of the working of the Department of Fisheries" (Sorley, 1928: 130).

The committee has stated on page 210 of the report "the main conclusion which has been brought home to us in the course of this enquiry is that the Department of Fisheries, in the course of twenty two years' existence, appears to have contributed nothing directly to touch the professional life of the sea-going fisherman" (Sorley, 1928: 130). He further proposes his own system, which he states:

Possibly results as good as any that could be achieved by a Government Department could be achieved by individuals in this way without the expenditure of public money. At the most what would be immediately necessary in this Presidency would be some slight strengthening of the staff of the industries department if the Fish curing yards... Trawling on a large scale could safely be left to private enterprise and the same remark would apply to all the minor by-industries connected with fishing. The function of Government in these matters should be simply to educate the public by putting before interested enquirers such information as can be most easily obtained at public expense (Sorley, 1928: 132).

An inference from the above statements, if made in relation to current hue and cry about Government regulation, would support private enterprise and a deregulated environment.

vii) Rampan Nets

Sorley, regarding organization of fishing within a certain area, cited a very interesting example. The example taken was from the Chendia village in Kanara District. The specific equipment used is a '*rampan*' net, a long net that requires 40 to 50 workers. Sorley comments on the organization required for fishing:

Each *rampan* is worked by 40 to 50 persons who are themselves the partners, owners and workers of the *rampan*, Hence the profits are equally divided amongst them. In very rare cases is the *rampan* owned by a single individual in which case one-half of the total profits goes to the owner of the *rampan* and the other half is divided equally among the workers of the net. The cost and repairing charges of the *rampan* are borne by the owner alone. The cost of a *rampan* and its equipment such as ropes, etc. together with one large boat and one small Toney, comes to Rs. 3000 and annual repairing charges amount to Rs. 800 if the *rampan* is to be maintained in good working order. The fisherman working the *rampan* also gets the shares of fresh fish when the catches are very large or very low and this fish the fisherman cure in the yard by the dry process and take the dry salted fish to the markets or what places and barter for paddy, or sell the fish locally in fresh condition. The fish each fisherman thus gets each season fetches him on an average Rs. 25. Thus the total earning of fisherman working the *rampan* is about Rs. 130 per season (Sorley, 1928:156).

This system is unique because of the large size of the net; there is a hindrance for other fishing, when the net is cast into sea. Therefore, it is a self-created mechanism for controlled and exclusive fishing within a region. The beauty lies in the fact that it appeared to be the sole mode of fishing within the region, and had been praised by the Madras Fisheries and other state systems for its tremendous efficiency.

Therefore, Sorley provides us with very conclusive information regarding the fisheries of the Bombay Presidency, and clearly speaks about three crucial aspects: the poverty, the cooperation and the economics of fisheries in Bombay.

e. Fishing Co-operatives in Kerala

Co-operation in the fishing industry was introduced in the state of Kerala in 1917. The purpose included creation of multi-purpose cooperatives, provision of processing facilities such as curing yards, involvement of community leaders, and support of the Government for self-sustenance with effective marketing mechanism devoid of middlemen (Kurien, 1980:1).

i) Marianad: The co-operative of rebellion and unity

There was a certain co-operative movement in the Trivandrum District that was created by traditional catamaran fishermen of a village called- Marianad. The movement started because of the oppression of the moneylender. The village decided that it was time for the community to act, and therefore they approached the fisheries department in order to get registered as a co-operative, only to discover that there was already a co-operative in the same town. The co-operative was just functioning on paper, yet there was no infrastructure or information about the existence of any wings of the co-operative. So the fishermen decided to buy the co-operative, and then "with this "benami" transaction that the Marianad Malsya Ulpadaka Co-operative Society Limited, No. F (T) 287, began to function as a true co-operative" (Kurien, 1980: 10).

SOME FACTS AND FIGURES ABOUT THE MARIANAD COOPERATIVE FROM ITS DATE OF REGISTRATION

Year	Share Capital	Fish Sales	Sales of Fishing Requi-sites	Sales of Food Grain	Savings of members	Retains**	Bonus and Dividend
	RS.	Rs.	Rs.	Rs.	Rs.	RS.	
1967-68	600.00	—	—	—	—	45 (Loss)	—
1968-69	600.00	—	—	—	—	79 (Loss)	—
1969-70*	920.00	50000	—	—	1000	423	—
1970-71	2130.00	74000	4200	—	1480	1850	—
1971-72	2165.00	146000	12300	—	2920	1412	—
1972-73	2170.00	113000	11200	—	2260	1443	Dividend 8% ; Partic- ipation bonus of Rs. 2 for every Rs. 1000 worth of fish sold through cooperative.
1973-74	2795.00	140000	19900	—	2800	1563 (Loss)	—
1974-75	3715.00	340000	28000	—	6800	5743	Dividend 10%
1975-76	3820.00	665000	45000	140000	9200	4990	Bonus Rs. 0.25 per kg. of fish.

* Cooperative taken over by real fishermen.

** Excess of income over expense.

Source : Marianad M.U.C.S. Ltd. F(T) 287 Annual Report 1975-76.

Figure 2

These fishermen had been persecuted for too long a period, and it was time for the middlemen to go.

They decided to use the Rs. 1000 as the entitle working capital and requested the team of community workers to sit with them and plan a strategy for action. Within a few days, the fishermen had launched their campaign to free themselves from the moneylenders, and sell their fish themselves. The campaign had only one aim. The fishermen stated it in tow succinct words Namukku vijayikkanam (We must succeed) (Kurien, 1980: 20).

The fishermen initially faced a lot of opposition; however, they finally realized that if they worked with a concerted effort, there would be a transformation in their lives. They finally realized their dream when they started marketing their own fish, and the result was a self-sustained community that did not rely on the middlemen. The philosophy of the fishermen could be entailed in the following words: "It is more honourable for a fisherman to die in the sea, fighting for his rights, than starve on land" (Kurien, 1980: 20).

During a nine-year period following the formation of the co-operative, the membership increased from 55 to 137. The per capita income of each member had increased from Rs. 1000 to Rs. 4100 per annum (Kurien, 1980:12).

There was a new marketing scheme in place created by the co-operative. Kurien elaborates on the marketing experiment:

1. The strengthening and expanding of the role of the co-operative as a fishermen's agent. This role was especially vital for exportable varieties of seafoods (prawns and cuttle fish), which were high priced, subject to artificial fluctuations and contributed (in 1975-76) the most to the fishermen's income.
2. The role of price slump control to ensure a minimum price whenever there were bumper landings.
3. The direct marketing of fish from the original producer to the final producer (Kurien, 1980:13).

The economic aspects of the co-operatives have been entailed; however, it must be noticed that the true value of the co-operative is one of sociological dimensions. "However, the success of this co-operative as a business organisation is indisputably due to its success as a people's organisation" (Kurien, 1980: 14).

Kurien entails seven facts that support the need for co-operatives of the Marianad kind:

1. The co-operative was formed by the fishermen themselves. It arose from a need, and more important, from a conscious awareness of the root cause of their problems (no imposition from above).
2. The co-operative is completely controlled by the fishermen and is based on the strength of their collective unity and leadership. (No personal cults.)
3. The cooperative has evolved at a pace that facilitated complete comprehension of each of its activities by each of its members. (No large "schemes" at the initial stages.)
4. The co-operative has constantly had to struggle against vested interests in order to continue its activities. This has inspired cohesion rather than disunity. (No moment of complacency.)
5. New membership has been restricted to those fishermen who are fully convinced about the value of the cooperative. (No membership campaigns.)
6. Uniformity in the application of rules and regulations dictated by the members themselves. (No preferences and exceptions.)
7. An open administrative policy on work procedures delegated to a dedicated set of employees who are answerable to the general body of members. (No secrets and favours.)

These seven facts are the base of the cooperative's economic organisation (Kurien, 1980: 17).

The Kerala Government's Economic Review of 1977 states:

The experience of the Marianad Malsya ulpadaka Cooperative Society, Puthencurichy, near Trivandrum is an eyeopener to the fishermen cooperatives in Kerala. Dedicated leadership and the felt need of the fishermen for united actions against exploitation by the

middlemen could be reckoned as the contributory factors for the dynamic outlook of Marianad (Government of Kerala Economic Review, 1977).

The community is an example from the past that speaks volumes of the value of fishermen in our nation, especially the traditional fishermen. They are the vanguard of our fishing industry, and have maintained an expertise in the field with sustainable fishing. The fishermen of the Marianad co-operative were not very different from any of the other fishermen, except for the fact that they were individuals who believed that with a concerted and hard effort they had the ability to change the system. The word 'initiative' could spell wonder in many fields, and the Marianad fishermen proved the value of that word. They were the entrepreneurs in a field where the non-fishing middlemen wielded great power. They chose to change their lives, and created a system or rather proved that successful co-operatives were possible.

f. Conclusions and Deductions from the History of Indian Fisheries

If we were to consider the general picture gained from the acts and documents gained, we would clearly understand three important factors: fisheries were privately controlled with minimal Government regulation; there was proper community management of fisheries, and the systems in place were regional and could not be homogenized. There were the *rampan* fisheries, the *kolis*, and the *macchis* of Gujarat. Therefore, these groups of fishermen had region-specific methods of fishing, and strongly placed great value on tradition. It is also clear that the British preferred not to interfere in the local systems, and chose to make mere guidelines for regulation, and let the fishermen 'live their own lives'. There is also no doubt that the fishermen were poor, but there were community-based support systems in place. Man can acquire a lot of wealth; however, when his freedom to continue in his traditional path is barred, he can become disgruntled and dissatisfied with the system.

III. The Model for Indian Fisheries

A model can be created with high-winded promises and concrete analysis, yet the one thing that can never be accurately gauged, except in certain cases, is the sustainability of a model. The difference between other models and mine, is that I am simply attempting to propose what had been in practice for a long period of time, and was abruptly interrupted when our nation achieved independence. There are certain alterations in the present state of Indian Fisheries, yet a correct system would only be a system that is bound by tradition, simply because the socio-economic profile of the fishermen proves that tradition is paramount to these individuals. There are already community-based fishing systems that are extra-legal. These systems have internal regulatory mechanisms that are not recognized by the state machinery, yet are working quite successfully and efficiently. These fishermen didn't hit a stroke of genius and make these models. They merely derived systems from methods used by their ancestors.

The systems all over the world will definitely adhere to Individual Tradable Quotas (ITQs), community fishing, co-operative fishing, open access, or Government regulation. The systems all over the world are either purely one of the above, or a mixture according to intra-national regions and needs.

a. Individual Tradable Quotas (ITQS)

The individual tradable quotas (ITQs) are a very intelligent concept applied in many of the temperate waters. The concept as such is not flawed, and in fact is ideal for areas

where 'overfishing' is a major problem. So what are ITQs: "An individual transferable quota (ITQ) is an allocated privilege of landing a specified portion of the total annual fish catch in the form of quota shares" (Buck, 1995). A certain amount of fish population is calculated, which is called the Maximum Sustainable Yield (MSY). The MSY is the maximum amount of fish that can be caught in a region without grossly affecting the sustainability of future fish populations.

The ITQs are mere percentages of the MSY or Total Allowable Catch (TAC), and are allotted to fishermen or fishing boats in which case they are called Individual Vessel Quotas (IVQ). This system is generally in place in temperate waters. The ITQs can be traded, and certain people can exchange the share between themselves. The country of Iceland was the first nation to extensively apply the concept in the early 80s, and then New Zealand enacted it in 1986. Various other nations practice this system throughout the world:

Italy has a claim ITQ program. Australia has an ITQ program regulating the southern blue fin tuna fishery and the Tasmanian, Victorian, and South Australian abalone fisheries. South Africa manages its abalone fishery by ITQs. Canada has several fisheries that are managed by ITQs along both Atlantic and Pacific coasts and in the Great Lakes (Buck, 1995).

The ITQ concept is quite modern, and there is no evidence that this system existed in the past in India, because traditional Indian systems always appear to believe in equal distribution of catch. Therefore, if we have to analyze the arguments and counter arguments for the ITQs for India, an interesting and unending debate takes place.

The importance of the ITQs is that they create a very holistic combination of commercial and environmental stability within a certain marine area. The restriction that the MSY creates, helps in regulating the catch and/or the number of boats, and dissuades fishermen from overfishing. It also grants conservatory agencies to buy certain ITQs for conservation purposes. ITQs reduce the time for fishing i.e., the numerous restrictions are reduced because the primary focus of sustainable fishing is clearly established with the setup of the MSY. The ITQs build greater flexibility to the fishermen to maximize their profits, as their priorities are clear and specific. The fishermen will adhere to monitoring and will condemn detractors because their share can be harmed in the process. Therefore, it is clearly seen that this system has merits; however, there are a lot counter arguments too.

I will first attempt to bring about the counterarguments against the ITQs in the general conceptual level and then delve upon the Indian counterarguments. The system is considered by many as the offshoot of free market capitalism within the fisheries management framework. The major argument against ITQs is the possibility of certain players dominating the market, and thereby marginalizing the other fishermen. There is also a belief that if a certain number of players take over the market, the prices may be under their control and then seafood prices may rise. The ITQs also allow for illegal operations, since false catches could be an incentive for the fishermen, with illegal fishing markets springing up in specified regions. The major scare for fishermen is that ITQs will reduce the fishing workforce, which the trawlers have already successfully done, thereby leading to great unemployment. These are some of the counter arguments placed against the ITQs all over the world.

The Indian context involves a more humane view of the fishermen. The majority of Indian fishermen are traditional fishermen who rely on the seas for their livelihoods. They are also known as the artisanal fishermen, and generally use small traditional crafts called catamarans (in Tamil Nadu). These fishermen have great representation in terms of the National Fishworkers Forum (NFF), which works on their behalf and has been doing so for years. The problem with the introduction of ITQs in India would directly affect these fishermen. Their industry is not capital intensive as much as it is labour intensive, and the focus of the ITQs is capital, with conservation as a subsidiary motive. It would be very difficult to calculate the quotas for all these traditional fishermen, and the fact that their catches aren't that large any ways, the ITQs would place great restrictions on their sole mode of subsistence. The industry would have to start transforming into a mechanized trawler industry and the result would be mass unemployment. The opportunity for self-employment in fisheries would be drastically reduced. The other major counter argument relating to Indian waters is regarding certain scientific and logistical deficiencies. There are generally two kinds of fish within a region: the pelagic and the demersal fish. The demersal fish stay within a certain region, while the pelagic fish migrate from season to season. The temperate waters have a majority of demersal fish, with pelagic fisheries existing in specific regions. The problem with the biodiversity of India is the occurrence of various kinds of pelagic and demersal fishes within a certain region. Therefore, an accurate calculation of the MSY would be very difficult. Therefore, if the MSY is not quite accurate then the sole purpose of ITQs is lost.

Therefore, if a judgment were to be passed regarding the feasibility of ITQs in Indian fisheries, it would require great effort to enact the policy. The amount of opposition that would rise within India would be too much to handle, because of the system's obvious inclination towards the much profitable trawler fisheries.

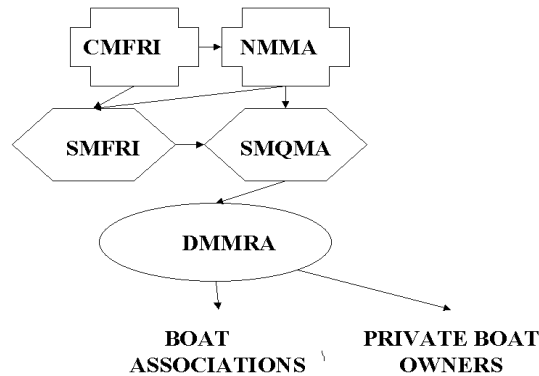
However, I am of the opinion that the concept could be introduced in India, if the technical issues are solved effectively, but the introduction would be of a different kind. If an alternative system is placed for the traditional fishermen, and the trawler fishermen adhere to this ITQ system then we could have a dual level of management. The system for the traditional system will be delved upon later in the paper. The ITQs will work in India only if innovation in methodology of MSY calculation takes place. If that is not the case, then we would have to apply a uniform system for the Trawler and Traditional fishermen.

i) The Indian ITQ System

The system would mainly include the trawler fishermen, who account for 65 percent of our total fishing catch (Working Group on Fisheries, 2001), and are approximately 53, 678 in number. They are considered very productive; however, the artisanal fishermen have made claims that the trawler fishermen have constantly encroached upon their territories and this has led to a great number of conflicts. The traditional fishermen come under threat, both commercially and physically, because the mobile fishing equipment of the trawlers greatly damages the fishing equipment of the small-scale fishermen. Maarten Bavinck divides the trawler fishermen into three categories in his

research on the Royalpuram Fishing Centre near Chennai: The day boat owners, the tangal¹³ boat owners, and the rich proprietors who own many trawlers (Bavinck, 2000).

The Central Marine Fisheries Research Institute (CMFRI) based in Cochin does the majority of research regarding marine fisheries. There are not too many localized institutions in place, except for the state fisheries universities. The framework would require setup of regional subsidiary organizations of the CMFRI in each major fishing region, and they would calculate the MSY



for the local fishing trawlers. Bavinck writes about extra-legal boat associations for the mechanized boat industry. It is possible to include these boat associations in the affairs of ITQs. Now the question is of a monitoring agency, which also will provide the quotas.

Figure 2 explains the model: There will be a National Marine Monitoring agency (NMMA), which will administer the state systems, but will not have major control over policy decisions. National level legislation will be controlled by

Figure 3

them, but would not be made without recommendations from the Central Marine Fisheries Research Institute (CMFRI) and the State Marine Quota Monitoring Agencies (SMQMA). The State Marine Fisheries Research Institute (SMFRI) will assist the SMQMA. These SMFRI's will be created from the already setup State Fisheries Universities. The SMQMAs will control the District Mechanized Monitoring and Regulatory Agency (DMMRA), which will be the lowest fishing quota provider and monitoring agency. The various affiliated boat associations in the region will have to register with the DMMRA, and the quotas will be allocated to the boat associations. There is the possibility of certain boat owners controlling these boat associations, thereby reducing the opportunities of the small boat owners. In order to avoid this situation, I must clearly state that the marine regulations of the monitoring agency will be to note that no player in a fishing boat association should at a time control more than 40 percent of the quota allocated to the boat association. There is also the possibility of the private fishermen gaining quotas in this system, and they will directly deal with the DMMRA.

This is the system that can be proposed for the Indian trawlers; however, the majority of the traditional fishermen would not be able to come under this system. We also have to consider the difficulty in calculating the MSY within the region. This model could be created only if a legitimate formula for calculation of the fish within the Indian tropical waters is created. This system is very decentralized, and gives opportunity to the small-scale fishermen to join boat associations. The redressal mechanism could be entrenched in the boat association or else it can be incorporated as a subsidiary function of the DMMRA. The composition of the boat associations will be continuously monitored by the DMMRA. The good thing about this system is that it is very focused, and the principle policy and regulatory mechanisms are at the lowest decentralized level.

¹³ A tangal is a kind of mechanized boat that varies from 32 to 49 feet in length and has holds from 1 to 10 tons. It has a crew of five to six and is headed by a skipper or driver.

b. Community Management For The Traditional Fishermen

The class of traditional fishermen has gradually declined all over the world. With increased commercialization, the fisheries of the coastal regions in the west have led to the inclusion of a professional class of fishermen, relying on mechanized crafts. The 'occident' and the 'orient' may never meet on the issue of fisheries, because the mainstay of our fishing industry is the traditional fisherman. The social institutions in place prevent the decline of the traditional fishing classes. The sea is their only option, with subsistence their motive when they cast their nets to catch fish.

It is evident that a large majority of the fishermen come under certain caste or religious classification, and their fishing faculties are a result of their social affiliations. They have traditional systems that have been passed on to the present day fishermen. The extra-legal and informal arrangements in the Indian fisheries clearly prove that indigenous knowledge and expertise is very efficient in the light of modern technology and marine studies. There is no doubt that an eclectic mixture of modern expertise and traditional knowledge can create successful and sustainable systems. There are marine eco-systems where the maintenance of the coastal areas has been given to the regional community, and the fisheries of the region are also under their control. The examples are provided in the following paragraph.

There are examples of community management systems all over the world. Shankar Aswani had done a study of the Roviana lagoon in the Solomon Islands and depicted the sea tenural or community management systems in place. Aswani classifies tenural systems: The *territorial-enclosed entitlement* model of sea tenure presents a condition in which territorial boundaries are circumscribed, jurisdictional power over estates is centralized, and sea entitlements are regionally recognized. The *mosaic-entitlement* model represents a situation in which territorial boundaries are contested, jurisdictional control over estates is decentralized, and entitlements are regionally dispersed and claimed by different groups. Finally, the *transitory-estates* model incorporates organizational elements of both the territorial-enclosed and mosaic-entitlement models of sea tenure." Aswani proves that the sea-tenural systems have flourished, not succumbing to the market pressures of open-access to fisheries. The sustainability of the system is clearly due to the internal regulations placed by the community, and the rejection of the open-access mechanism. There isn't a breakdown of local institutions with the onslaught of capitalist commercialization.

The Japanese Community-Based Fishery Management System (CBFM) is an example that has gained international acclaim for the manner in which it decentralizes the process of governance. Mr. Takashi Hisamune was the author of the landmark legislation: The Fishery Law 1949. The Japanese system consists of 47 prefectures, and then there is the Fishery Co-ordination Committee (FCC), which is the legal body that makes plans for the optimum use of fisheries in a region. The local fishermen control the FCC, and therefore the policy decision of the fishermen is completely in the hands of fishermen. With the FCC, the majority of the members (nine) out of fifteen are from the fishing industry. The fishing rights are given to the Fishery co-operative Association (FCA), and licenses are given in regions where there is need of regulation of the fish catch (Yamamoto, 1995). This system has worked effectively and is a great example for the Indian scenario, because of the existence of fishing communities in Japan, and traditional systems of fisheries.

i) A Model for Indian Traditional Fishermen

The model that I plan to propose for the Indian community fishermen is based on historical evidence of tenural and community-based systems, which was supplemented by the present day indigenous community-based systems and International examples. The issues plaguing fisheries are overfishing, illegal trawling, mismanaged Government systems, irrational laws and regulation, trawler incursion into restricted spaces, and the poverty of the traditional fishermen. The Supreme Court had summed up the situation on June 23rd 1993:

“Over the years, while the population of the traditional fishermen has increased by more than 20.8 percent, the average production of each fisherman declined by more than 14% which resulted in 98.5 percent of the fishermen population descending below the poverty line” (Tyndale, 2002:2).

There is no doubt that poverty plagues India in almost every facet of the economy. The fishermen in the early 20th century and those in the present days have one difference: the nature of poverty. The fishermen in those times were poor in isolated situations; however, as members of community they had support systems in place. The modern fisheries laws have created the individually isolated fisherman, who must strive to fish for himself and not for community or collective organizations. The reduction in catch will affect him drastically as there are no clear support systems in place. The laws have isolated the fishermen from his community. The concept of equal distribution may scare a capitalist, yet it has sustained fishing communities for generations. The maximization of profits is not an issue; instead the issue is sustainability and subsistence. The model must realize the traditional belief of the fishermen, and must not include blatant commercial factors. The commercialization of fisheries with the introduction of the mechanization process in the early 1950's created the problems the artisanal fishermen are facing nowadays. It is irrational to mechanize the fishing industry in such a short period.

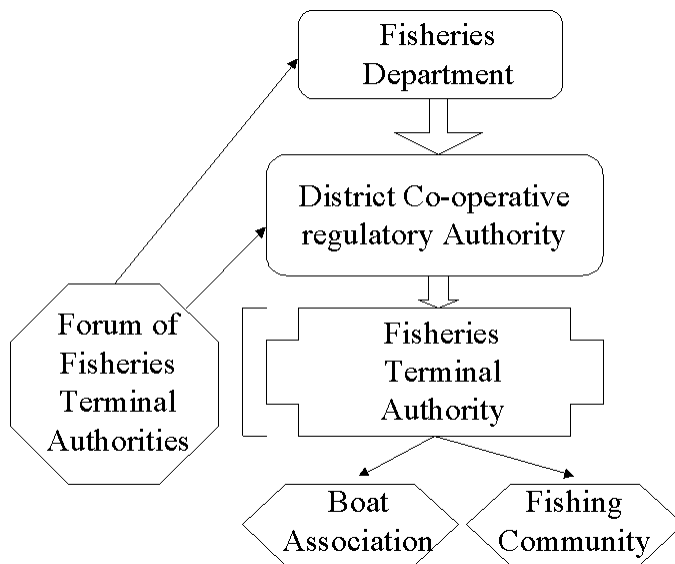
However, one reality must be clearly stated that complete mechanization in the future cannot be condemned, and any model proposed at this point of time will definitely include a certain leeway for mechanization. The only difference will be that mechanization in Indian waters will have to be done in conjunction with traditional socio-anthropological systems. The model that I propose is a model that could be permanent like the Japanese system, but is rational in terms of future predicaments. It will have a place for the trawlers, if the I.T.Q system fails, and will also have a self-amending mechanism. It will involve less Government machinery and stationery, placing the Government in a mere monitoring role.

The fisheries in India are in a transient phase and need a model that will encompass the present and future. It is rather ironic that the model I propose is derived from the past. The great license-era introduced Government regulation of fisheries, de-recognizing all indigenous systems. The Government created a system of regulated access, ironically similar to open-access, forgetting that the communities were practicing community based-regulation of the marine areas.

The West Bengal Marine Fishing Regulation Act, 1993 has a very interesting section: “The State Government may, by notification, appoint a Fishery Terminal Authority and transfer to it the management and control of any fishery harbour and fish landing

centre.”¹⁴ The Act has a provision for a grassroots level body to manage the fisheries of the region, and my model is based on this section of the law.

The State Fisheries Department controls the fisheries-related systems within the state.



The centralized control within the state is very strange, and there are no clear forms of redressal for the common fishermen, except through a complicated system of appeals.

Figure 4

The Figure will explain the model in a clear manner: The model will still give the Fisheries Department control over the state fisheries; however, all policy decisions will lie at the hands of the Forum of Fisheries Terminal Authorities (FOFTA). The State machinery will have two roles: monitoring

of the fisheries within a state, and assisting in enactment of recommended laws. It will effectively become a rubber stamp. The districts will have a District Co-operative Regulatory Authority (DCRA) and it will be the main monitoring agency within the District. The primary organization within a specific District will be the Fisheries Terminal Authority (FTA) that will head the marine fisheries regulatory framework within a certain group of communities. There will be a number of FTAs within a district. The various FTAs within a district will together form the Forum of Fisheries Terminal Authorities (FOFTA). There will be two members from each community or boat association in the F.T.A. There will be four nominated experts in each FOFTAs, and two Government officials. The District Co-operative Regulatory Authority will nominate them.

The FOFTAs will act a legislature for the fishermen, as all the FTAs will have membership from the fishing communities. All members of the FTAs will be members of the FOFTAs and therefore every fishing community will have access to the most powerful policy making body. There will also be a regulation that no member can be elected more then twice, and therefore a rotational system will work.

The important aspect that must be noted is that none of these authorities can control the traditional community mechanisms. They are merely organizations for redressal, conflict resolution and regulation of the Overfishing. Since, the Trawler boat associations also have a stake, there is a common area for the two rival factions to come to a compromise. This system allows fishing to take place with the norms placed by the communities. The District Co-operative Regulatory Authority (DCRA) will monitor composition of the communities, but has no right to condemn or change any traditional systems within the communities. That power will only lie within the Fisheries Terminal Authority or the community itself.

¹⁴ Section 14 (2), West Bengal Marine Fishing Regulation Act, 1993.

The fishing communities have no representation in the fishing policy decisions, and that is why the fisheries within our nation are not realizing their potential. Our export worth is very little. China, which is a large fish-consuming nation, has the largest fish exports in the world. There is a clear failure in the present system to gauge and utilize our fishing resources.

The proposed model is self-regulatory and requires little Government intervention; however, the Government may interfere, if the resources are under threat. The system also involves a very democratic mechanism with major policy decisions being taken at a local level. The District Co-operative Regulatory Authority (DCRA) will be the monitoring agency, and therefore there will be an agency within the state at a ground level that can oversee the community fishing practices, and counter any illegal activity. The importance of this system is the self-regulatory aspect, as clashes would be solved within the FTAs or the FOFTAs.

IV. Conclusions

I have proposed two models, one of them for the trawlers if the MSY can be calculated, and the other for both of the fishing sections. The two models are decentralized systems, and the fishermen have representation in both of them. They can work simultaneously, or else the second system includes the trawler fishermen also, therefore reducing the state function in fisheries, and increasing individual enterprise.

I have analyzed the historical systems, and have shown the acts, and using contemporary international examples I have effectively proposed two models that can work simultaneously. The success of the models may not be instantaneous, but gradually they will flourish. The interesting aspect of the second model lies in the fact that the state marine fishing regulation act has a provision for the Fisheries Terminal Authority (FTA). The FTA will be extremely effective as it includes the fishermen at the ground level.

The purpose of models is not to change the system; it is to bring out a system from within the previous systems. It is to decentralize and reduce gaps in the functioning of fisheries management. The word 'management' was introduced by the post-independence system, and appeared to consider Government management as the sole mode of 'management' within the entire framework of national fisheries policy. However, the historical examples are evidence that the fisheries of our nation did not require Government intervention. There were self-regulatory mechanisms in place, which were abruptly ended by the new-formed state Governments.

I have researched the National Archives and have gained information regarding the acts and legal documents related to fisheries. I have quoted from legislative proceedings, gazetteers and a very interesting compilation by H.T. Sorley, and have gained an insight into the system of fisheries within India during pre-independence times.

I spoke about the pros and cons of the Individual tradable quotas (ITQS), and the specific hindrances of the system, if placed in India, yet if there is a possibility of reducing those hindrances, then I have also proposed an ITQ system for India.

I am recommending what H.T. Sorley recommended in 1928: "The function of Government in these matters (fisheries) should be simply to educate the public by putting before interested enquirers such information as can be most easily obtained at

public expense” (Sorley, 1928:132). The Government must just inform and monitor, and let the fisheries of the country be ruled by the fishing communities.

My model is a phase in the gradual evolution of fisheries in our nation. The present system requires a model such as this, because representation is the true solution. The problems, the clashes can be solved through compromise, as the Community based management systems will provide that basic level of conflict resolution.

The common fishermen will be in charge of his livelihood, and will not have to undergo great pains to appeal against oppression or illegal activities. He will have a form of redressal at three tiers, each of which will provide him with a good hearing, and hopefully an appropriate judgment.

The fisheries of our nation need to be respected, not because of their commercial value but because they contain cultural entities that are anthropologically very valuable, and can serve as examples for other market related reforms. The age is not of freeing everything, but of creating enterprise with self-regulation. The mechanism, were always there, but we chose to place alien mechanisms upon our indigenous systems. The result was great disharmony.

Now, it is time for harmony to return with the introduction of the Fisheries Terminal Authorities (FTAs): the grassroot level organizations that will effectively assist the fishermen in self-regulation and maintenance of a flourishing fishing industry.

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