Fisheries Management for Sustainable Livelihoods (FIMSUL)

Work Package 5
Report - WP5AR3

Supplementary Papers on Fisheries Management

Government of Tamil Nadu

Government of Puducherry

Food and Agriculture Organization of the United Nations

The World Bank

Cover photograph: Auctioning fish in Cuddalore. Photo by Philip Townsley/FIMSUL

FISHERIES MANAGEMENT FOR SUSTAINABLE LIVELIHOODS (FIMSUL) PROJECT IN TAMIL NADU AND PUDUCHERRY, INDIA (FAO/UTF/IND/180/IND)

Work-Package 5

Fisheries Management Systems

SUPPLEMENTARY PAPERS ON FISHERIES MANAGEMENT

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PREFACE

Fisheries Management for Sustainable Livelihoods (FIMSUL), is a project implemented by the Food and Agriculture Organization of the United Nations (FAO) with the Government of Tamil Nadu and Puducherry in India under the World Bank Trust Fund.

The project aims at establishing frameworks, processes and building capacities of various stakeholders especially the Government, to facilitate the planning, design and implementation of appropriate fisheries development and management policies.

The project includes a series of stakeholder consultations and consensus building apart from detailed review and analysis in the areas of stakeholders, livelihoods, policy, legal and institutional frame work and fisheries management. Based on this, the project comes up with various options.

Work package 5 is on Fisheries management. Before getting into detailed analysis of the marine fisheries, looking at possible fisheries management units and coming out with different fisheries management options, it was important to do the review of the existing fisheries management systems. In this regard 7 background papers were produced by the Fisheries management consultants Mr. V. Vivekanandan and Dr. H. Mohamad Kasim. Of these, two important papers are now taken out for printing as it will serve as background also for policy makers and others interested in fisheries development. Other papers are available in the website. These two papers may please be treated only as background papers. Detailed analysis, findings and recommendations are made in separate reports.

The FIMSUL team thanks the successive Secretaries and Director/ Commissioners of Fisheries in Tamil Nadu and Puducherry during the project period for all the support provided. Many thanks to the Department of fisheries officers of Tamil Nadu and Puducherry, who had provided many of the information for these papers. Special thanks to Dr. Ahana Lakshmi for editing the report.

Many thanks to Mr. Rolf Willmann, Senior Fisheries Planning officer, FAO, Rome, the lead technical officer for the project for his constant guidance and support. The team thanks Mr. Gavin Wall, FAO representative for India, Ms. RenukaTaimini and other officers from FAOR office New Delhi for all support.

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Chapter 1 - Institutional Structure—Organisations

A wide range of organisations operate in the fisheries and have some connection or the other with fisheries management. In this review, we have tried to categorise the organisations involved in fisheries on the basis of their affiliation into 13 categories:

1. State Fisheries Departments
2. Central Fisheries Departments
3. Parastatal Organisations under TN Fisheries Department
4. Parastatal Organisations under Puducherry Fisheries Department
5. Organisations under Central Fisheries Department (Ministry of Agri)
6. ICAR institutes
7. Other Central Ministries.
8. Other Central agencies
9. Other state government departments
10. State level academic and research institutions
11. Local bodies
12. Producer/Community Organisations
13. Others

We have listed as many as 56 organisations (and in some cases groups of organisations) that have some role in the fisheries. Even then it is unlikely to be an exhaustive list. Obviously some have more importance than the others.

One could possibly reclassify the organisations on the basis of functions vis-à-vis fisheries management.

The 56 organisation in 13 categories are provided in the form of a table that summarises their role with some comments.

Table 1 : Organisations connected with Fisheries Development and/or Management

S. No.	Organisation	Role in marine fisheries	Relevant Activities	Comments
I. State Fisheries Departments				
1.	Department of Fisheries, TN	State fisheries policy; fisheries legislation covering territorial waters; fisheries & aquaculture development, conservation & management; fishing community welfare	Investments in fisheries infrastructure including harbours and landing centres; subsidies for fishing equipment; fuel subsides; regulation of fishing through registration, licensing and other instruments; fisheries statistics including periodical census; insurance and other social security schemes for fishermen and women; housing and other social infrastructure for fishing communities/villages; involvement in post-harvest and marketing; support and control over para-state organisations like fisheries coops, fisheries corporation and fishermen welfare board	Main organisation for all things connected with fisheries and fishing communities in the state; saw itself as responsible for production enhancement in the years of state sponsored expansion; now sees itself as more responsible for "fishermen welfare"
2.	Department of Fisheries and fishermen welfare, Puducherry	Same as above	Same as above; however list of para-state organisations vary a bit	Only fisheries department to formally include fishermen welfare in its title!
II. Central Fisheries Department				
3.	Department of Animal husbandry, Dairying & Fisheries (DAHDF), Ministry of Agriculture	National fisheries policies; legislation governing EEZ; financing fisheries development and fishing community welfare in states through centrally sponsored schemes; financing of deep sea fishing and post-harvest activities; control over certain specialised agencies in fisheries	Centrally sponsored schemes for fishing harbours and landing centres, fishermen housing, fishermen insurance, savings-cum-relief scheme, fish market development, etc.; licensing of large "foreign" vessels under "Letter of Permit" scheme for "resource specific fishing"; funding of conversion of Indian vessels longer than 20 m OAL for tuna long-lining; controls Fisheries Survey of India, Central Institute for Coastal Engineering and Fisheries and Integrated Fisheries Project; brings out annual fisheries statistics; commissions All-India Fisheries census; sets up working group to assess fisheries resources based on information available with CMFRI, FSI and other research institutions	Last resource estimates were brought out in 2000; new assessment done in 2010, awaiting final submission by working group of experts. Last All India fisheries Census was in 2005; 2010 Census completed, publication awaited; currently trying to introduce legislation to manage the EEZ which will have major implications for all state fleets which are fishing unimpeded at the moment beyond 12 nautical miles.

Table 1 : Organisations connected with Fisheries Development and/or Management

S. No.	Organisation	Role in marine fisheries	Relevant Activities	Comments
III. Para State Organisations under TN Fisheries Department				
4.	Fisheries Cooperative Societies	Registering fishermen; channelizing state schemes to fishermen/fishing communities	Registration of active fishermen; local agent of fisheries department for implementing fishermen insurance, savings cum relief scheme, housing schemes, etc.;	No real cooperative business as such; function only to be a conduit for state schemes
5.	Fisherwomen Cooperative Societies	Services to women fish vendors and processors	Savings and credit; welfare measures (?)	Set up in the early 1990s, mostly defunct (?); NGO organised SHGs have taken over role of credit and savings across coast
6	Tamil Nadu Apex Cooperative Federation for Fisheries TAPCOFED	Supply of subsidised inputs (only?)	Supply of imported OBMs (purchased from importers like SIFFS)	No meaningful role, survives on mark up of price of OBMs supplied
7.	Tamil Nadu Fisheries Corporation	Undertake business activities like ice manufacture, diesel bunks, fish marketing	Runs diesel bunks in many parts of the coast to supply tax-free diesel (a monopoly activity), owns ice plants (mostly non-functional); fish retail shops in Chennai and selected urban centres; runs smart seafood stalls post-tsunami	Fisheries Corporations came up in the 60s and 70s in most states to undertake business activities; most defunct or wound up; TN Corporation is a survivor; margins on fuel seems to be main income source.
8.	Tamil Nadu Fishermen Welfare Board	To provide social security for fishing communities in a systematic manner;	Life insurance, health insurance, equipment insurance, grants for children's education, old age pension, girl's marriage, etc.	New organisation set up with a corpus using tsunami funds; inspired by similar organisation in Kerala which is struggling for lack of funds
9.	Fisheries Institute for Technology and Training (FITT)	Set up recently as an autonomous training and extension organisation for fisheries development with funding support from Tatas	Focussed on promotion of deep sea fishing, value addition in post-harvest sector and mariculture	Registered as a Society but controlled by Fisheries Department

Table 1 : Organisations connected with Fisheries Development and/or Management

S. No.	Organisation	Role in marine fisheries	Relevant Activities	Comments
IV. Para State organisations under Fisheries Department of Puducherry				
10.	Fishermen Coops	Same as TN	Same as TN	Same comment as in TN
11.	Cooperative Federation	Same as TN	Need to check actual activities. Know they also have ice plants, etc.	
V. Organisations under Central Fisheries Department (Ministry of Agri)				
12.	National Fisheries Development Board	Funding of infrastructure and capacity building for fisheries development	Limited role at the moment in marine fisheries; provides subsidies for fish market development, training of fishermen for new technologies, post-harvest, etc.	Intended to bring "coordination" between different agencies in fisheries cutting across ministerial boundaries. Has however become a mere funding mechanism operating rigid schemes with no flexibility;
13.	Central Institute for Coastal Engineering and Fisheries (CICEF)	To provide technical assistance for fishing harbours and other coastal structures for fisheries and aquaculture	Plays key role in studying technical and economic feasibility of fishing harbours; technical clearance of CICEF essential to obtain central grants for fishing harbours	Often under political pressure to approve what is initially considers infeasible projects; weak in economic and biological feasibility
14.	Fisheries Survey of India	To undertake fish resource surveys using own vessels	Undertakes surveys using trawlers, purse-seiners and long-liners; focuses on surveying areas not intensely fished	
15.	Integrated Fisheries Project, Cochin	To train fishermen, women, fisheries personnel, entrepreneurs in fish processing	Offers regular training courses as well as customised courses; has its own fishing vessels, processing equipment and seafood product sales	Remnant of Indo-Norwegian Fisheries Project; lost most of its vessels in a fire a decade ago
16.	National Fisheries Advisory Board	To recommend fisheries policies and schemes	Just a committee with no independent existence; made up of representatives of all state fisheries departments, fisheries agencies, representatives of fishermen associations, etc.	No powers, mostly ornamental; however, a useful platform for Ministry to sound out new ideas and seek suggestions; irregular in its meetings

Table 1 : Organisations connected with Fisheries Development and/or Management

S. No.	Organisation	Role in marine fisheries	Relevant Activities	Comments
VI. ICAR Institutes				
17.	Central Marine Fisheries Research Institute (CMFRI)	Main agency responsible for marine fisheries studies, especially fisheries biology, fish catch statistics and stock assessments; development of mariculture technologies (open sea culture)	Has dedicated machinery to collect fish catch data through direct observation across the Indian coast (mainland only); has fish catch database from 1950 onwards; undertakes fisheries census for the Central Fisheries Department; also undertakes research on socio-economic aspects; has developed technologies for pearl culture, bi-valves, one or two ornamental fishes; currently working on development of cage culture for sea-bass, hatchery technology for sand lobsters, sea weed culture, ornamental fish culture, etc.	Key agency keeping track of fisheries and fisheries activities along the coast; has huge data base and pool of scientific personnel; however being part of ICAR system distances it from state fisheries departments and limits involvement in management; important influence on long term fisheries policies of the GoI; referred to by courts in fisheries disputes
18.	Central Institute of Fishing Technology (CIFT)	Development of technologies for fish harvest and post-harvest; resource agency on fish export processing and quality of seafood	Fishing boat development, improvements in fuel efficiency, improvements to fishing gear, TEDs and BRDs; innovations in fish processing methods, technical support to policy makers and seafood industry to keep abreast with international seafood regulations and maintain quality of export products;	Had important role in fishing technology (boats, nets) during 60s and 70s when state sponsored mechanisation took place; nowadays low impact on fish harvesting sector; main strength is in fish processing and plays key role in development of standards for sea food export processing and certification of plants for EU; provides training in fish processing for export industry;.
19.	Central Institute for Brackish-water aquaculture (CIBA)	Development of technologies for coastal aquaculture; technical support to aquaculture farmers; policy inputs on aquaculture	Development, promotion and technical support for shrimp farming is main activity as it is the only significant brackish-water culture activity is India; working on other potential species also	

Table 1 : Organisations connected with Fisheries Development and/or Management

S. No.	Organisation	Role in marine fisheries	Relevant Activities	Comments
20.	Central Institute for Fisheries Education (CIFE), Mumbai	Has the status of a university and is an institute for higher studies in fisheries in India and provides training for fisheries personnel	Runs P.G courses in fisheries science and doctoral programmes as well; runs short term courses on various topics including fisheries management; undertakes academic research in fisheries issues including fisheries management; has compiled fisheries laws and management measures	Not considered strong in marine fisheries; strength is in inland fisheries; runs a course on co-management!
VII. Other Central Ministries				
21.	Ministry of Commerce	Determines India's trade policies, especially export; coordinates all trade related negotiations in WTO, UN and other bilateral fora; has set up many commodity "boards" including MPEDA for marine products	In charge of on-going fisheries subsidy negotiations under NAMA in the WTO; negotiations with EU on seafood standards; fighting case against US on anti-dumping duty of 7.5% imposed on Indian wild capture shrimp	
22.	Ministry of Environment and Forests (MoEF)	Formulating and implementing environment policies, legislations, regulations, etc.; is responsible for implementing India's commitments under CITES, Convention on Bio-diversity, etc.	Uses Wildlife Protection Act to declare marine sanctuaries and marine national parks—Gulf of Mannar Bio-sphere reserve and national park is notified by the MoEF; has banned fishing and trading in fishery products of 52 species including sea cucumbers and chanks, historically caught by skin divers in the Gulf of Mannar; the CRZ is an instrument used by the MoEF	With fisheries departments at state and central levels largely ineffective in regulating fisheries, MoEF has become the main agency enforcing fisheries regulations; largely believes in bans rather than other instruments
23.	Ministry of Defence	National security including maritime security	Patrolling the seas around India using the Indian Navy and the Coast Guard; is working with fisheries departments to ensure that all boats and fishermen are properly registered and have proper documents (as a result of the 2009 Bombay terror attack from the sea)	Registration of fishing vessels and issue of fishermen ID cards are given high priority due to MoD pressure rather than for fisheries management purposes
24.	Department of Ocean Development, Ministry of Earth Sciences	Supports cutting edge research and technology development related to oceans	Sponsored multi-institution study on impact of tsunami on the marine eco-system; supports NIOT, ICMAM, both Chennai based national research institutes; supports Antarctic expeditions for harvest of Krill!	

Table 1 : Organisations connected with Fisheries Development and/or Management

S. No.	Organisation	Role in marine fisheries	Relevant Activities	Comments
VIII. Other Central Agencies				
25.	Marine Products Export Development Authority (MPEDA)	A "commodity board" set up by the Min of Commerce; Provides technical and financial support to India's seafood export industry; regulates seafood exporters; promotes fish quality improvement and value addition; registers fishing vessels, fish vans, ice plants, cold storages and fish processing centres	Subsidies and training for quality improvement; subsidises conversion of mechanised boats for tuna long-lining in the deep; promotes brackish-water and marine aquaculture; runs subsidiary organisations like Rajiv Gandhi Centre for Aquaculture, NETFISH, etc.; fishing vessels and all fishery units interested in availing MPEDA subsidies must register with MPEDA; multiday boats and those who are not registered under state fisheries department often register with MPEDA	Well-funded, often seen by other fisheries agencies as "exceeding its mandate" by entering into arena that are considered the preserves of others; with offices in Tokyo, Brussels and New York is often aware of global trends before others
26.	Netfish	Autonomous society under MPEDA set up to undertake extension work among fishing communities for improvement of fish quality and for better fisheries conservation/ management	With one or two "coordinators" in each maritime state, it works in partnership with NGOs to run regular classes in the field on fisheries management and fish quality	Set up as a result of the perceived threat to Indian seafood from higher quality standards imposed by importing countries and the new links being made between fisheries management and trade through labelling schemes like MSC.
27.	Coast Guard	Set up in 1979 to guard India's economic interests in the EEZ	Undertakes patrolling in the EEZ to eliminate poaching by foreign fishing vessels; responsible to check LOP vessels; routine and random check of Indian vessels in the deep to ensure that they are bona fide; take action in the case of oil spills and protect marine environment; responsible for search and rescue of fishing vessels	Likely to play an important role in enforcement beyond 12 nautical miles if the new Marine Fisheries Regulation and Management Act is enacted by GoI
28.	National Institute of Oceanography	NIO studies the bio-physical and chemical aspects of the oceans	Regular study of ocean circulation, marine pollution, biological productivity, nutrient availability, etc.	Weak in fisheries aspects, but extremely valuable inputs on oceanographic aspects of fisheries

Table 1 : Organisations connected with Fisheries Development and/or Management

S. No.	Organisation	Role in marine fisheries	Relevant Activities	Comments
29.	Central Institute for Fisheries Nautical Engineering and Training	Agency under Ministry of Surface Transport for training in various trades on a large fishing vessel (above 20m)	Training of captains, mates and other personnel on industrial fishing vessels—a negligible category in India	Has some experienced and knowledgeable persons on deep sea fishing, fish handling and fishing gears
30.	Mercantile Marine Department (MMD)	MMD is the marine equivalent of the Road Transport Office (RTO) on land; implements Merchant Shipping Act (MS Act); ensures all vessels at sea are seaworthy and registers them accordingly	All fishing vessels need registration by MMD under MS Act. All fishing vessels above 20 m OAL need MMD approval at present, others exempted from registration due to lack of capacity to undertake such large scale verification	MMD powers to approve all vessels seen as unnecessary and a threat to the fisheries sector. The exemption to smaller boats (under 20m) is not permanent and is extended from time to time.
31.	Export Inspection Agency (EIA)	All exports are inspected by the EIA and certified from point of view of all compliances required	Every seafood consignment is certified by EIA. Ensures that compliance is with EU regulations, etc.	
32.	Customs Department	Responsible to ensure legality of items imported and exported and to levy appropriate duties	Verifies whether exported item is under banned list or not. Enforcement of ban on export of 52 species.	
33.	National Bio-diversity Authority	To regulate introduction of exotic species	Was involved in approving introduction of vanamei shrimp and Kappaphycus seaweed in recent times	
34.	Coastal Aquaculture Authority of India	Regulates all coastal aquaculture including shrimp aquaculture	Registers all brackish-water aqua farms on the coast; responsible for monitoring environmental impact and adherence to guidelines	Inadequate capacity to ensure total coverage?
35.	National Institute of Ocean Technology (NIOT)	Promotes technologies for improvement of fisheries livelihoods (among other things)		

Table 1 : Organisations connected with Fisheries Development and/or Management				
S. No.	**Organisation**	**Role in marine fisheries**	**Relevant Activities**	**Comments**
IX. Other State Departments				
36.	District Administration (under Revenue Department)	District Collector plays key role in resolving all major fisheries conflicts in each district and implementing of all development schemes including infrastructure; major role in disaster management	Many of the localised regulations in TN like the 3 day—4 day rule in the Palk Bay seem to come from District Collector's powers to issue orders to resolve "law and order" issues rather than the MFRA;	
37.	Forest Department	Responsible for marine national parks; enforcement of Wildlife Protection Act (WILPA)	Enforces fishing ban in "core area" of Gulf of Mannar National Park; enforces ban on 52 species banned under WILPA	Unlike fisheries department has forest guards with power to arrest and detain
38.	Gulf of Mannar Bio-sphere Reserve Trust GoMBRT	Set up under TN Forest Department to undertake various educational and development work in the Gulf of Manar Biosphere; works in close cooperation with Forest Dept to enforce rules of National Park	Research and documentation on ecological and socio-economic aspects of the Gulf of Mannar; promotes alternative livelihoods, educates fishing community about the biosphere and need to protect resources; provides welfare including scholarships; organises "eco-development societies" among fisherfolk to partner in resource conservation	Typical top-down conservation programme with optimistic "alternative employment" schemes; participation is "you participate in my programme"
39.	Environment Department	Responsible for enforcing coastal regulations	Hosts State Coastal Zone Management Authority responsible for approving all projects and construction activity within the 500 m coastal strip.	
40.	State Pollution Control Boards	Responsible for monitoring all land based pollution and taking appropriate action		Not considered very effective; untreated effluents flow to sea in many parts of TN & P

Table 1 : Organisations connected with Fisheries Development and/or Management

S. No.	Organisation	Role in marine fisheries	Relevant Activities	Comments
41.	Dept of Rural Development and Panchayati Raj	Promotes rural livelihoods, promotes and supports self-help groups, provides rural infrastructure	TN Women's Development Corporation plays key role under Dep of Rural Devpt; runs world bank funded "Vazhndu Kattuvum", a rural livelihood programme; runs IFAD tsunami project for supporting fisheries and non-fisheries livelihoods	Well-funded, more important than fisheries dept.; while low influence on fisheries management, can be major player in "alternative employment" arena
X. State level Academic and Research Institutions				
42.	College of Fisheries, Tuticorin	Part of TN University for Veterinary and Animal Sciences; premier fisheries education institution in TN	Offers B.FSc and M.FSc. courses; undertakes research; does some extension work among fishermen	Provides human resources for sector including fisheries department
43.	Department of Marine Biology, Annamalai University	Higher education in marine biology	M.Sc and Ph.D courses, research activities	One of the older marine biology departments in the country providing India with its first generation of post-independence fisheries scientists
44.	Suganthi Devadason Marine Research Institute, Tuticorin	Fisheries Research Institute set up by an endowment given by a private businessman in the memory of his wife	Undertakes variety of research activities in the Gulf of Mannar; undertakes work for GoMBRT; recognised for Ph.D work.	Headed by ex-CMFRI scientist
45.	Institute of Ocean Management, Anna University; National Centre for Sustainable Coastal Zone Management	Works on coastal protection, sea level rise, etc.; responsible for setting up National Centre for Sustainable Coastal Management (NCSCM)	Validated methodology for "hazard line" that is being drawn all along to coast to indicate vulnerability to shore line changes, storm surges and sea level rise; NCSCM inaugurated, may come up shortly	Could be a major player in the future with regard to coastal management in which fisheries infrastructure, coastal habitat protection, etc., will figure prominently.
XI. Local Bodies or official bodies for "local self-governance"				
46.	Gram Panchayats	Local civic services; implementing Govt schemes for poor households	Non fisheries schemes available to rural poor; Infrastructure facilities like roads	Low influence on fishing communities and negligible involvement in fisheries matters

Table 1 : Organisations connected with Fisheries Development and/or Management

S. No.	Organisation	Role in marine fisheries	Relevant Activities	Comments
47.	Municipal Corporations	Local civic services; schemes for poor urban households; take decisions related to fish markets	Housing facilities, control over retail and wholesale markets in cities	Poor market facilities and hygiene can be credit to Municipal Corporation's limitations
XII. Producer/Community Organisations				
48.	Traditional village organisations	Fishing villages for most part of TN & P coast have been historically self-governing systems; these regulate many aspects of life in the village; they make rules related to fishing and settle disputes	Traditional Panchayats on the Coromandel Coast; Parish Committees in southern districts of Tuticorin, Tirunelveli and Kanyakumari have a large number of rules governing fishing and have a strong social sanction to enforce these; The Palk Bay and the northern Gulf of Mannar have much weaker village institutions due to fragmentation on caste lines and later settlement of coast	Mechanised boats also part of village control in most parts of Coromandel coast but out of their control in the southern districts
49.	Higher level traditional organisations	Historically the traditional village organisations came together at higher levels for sorting out inter-village disputes and setting rules for an area or region as a whole	These exist still in a weakened form in some parts of the Coromandel coast; the Diocesan structures act as higher level organisations in the Christian south, but fishermen influence and control over them is weak	
50.	Mechanised boat associations	Due to inherent conflict with small scale fishermen, mechanised boat owners in most parts of TN have formed their own associations for mutual interest	Normally organised on harbour or landing centre basis; while mainly aimed at protecting their interests *vis a vis* the fisheries, associations in some locations like Chennai fishing harbour have their own regulations including a freeze on fleet size	

Table 1 : Organisations connected with Fisheries Development and/or Management

S. No.	Organisation	Role in marine fisheries	Relevant Activities	Comments
51.	SIFFS network	With nearly 120 village societies in TN & P, the SIFFS network provides marketing and credit services to over 6000 small scale fishing units and handles the catch of 20-25,000 seagoing fishermen	Fish marketing, credit, savings, insurance, etc.; supply of inputs like OBMs; boat building centres, OBM workshops, etc.; even provides TAPCOFED with OBMs; has data on fish catches and prices that have not been compiled or analysed so far; SIFFS has also experimented with a concept of fisheries management councils based on bringing traditional village organisations together; has worked on fisheries management issues for long	TMSSS in Tuticorin/ Tirunelveli also have sangams on SIFFS model; a few other NGOs including Dhan have also organised handful of societies but lack the full complement of services provided by SIFFS
52.	Self Help Groups	Small groups of women (up to 20) come together for savings and credit; popular all over the coast; mostly NGO organised. Post tsunami phenomenon in many parts of coast	Small loans (a few thousand rupees) for consumption and livelihoods; fish vending and petty trade are main livelihood options; many provide loans for fishing nets or kattumarams for husband's livelihood; have "revolving fund" grants from NGOs and Govt	Old generation "mahila samajams" or women societies are still active in Kanyakumari district; do the same work but without breaking into small groups
53.	SHG federations	Federations to coordinate and provide higher order services organised by some NGOs as well as by Govt	Dhan Foundation has strong federations (in many areas coastal SHGs are integrated with SHGs in the interior); A few other NGOs also have organised federations; Gram Panchayat level federations are being attempted by Govt; Many non-Dhan federations are just for a for SHGs to meet and do not necessarily have a business role	Kanyakumari District also has large federations from prior to tsunami (mostly non SHG model)
54.	Fishermen Associations	Wide range of organisations to fight for rights and lobby with Government on policy matters	Campaigns for fuel subsidies, protection of Indian fishermen from Sri Lankan Navy; fight on coastal issues, etc; welfare demands	Weak orientation on fisheries management; often individual leader based; weak membership base, but get support when they take up live issues

Table 1 : Organisations connected with Fisheries Development and/or Management				
S. No.	**Organisation**	**Role in marine fisheries**	**Relevant Activities**	**Comments**
55.	National Fishworkers Forum	India's strongest fishing community organisation influencing fisheries and coastal policies at national level with state level units in all coastal states; registered trade union	Campaigns on CRZ; pro-fisheries management stance on Central bill to regulate EEZ; has 4-5 member unions in Tamil Nadu	Fluctuating membership base in TN & P. Mainly issued based organisations taking up limited number of issues.
56.	Party Trade Unions	All political parties have fishermen TUs or associations as "front organisation"	Mainly welfare demands, low influence among fishing communities; used by political parties to maintain links with fishing community; fishing community also uses these to reach out to political leaders for various needs from time to time	Also responsible for the weak fisheries management policies and welfare oriented stance of political parties
XIII. Others				
57.	Seafood Exporters Association of India (SEAI)	Representative body of seafood exporters working on export policies; strong status with MPEDA and Ministry of Commerce	Takes up common issues affected seafood industry; due to buyer pressures, now keen on fisheries management; has shown willingness to work with fishermen associations to control illegal fishing gears	Potential ally in future to link fisheries management with trade—market based incentives and disincentives.

Chapter 2 - Institutional Structure—legal systems

Legal frameworks governing fisheries in Tamil Nadu & Puducherry

Fisheries in the Indian Constitution

As per the Constitution of India, fisheries is a state (provincial) subject. However, it also categorically puts "fishing and fisheries beyond the territorial waters" on the Union list, meaning that the states had jurisdiction only over the fisheries within the territorial waters. The concept of EEZ was yet to emerge when the constitution was framed and all waters beyond 12 nautical miles were considered international waters. When India legislated in 1976 to claim a 200 nautical mile EEZ, it was but natural that this was through a Central legislation. This means that the Tamil Nadu and Puducherry Governments have legislative power only over the territorial waters.

Indian Fisheries Act of 1897

The oldest legislation related to fisheries, which is still in force in many states including Tamil Nadu, is the Indian Fisheries Act of 1897. It even pre-dates the establishment of the Fisheries Department of the Madras Presidency. It is a brief and simple law, not particularly elegant, that applied to both inland and marine fisheries in India. As far as marine fisheries is concerned, its jurisdiction is one "marine-league", which is equal to three nautical miles, the distance from shore that coastal nations could control those days (the distance to which a cannon shot could reach).

For a 114 year old law, the Indian Fisheries Act seems amazingly relevant even today—almost. While it does not provide for registration or licensing, it seems to contain—with much less verbiage—every other regulation present in more modern laws. It gives State Governments the power to regulate "the dimensions and kind of nets to be used and the mode of using them". It provides for "protection of fish in selected waters" by the State Governments in both public and "private waters", the latter requiring the written consent of the owner. It also provides for a total ban on fishing for up to two years! Interestingly, it has two full clauses (out of a total of seven) to deal with use of explosives and poison to catch fish. These appear to have been the key issues of those days and these are the clauses that remain the most utilised in Tamil Nadu, even today[1].

The Indian Fisheries Act is no more applied to marine fisheries in Tamil Nadu (and rest of India) with the coming of the Marine Fisheries Regulation Act (MFRA) in 1983[2]. However, it is still in vogue for the inland fisheries sector, either due to its continuing relevance or due to sheer inertia[3].

Colonial and post-colonial attitudes towards marine fisheries

The discussion on the Indian Fisheries Act gains relevance, if only to highlight the difference in thinking between the colonial administrators and the administrators of independent India, particularly with regard to marine fishing.

1 These provisions are being mainly used in the Cauvery river system where dynamiting and poisoning is practiced.

2 Technically, the MFRA has not repealed the provision in the Indian Fisheries Act that relates to the sea. So, theoretically, one can still bring out rules on marine fishing for the 3 nautical mile zone using the old Act! However, there is a general clause in the MFRA that says that it will prevail when in conflict with other pre-existing laws or orders.

3 The State Governments are authorised to make rules under the Act and that too separate rules for different waters. Tamil Nadu has separate rules under the act for the Kodaikanal Hills and the Nilgiris. It is this flexibility for local application that may account for the continued application of this Act for inland fisheries in many states of India. Despite appearing to be a National law, it is being treated as a local law in each state with many states having brought amendments to it in their state legislature. Hence its continued use does not contradict the Indian constitution's explicit recognition of fisheries as a state subject. Kerala is currently in the process of bringing an Inland Fisheries Act to replace the Indian Fisheries Act while many states still retain the old act with suitable amendments.

Coming from temperate waters (and a more advanced fishing sector), where the need to protects stocks was more apparent, the British were concerned that even the small scale fishermen of India could deplete stocks. In the 1920s, the Madras Presidency Fisheries Department introduced mesh size regulations for boat seines catching the oil sardines in Malabar. This was presumably using the powers given by the Indian Fisheries Act. While it may be debatable whether the British were right in doing so[4], this illustrates the consciousness they had about the need for conservation and management even when the fishing capacity was low and depletion of resources unlikely.

In striking contrast, the policy makers of independent India saw the sea as an inexhaustible source of wealth. The biggest hurdle to exploitation of the marine fisheries resources was seen as the low-tech "traditional" fishing practiced by the poor "ignorant" fishermen. The priority was the expansion of fishing through new technology and additional units. Mechanisation was the most important instrument for increasing the exploitation of the fish resources. With the "ignorant" fishermen responding weakly to mechanisation programmes, the first two decades after independence was all about frustration of policy makers at the slow pace of "modernisation" with regulation of fisheries not figuring anywhere in the scientist-administrator consensus that drove fisheries policy. This was reinforced by externally aided projects focussed entirely on technology development, production enhancement and income generation[5]. This accounts for the fact that State Governments did not think of making use of the Indian Fisheries Act for regulating marine fisheries[6] or to come up with a new legislation.

The emergence of MFRAs

The need to regulate marine fishing was felt only in the late 1970s when a violent conflict emerged between the traditional small scale fishermen and the new mechanised trawl fishermen in many parts of India, especially Goa, Kerala and Tamil Nadu[7]. Tamil Nadu, in particular, had many violent clashes between fishermen groups. The formation of the National Forum of Kattumaram and Country Boat Fishermen (NFF)[8] in Chennai in 1978 and its subsequent struggles and hunger strike in Delhi led to the Government of India appointing the Majumdar Committee. The Committee recommended the enactment of legislation to protect the interests of small scale fishermen and conserve fish resources. In 1979, the Government of India prepared a model "marine fishing regulation act" or MFRA and circulated it to all the coastal states recommending that it be enacted with appropriate modifications.

MPEDA Act, 1972

Before discussing the MFRA, it may be worth noting that prior to its enactment another piece of legislation was introduced by the Central Government that has some significance in marine fisheries. It was the Marine Products Development Authority (MPEDA) Act of 1972. With marine exports gaining importance due to the introduction of trawling and the emergence of a nascent seafood processing sector, the Ministry of Commerce in the Govt of India decided to create a "Commodity Board" for fisheries. While promotion of exports was the main mandate of the new body, it was formed with the explicit recognition that proper management of the export sector (particularly in maintaining quality) was necessary for the sustainability of exports. Hence the MPEDA Act vests it with certain regulatory powers, particularly with regard to the seafood export sector.

4 Current belief in India is that the annual availability of oil sardine and other small pelagics is mainly affected by climatic and oceanic parameters than by fishing effort. However, FAO experts caution us that a combination of high fishing capacity/pressure in years of adverse climatic/oceanographic factors can lead to depletion of even the most resilient of small pelagics.

5 The Indo-Norwegian project in Kerala and the various FAO projects in India played a big role in providing a certain direction to the development of marine fisheries in India. Even as late as the 1980s, the famous Bay of Bengal Programme of the FAO (BOBP), headquartered in Chennai, had no fisheries management component. When Lars Engvall, Project Director, wrote an editorial in the *Bay of Bengal News*, highly critical of the fisheries management in India, he was pulled up for exceeding his brief. It is only in 1992 that a new BOBP phase started with fisheries management as focus. It was poorly funded and had no influence.

6 It is arguable that a couple of amendments to the Indian Fisheries Act along with detailed rules could have worked without introducing the MFRA.

7 There had been clashes right from the introduction of trawlers in the mid to late 60s,, only these were not sustained or got resolved locally.

8 Subsequently renamed National Fishworkers Forum

While equipping the MPEDA with powers to govern the seafood processing sector was understandable, it is interesting to note that the MPEDA Act does much more that. On paper, it gives MPEDA the following roles that go much beyond that of managing exports:

i. development and regulation off-shore and deep-sea fishing and undertaking measures for the conservation and management of off-shore and deep-sea fisheries, and

i. registering fishing vessels, processing plans or storage premises for marine products and conveyances used for the transport of marine products.

Thus it needs to be recognised that the MPEDA Act of 1972 is the first central legislation governing fisheries in India with powers to manage many aspects of fishing or fish harvesting itself.

The way the Act has been applied needs to understood. In principle, all mechanised boats (the Act defines a "fishing vessel" as one having mechanical means of propulsion) need to be registered with the MPEDA. However, in practice, the MPEDA insists on registration of vessels that seek its subsidy for one or more of its export promotion schemes[9]. As far as the power to regulate offshore and deep sea fishing is concerned, there is no evidence that the MPEDA has ever formulated any rules and regulations to govern these. In practice, the MPEDA's role in fisheries has been understood to be one that is limited to export promotion and any regulation that may be relevant for that. The representation of State Fisheries Departments and the Union Ministry for Agriculture in the MPEDA Board ensures that it does not break this consensus, even if the law actually gives it much wider powers.

The powers of MPEDA to register fishing vessels, however, have some interesting consequences. For one, the TNMFRA recognises vessels registered by the MPEDA and such boats need not register once again under the MFRA. It is likely that the larger mechanised boats that have all received MPEDA subsidies one time or the other are registered with both the MPEDA and the State Fisheries Departments. In Kerala, when the State Government decided not to register new mechanised boats from 1984 onwards, the new mechanised boats obtained MPEDA registration. When the Kerala State Government objected, the MPEDA started issuing certificates of registration with a footnote saying that it was not valid for fishing in the territorial waters off Kerala[10]. As a result, a whole generation of new boats came up in Kerala from 1985 to 2005 that had only MPEDA certificates and were technically unauthorised to fish in Kerala waters. Of course, they all fished in Kerala waters and no action was ever taken against them!

MFRA adoption, the All India picture

Once the Ministry of Agriculture had circulated the model MFRA, the process of enacting them in state legislatures started. It has been a slow process with some of the states going ahead within a few years of receiving the model Act while others took an inordinate amount of time to legislate. Kerala was the first off the blocks with the KMFRA coming out in 1980. Goa followed in 1981. Tamil Nadu was the third with the TNMFRA coming in January 1983. In contrast, Gujarat, India's leading fish producing state from the mid-1990s, brought out its MFRA only in the 1990s, while West Bengal did so after 2000. The general trend has been that the states with the most severe conflict between small fishermen and trawlers adopted the MFRA first. Those who adopted it late were those who did it just to "keep up with the Joneses"[11]. For Kerala, Goa and TN, it was "pressure from below" that led to enactment of MFRAs while it was "peer pressure" or "pressure from above" for most of the others.

Pre-TNMFRA—the three day-four day rule

However, the actual adoption of the MFRA by Tamil Nadu and the timing of the adoption need further discussion. In the late 1970s, the Palk Bay area witnessed clashes between trawlers and the "country boats". These "country boats" were basically large traditional canoes (vallams) with sails that specialised in the use of drift nets. Till the

9 It could be for relatively low cost items like ice boxes or could be to obtain hefty subsidies for upgrading coastal mechanised vessels for deep sea fishing.

10 The other states do not seem to have objected and hence this restriction is only for the Kerala waters.

11 Orissa appears to be an exception in that it adopted the MFRA in 1983 itself despite there being no evidence of pressures from fishermen. It was just being a "good boy", taking the directions from the Govt of India very seriously.

arrival of the trawlers, these canoes were the aristocracy of the Palk Bay. These canoes traversed the length and breadth of the Palk Bay, leaving no space for any new technology like trawling to co-exist[12]. Clashes between the two forms of fishing were inevitable and led to a series of negotiations between the two groups mediated by the District administration and the local officials of the fisheries department. These negotiations resulted in the famous **"three day-four day rule"** that still governs Palk Bay fishing.

As per the three day-four day rule, the trawlers and vallams fish on alternate days of the week, with the trawlers getting three days and the vallams four days per week to fish[13]. This rule, first formulated for Thanjavur and Pudukottai fishermen[14], was soon endorsed by the Ramnathapuram District fishermen as well[15]. This rule has stood the test of time for over three decades and governs the rhythm of fishing in the Palk Bay that even the Sri Lankan fishermen plan their fishing operations on the basis of it[16].

The significance of the three day-four day rule is that it is not based on the use of any particular legal instrument. Even though the MFRA was not yet on the horizon, the Indian Fisheries Act of 1987 was still very much in vogue and could have been used. Instead, the administrations of the three districts (Thanjavur, Pudukottai and Ramnad) facilitated an agreement between two groups of fishermen and sanctified it with local orders issued by the District Collectors using their powers to maintain "law and order". This can be considered the first major instance of "co-management" in India leading to a stable arrangement over a 400 km coastline and affecting at least 50,000 fishermen on the Indian side and perhaps double that number, if one counts the fishermen on the Sri Lankan side as well.

TNMFRA—the trigger for enactment

With the Palk Bay problem satisfactorily resolved, there was no great pressure on the TN Government to enact the MFRA when it was pushed by the Govt of India. That Tamil Nadu did not legislate in 1980 itself, along with Kerala and Goa, the other two states that experienced major conflicts, is proof of this. It was the break out of clashes in the Gulf of Mannar between the Tuticorin trawlers and the traditional fishermen that led to the MFRA. The *Parava* fishing community that dominates the Gulf of Mannar is one of the oldest fishing communities of India and is known for its internal organisation and fishing skills. The trawl revolution split this community into two and led to irreconcilable differences that precluded any "internal agreements". The small scale fishermen, who obviously have a brute majority on shore, demanded state intervention to protect their interest. They demanded that the trawlers keep a good distance from the shore and not operate at night time when the drift-gillnets are operated.

Faced with an explosive situation, the TN Government decided to enact the MFRA with suitable provisions to cater to the demands of the small scale fishermen. In fact, given the inevitable delay in the introduction and passing of new law in the legislature, the Govt of TN rushed in the MFRA as an ordinance[17], which was subsequently converted into an Act of the legislative assembly[18].

12 The Palk Bay is a shallow sea (max depth of 40m) between India and Sri Lanka. The maritime border was delineated in 1974 as per which the distance from the Indian side ranges from a maximum of 22 nautical miles to a mere 6 nautical miles. The vallams had a free run of the entire Bay, fishing unchallenged on both sides of the border. This practice continues till date.

13 This agreement has no bearing on the other smaller fishing operations (kattumarams and vathai fishing), which operate closer to shore and can fish on all days of the week.

14 Mallipatnam in Tanjavur and Kottaipatnam in Pudukottai are the major trawl centres.

15 With Ramnad district also extending to the Gulf of Mannar side, this rule is applicable there also. So, strictly speaking, the rule is not just applicable to the Palk Bay but extends to the northern part of the Gulf of Mannar till the Ramnad district boundary.

16 With the Indian fishermen, either on trawlers or on vallams, never acknowledging the maritime border drawn up in 1974, trans-border fishing is rampant. Hence the Sri Lankan fishermen, who dread the Indian trawlers for the damage they do to their nets, also try to keep out of their way on the three days they fish.

17 A law, with a limited time span, brought in by the Executive, in situations of emergency. It can be converted into a full fledged law by the legislature or allowed to lapse after its time is over.

18 For the story behind the enactment of the TNMFRA, we are indebted to Mr.Srinivasan, retired Tamil Nadu Fisheries official and currently our colleague in the FIMSUL project.

The impact of the Tuticorin problem can be plainly seen in the law. In general, it is an "enabling law" which only empowers the Govt to make regulations on wide range of matters without specifying the regulation itself. The only specific regulation that is found in the Act itself is the reservation of a three nautical mile zone for the small scale fishermen[19]. However, other regulations related to mesh sizes, time zonation, etc., are the result of rules framed under the Act or separate notifications under the Act. Since the Act was passed under the shadow of the Tuticorin problem, the notification banning night fishing by mechanised boats was annexed as a schedule to the Act passed in the legislative assembly[20]. Though a specific demand of the Tuticorin fishermen, the night fishing rule became a rule common for the whole of Tamil Nadu[21].

It is worth noting that the three day-four day rule in the Palk Bay that preceded the MFRA was not integrated into the MFRA, either at the time of passing the Act, or subsequently, through an appropriate notification[22]. In principle, both the three day-four day rule and the night-fishing rule represent instances of "time zonation". In the case of the three day-four day rule, the time interval is 24 hours, while it is 12 hours in the case of the night-fishing rule. The reason for this relates to the difference in the shelf area available for fishing in the two areas. Given that the Tamil Nadu fishermen never took the maritime border with Sri Lanka seriously, the shelf area available for fishing in the Palk Bay is much larger than in the Gulf of Mannar where one could reach the edge of the shelf and return in a 12-hour trip using a mechanised boat.

TNMFRA—the objectives

With this background, we shall now discuss the TNMFRA itself. The TNMFRA does not have a preface or a specific section dealing with objectives. However, while empowering the Govt to *regulate, restrict or prohibit fishing in specified areas*, it asks the Government to "have regard to the following matters, namely":

a. the need to protect the interests of different sections of persons engaged in fishing particularly those engaged in fishing using traditional fishing craft such as catamaran, country craft or canoe:
b. the need to conserve fish and to regulated fishing on a scientific basis;
c. the need to maintain law and order in the sea;
d. such other matters as may be prescribed.

It is noteworthy that the first objective/criterion is about ensuring a fair distribution of fish resources to the different competing groups[23] and the third objective/criterion is about avoiding conflicts at sea. Thus two of the three objectives/criteria (if one ignores the fourth, which is a residual clause) are social in nature. This is often missed in debates on implementation of the MFRA when the critique is only centred on the second objective/criterion—fish conservation. While evaluating the success/effectiveness of the MFRA, one needs to look at distribution aspects as well as success in conflict resolution.

TNMFRA—main provisions

Registration, licensing: All fishing vessels have to be registered and licences are necessary for fishing. Vessels registered with MPEDA need not register, but presumably need licences to operate in territorial waters off the TN coast.

19 This is based on the model law; actual distance reserved for small scale fishermen varies from state to state with Kerala preferring to use depth as the appropriate parameter rather then distance.

20 In view of this there is ambiguity about the status of this night fishing regulation. It is believed that any change in it requires an amendment to be passed in the Legislative Assembly, while all other regulations that came through subsequent notifications can be withdrawn on modified by the Govt (Secretary, Fisheries).

21 In a sense, it is in conflict with the three day-four day rule that is still followed in the Palk Bay.

22 We were told by fisheries department staff that a notification had been issued to recognise all "local arrangements" as regulations under the MFRA, but we have not seen a copy of it. In any case, there is no specific notification that has brought the three day-four day rule as a regulation under the MFRA. One could argue that it is in contravention of the night-fishing rule and hence needs an amendment of the act for the three day-four day rule to be notified.

23 Unfortunately, this objective is worded in a manner that it needs fresh elaboration or interpretation. Instead of mentioning small scale or artisanal fishing, it talks about "traditional" fishing which can be narrowly understood as use of catamarans, country boats and canoes, all of which are heading towards extinction.

The amounts charged for registration and licences are nominal and are given in the rules formulated by the Government using the powers given by the Act.

Type of boat	Registration fee	Licence fee
Mechanised	Rs. 250	Rs. 250
Country craft including Vallam or canoe	Rs. 25	Rs. 25
Catamaran	Rs. 10	Rs. 10

As can be seen, registration and licensing seem to be linked to boat type/category with no link to fishing method or gear. The rules only state that "every holder of licence shall strictly comply with the provisions of the Act and the rules and the terms and conditions of the licence". They are silent about the terms and conditions or the period of the licence[24].

Vessel categorisation: Three categories of vessels are recognised. Two of these categories are named—"mechanised" and "deep sea". The third category, which is the residual category—non mechanised vessels and vessels with engines up to 15 hp—is unnamed and is the "small scale" or "artisanal sector" or "traditional" that we talk about. Mechanised vessels are those with engine horsepower in the range of 15 to 120 hp and are in the length range of 8-15 m. All vessels above 15 m length and 120 hp are considered "deep sea" vessels.

Some questions that can arise in classification are: (i) traditional canoes longer than 8 m but with a 15 hp motor—are they small scale or mechanised? (ii) trawlers with more than 120 hp and less than 15 m—are they mechanised or deep sea? Both categories exist at the moment in Tamil Nadu. Will it be length or horsepower that help determine the category in such cases?

Zonation of the sea: The first three nautical miles from the sea are reserved for the small scale sector (which is the nomenclature we will use in this report as the Act does not provide us with a suitable term). Both the mechanised vessels and deep sea vessels are prohibited from fishing in this zone. However, in a subsequent notification dated 1995, the bar was raised for the deep sea vessels—they have to fish in waters deeper than 25 fathoms. For instance, the Palk Bay is ruled out for all "deep sea vessels"

Powers to regulate: The Act provides the State Government the power to regulate fishing with the following instruments: (a) regulate, restrict or prohibit fishing in any specified area by any class of fishing vessel, (b) restrict number of fishing vessels in any specified area, (c) regulate, restrict or prohibit catching of specified species in any specified area for any specified period, (d) regulate, restrict or prohibit the use of fishing gears in any specified area, and (e) to fix the hours of fishing for any class of vessels.

The night-fishing regulation: The Act has only one schedule and it relates to the night fishing regulation which stipulates that all mechanised vessels shall leave only after 5 am and return to shore before 9 pm—a 16 hour time-window. Interestingly, instead of issuing this as a notification using the above mentioned power to regulate fishing times, it is schedule to the Act referred to in the section that deals with the three nautical mile zone that is prohibited for mechanised boat. The argument that this cannot be modified without an amendment by the legislative assembly appears correct.

The night fishing regulation in the schedule does not apply to deep-sea vessels[25]. However, in a notification brought out in 1995, they are also brought under the purview of the night-fishing regulation. Intriguingly, the timings given to them for fishing are 6 am to 6 pm—just 12 hours, or four hours less than the time given to mechanised boats!

Enforcement system: The Act stipulates three levels of officials for enforcing the act. The first level is the "authorised officer" who is responsible for the registration, licensing, checking for violations, etc. The second level is the "adjudicating officer" who is responsible to conduct hearings and award punishment when the authorised officer

24 The licence has a period, but it is not specified in the rules. Need to check what is the actual practice.

25 When the Act was brought out, there was no "deep sea" vessel in Tamil Nadu, but large 20 m vessels ("Mexican bull trawlers") operated from Vizag in neighbouring Andhra and might have been the source of the original definition for deep sea vessel. However, in the early 1990s, GoI introduced a new set of deep sea vessels through a Joint Venture scheme and this would have necessitated the notification of 1995 to regulate deep sea fishing vessels.

reports any violation. The third level is the "appellate authority" to which any aggrieved fisherman can appeal against any punishment awarded by the adjudicating officer.

The authorised officer also has the power to board fishing vessels and to impound them if he or she has reason to believe that the law has been violated. Normally, the Assistant Director of Fisheries is the authorised officer, the regional Joint Director or Deputy Director is the adjudicating officer and the Director of Fisheries is the appellate authority.

Penalties: A fine that is equal to five times the value of fish caught is to be imposed on any violator of the Act with Rs.5000 being the minimum fine. It will also be Rs.5,000 in case of an offence not involving any fish catch. In addition, the registration and/or licence can be cancelled/revoked/suspended.

Amendments to the Act: The only amendment that we have come across relates to what appears to be a matter that could have been inserted in the rules rather than the Act itself. This is an amendment in 2000 to make it compulsory for all fishing vessels to have sea safety equipment. Quite likely to have been a knee-jerk reaction to some deaths at sea and has never been implemented effectively.

Other rules and regulations: The following are some of the important rules and regulations as seen in the rules and the various notifications from time to time.

- Mesh size for all gears other than trawl nets should be above 10 mm[26].
- Bottom trawling is prohibited within three nautical miles
- All mechanised boats need to obtain a "token" from the fisheries department before leaving for fishing on every trip
- Boats are expected to notify authorities in its port before shifting operations to another port
- Fishing within 100 m of a river mouth is prohibited
- Non mechanised vessels shall be used for fishing within three nautical miles and shall use hook & line and boat seine[27]
- Ban on certain gears like ring-seine, purse seine, pair trawl and push net

Annual seasonal ban: The most significant regulation of fishing in all the states of India is the annual six week ban on fishing, the ban period varying on the east and west coasts. This comes out of a directive from the Government of India as well as Supreme Court rulings. However, the ban is made operational through a notification by each state using the powers it has under the MFRA. While Kerala brings out a notification every year, Tamil Nadu brought out a one-time notification in 2001 to ban fishing every year for 45 days from April 15th to May 29th.

Implementation of the MFRA

The following table summarises extent to which the different provisions of the MFRA and the rules/regulations deriving from it are implemented along with our comments.

26 Mesh size regulations make little sense unless it is linked to fishing gear and species.

27 The formulation is a bit weird and seems to mean that non-mechanised boats should not fish beyond 3 nautical miles, which certainly could not have been the intention. The very specific prescription for fishing gear that can be used is also weird and ignores the most significant fishing method used—gillnets.

Table 2 : Marine Fisheries Regulation Act and its Implementation Status		
Regulation	**Implementation status**	**Comment**
Registration	All vessels are more or less registered now-a-days, though whether full coverage of Kattumarams is ever possible is a moot point; Registration has not always been taken seriously in the past, but the tsunami showed both the Govt and fishermen the importance of registration, if only to ensure proper rehabilitation. Now all states have tightened up registration after the Bombay terror attacks of Nov 2009, which came by sea	Registration has been mostly seen as a requirement to get Government assistance rather than a pre-requisite for fishing; now with fishing boats coming under the scanner for security reasons, all fishermen feel the need for registration to demonstrate their genuineness when accosted by the Coast Guard or Navy, an All India phenomenon.
Licence	Routinely provided along with registration, hence can be considered to be implemented	Licensing as a tool, different from registration, to regulate fishing has not really been understood. This is inevitable as the fishery remains an open-access fishery, with barriers to entry being largely social rather than administrative.
Fleet size regulations	Remains a provision of the Act that has never been utilised	
3 nautical mile zone for small scale fishermen	State has no direct mechanism to address this due to absence of any patrolling mechanism. However, this regulation is firmly complied with by mechanised boats in the southern districts where (Christian) small scale fishermen take direct action on sea and shore if mechanised boats stray into this zone. Compliance in the other districts patchy, though small fishermen will act if there is too much of this happening	
Night fishing regulation	Implemented only in Tuticorin where the small fishermen strongly demand this and the harbour is suitable for closure using chains.	As mentioned earlier, the three day-four day rule in the Palk Bay is in conflict with the night fishing rule.
Annual six week ban on mechanised fishing	This is well implemented all over India from the Supreme Court interim judgement of 2005; however TN & P have been implementing this from 2001 onwards	The Supreme Court has fixed a 15 hp limit for vessels that are exempted from the ban. This could very well have come from TNMFRA vessel classification
Deep sea fishing regulations	No mechanism to enforce 25 m depth zonation; however GoI licensed vessels under the Letter of Permit (LoP) scheme are under Coast Guard monitoring—they are supposed to fish beyond 90 m depth on the east coast; no complaints from TN fishermen that deep sea vessels fish close to the shore	LoP vessels are controversial as local fishermen strongly object to their fishing in the deep on the grounds that their fishing prospects are affected or the fish resource is getting depleted.

Table 2 : Marine Fisheries Regulation Act and its Implementation Status

Regulation	Implementation status	Comment
Sea safety equipment	Not easy to implement as fishermen do not bother to invest in them; do not use them even when it is given free. However, officers insist on sea-safety equipment at times of registration/licensing and renewals. This is followed by the drama of the same set of equipment being transferred from boat to boat.	All India phenomenon; may be same in all tropical small scale fisheries.
Mesh size regulation	Not sure whether this has ever been implemented.	Not sure which nets violate this regulation.
Token for every mechanised boat trip	One of the best implemented regulations and seems to have become a well ingrained habit in most harbours; the risks at sea after the start of the civil war in Sri Lanka, the main driver for this; it is integrated in sensitive areas like Rameswaram to diesel supply	An extremely useful instrument that can be put to better fisheries management use. With computerisation, this can even provide quick information to Director on who has gone fishing on any given day.
Ban on certain fishing nets	Weakly enforced; success wherever local fishermen support the ban and enforce it themselves or put pressure on the Fisheries Dept to enforce it	Ring seine actually entered TN after it was banned and has spread to many areas! Pair trawling is also rampant in many areas
Trawl ban within 3 nautical miles	While mechanised boats entering the 3 nautical mile zone may take place here and there, a mini-trawl net used by small motorised boats has emerged and the Govt seems unaware of this.	
Movement of mech boats between ports	Not sure whether this works.	However, in some harbours, entry of boats from other harbours is resisted by local fishermen

Community management systems and rules

While not being part of formal law or official systems of fisheries management, by far the most effective management systems in Tamil Nadu and Puducherry are those evolved and practised by fishing community themselves. Prof. Maarten Bavinck of the University of Amsterdam, using the theory of "legal pluralism", considers such community rules and norms as also constituting a legal system. Non-state organisations fishermen associations are also considered "governors", not just the fisheries departments.

As discussed in the earlier chapter on the organisations which have a role in fisheries management, all marine fishermen are part of organisations—both traditional and modern—that govern many aspects of fishing at the local level. There are two types of community organisations that govern fishing. One is the village level self-governance system that is prevalent all over the TN & P coast. These govern many aspects of life and livelihoods in a fishing village. The second type of organisation is the modern association of mechanised boats that have many common interests including the need to protect their interests *vis-à-vis* the small scale fishermen. In some parts of the Coromandel coast (notably Nagapattinam District and Karaikal), the village organisation governs both small scale and mechanised fishing.

While there are many commonalities among village level organisations across the coast, organisations of particular communities have their own particular features. The Big-Three (Pattinavar, Paravar, Mukkuvar) have very distinctive organisations due to their antiquity as well as the fact that they have near-total control over a long coastline due to the negligible presence of other communities in their respective "homelands". As mentioned earlier in the report, there are federal or supra-local structures for these communities covering long stretches of the coast. While the Church structures take on the role of supra-local organisations among the Parava and Mukkuva fishermen, clusters of 8 and 64 villages[28] play a role in taking common decisions under the leadership of "head villages" among the Pattinavar fishermen.

The last four decades have seen an erosion of the strength of the supra-local organisations due to cleavages created by mechanisations and the impact of mainstream politics and constitutional systems of governance. However, the village organisations are still strong and remain the first point of reference for every member of a fishing village. This has important consequences for fisheries management, as genuine resource management requires cooperation across long coastal stretches as the fish resources are mostly non-localised. For instance, many of the gear control systems formulated by individual villages break down as their neighbours do not subscribe to the same rules. However, there are still instances of common regulations accepted over reasonable stretches of coastline.

The following table provides some of the instances of regulation by fishermen themselves.

Table 3 : Examples of Regulation by Fishermen

Community Regulation	Where applicable	Background info	Comment
Trawlers are allowed to fish only beyond 23 fathoms (approx 10 km)	Entire Kanyakumari District coast	Not sure when this came into being; came to our notice in mid 1990s	Trawler association of Colachel used to their own system of patrolling to ensuring members followed this rule
Families have divided the sea-bottom off their village for use of fish traps	Enayam and neighbouring villages in Kanyakumari Dist	Long historical practice, the rights to particular "plots" on the sea-bottom is inheritable	Over generations, this has led to fragmentation of "holdings" as on land
The order in which shore seines can be operated is determined by local custom	All villages with shore seine; however net is now mainly found in Kanyakumari	The shoreline length is inadequate for all shore-seines to be simultaneously deployed; hence order required	Actual system of rotation needs to be documented. Is it first come first served or some other system?
Sea area proximate to shore is subdivided and allocated to each family for seaweed cultivation	Olaikuda village in Rameswaram. Could be the same in other cultivating villages	Seaweed cultivation is just a few years old and this is appears to be an opportunity to provide equitable access	Shows how the local village governance is not just about following traditional rules, but is constantly innovating to respond to new situations
Ban on use of ring seines	Many villages across the coast	Recent introduction of gear banned under MFRA; Community banned it over long stretches initially	The community ban has collapsed in many areas as initial investors unwilling to give up; neighbours cannot hold out when one village refuses to give up the ring seine

28 The number 64 is largely notional. Today most clusters are co-terminus with district boundaries in view of the need to deal with the Government wherein the district administration has the biggest role to play in the daily life of a villager, with the District Collector a more important personage than any Govt Secretary or Minister. However, some clusters cut across administrative boundaries. Interestingly Puducherry and Karaikal fishing villages come under the governance of clusters that include the neighbouring district of Tamil Nadu.

Table 3 : Examples of Regulation by Fishermen

Community Regulation	Where applicable	Background info	Comment
Regulation of ring seines—only six month operations permitted	Cuddalore District	Was banned by community initially, but could not manage when "head village" adopted gear; finally compromise arrived at to restrict ring seine operations rather than ban it	The calculations behind the ban appears to be to ensure that it is operated only during peak oil sardine season and not to allow ring seines to target species that other gears can catch
Ban on pair trawling	Has been on and off implemented in different fishing harbours across the coast, but tends to break down after a while	Trawlers associations decide in some areas. Other areas it is result of negotiations between small scale fishermen and trawler associations	The fisheries department tries to enforce the ban and has some success when it is in sync with community efforts. Still this problem refuses to go away due to over capacity in the trawl sector
Restriction on number of trawlers	Royapuram fishing harbour in Chennai where trawlers of three districts (Chennai, Thiruvalloor & Kanchipuram) are based	The mechanised boat association of the three districts, based in Royapuram, has frozen the fleet size as trawl operations are becoming uneconomic	The consensus that seems to work well broke down after the tsunami to enable members to get the benefits from Govt, but the freeze is back in place since 2007.
Restrictions on landing outside home base	Many landing centres and harbours have restriction on boats from outside operating from there. The fishing centres from Tuticorin to Kanyakumari are particularly territorial	Generally, the fishing harbours are supposedly under the control of the Fisheries Department, but local villages in the vicinity actually call the shots on many aspects; in beach based fisheries, each village enforces its own rules without any challenge	
Marketing related regulations, "taxes"	Most villages have their own regulations on fish marketing and collect "tax" on fish landed; higher tax on outsiders	Regulations could include times for auction, special "reservation" for widows to participate in marketing activities, etc.	
Paadu system in Pulicat Lake	Pulicat Lake fisheries; regulation applied to main fishing net—"badi valai"	Rotation of fishing opportunities between 20 odd villages and fishing units within them to ensure equitable access	A famous and well documented system

The above is just an indication of the various types of rules that fishermen have made for themselves in different locations of the state. No documentation exists of the full range of rules and regulations and hence one is dependent on the authors' own field observations over the years.

However, whether the fishing communities' rule making system can be considered a fisheries management system and whether it is effective in conserving resources is a moot point. In practice, it is more concerned with two aspects: (i) equitable access to fish resources for the different groups and (ii) manage conflicts. In other words, two of the three objectives of the TNMFRA! The objective of conserving fish resources is at best implied.

While appreciating the strengths of the fishermen organisations in managing fisheries, their limitations need to be understood. These include:

- The strong internal divisions created by the fisheries development process, especially mechanisation, that make consensus difficult to achieve on many issues
- The erosion of the higher level structures also mean that it is not easy to forge common rules over long stretches of coast to make a real difference in resource conservation/management
- The trawl problem has grown to a scale that it is difficult to resolve by the community itself; the ring seine problem also threatens to get out of control
- Explicit resource conservation measures are rarely taken by fishermen associations; they mostly deal with distribution issues and conflict management
- Fishermen strongly argue against of "destructive fishing methods". They rarely appreciate that many of the benign fishing nets can also harm when used in large numbers

MZI Act and the Coast Guard Act

While the MFRAs regulate fishing up to 12 nautical miles, there is still not Act to govern fishing in the EEZ beyond the 12 nautical miles. Of course, there is the Maritime Zones of India (Regulation of Fishing by Foreign Vessels) Act of 1981. The MZI Act deals essentially with foreign vessels and gives the Govt of India the power to licence foreign vessels to fish in Indian waters and to take action against those that fish without permission. The punishments are quite stringent as per this act. It was mainly aimed at the large industrial vessels from South East Asia that regularly poached in Indian waters. Currently, it is being used mainly against relatively small mechanised vessels from neighbouring South Asian countries that fish in Indian waters, with the punishments being disproportionate to the scale of fishing and size of the offence.

The Coast Guard Act of 1978, under which the Coast Guard was set up, gives it the powers to enforce the MZI Act. The Coast Guard was the inevitable outcome of the declaration of the EEZ by India in 1976. It is responsible for protecting India's economic interests in the EEZ while the Navy is responsible for the more conventional defence role.

International laws and regulations

There are some international laws to which India is a signatory and have relevance for marine fishing. The **UN Convention on the Law of the Sea** (UNCLOS) is obviously a major influence. Even though the UNCLOS was formally adopted only in 1983, India and many other countries had already enacted legislation in tune with it, much earlier. The Territorial Waters, Continental Shelf and Exclusive Economic Zone and other Maritime Zones of India Act of 1976 (EEZ Act), the MZI Act of 1981 and the Coast Guard Act are all connected to UNCLOS.

The **UN law on straddling stocks and highly migratory species** in 1995 is also relevant for Indian fisheries. The Indian Ocean Tuna Commission is a regional management mechanism set up by FAO and India is a part of the IOTC in consonance with its commitments in the international arena. Tuna fishing in particular will be influenced by the IOTC regulations.

The **FAO Code of conduct for responsible fishing** (CCRF) is a soft law and has some influence on the thinking of various stakeholders in the fisheries. Not much is being done to implement the CCRF though a lot of lip-service is being done.

More than the UN or FAO, it is the various trade regulations that seem to have the biggest influence on Indian marine fishing. The **EU ban on Indian seafood** imports in 1998 led to a major restructuring of the Indian seafood processing sector and the introduction of new Indian seafood related regulations to ensure proper quality and the adherence to HACCP principles.

EU regulations have been adopted and strictly enforced with respect to the processing sector, but the implementation is quite weak when it comes to fish handling and quality requirements on board and in the landing centres/harbours. There could very well be some stringent action in the future by EU on account of this. This could affect the prices of fish and the economics of fishing units, especially trawlers that depend heavily on export species.

The recent **EU regulation on IUU fishing** and all Indian seafood requires to be certified that they are being caught by vessels that are registered and regulated. This is already influencing rules and regulations in India and is also behind the current move to have a new fisheries management law for the EEZ. The requirement of USA that turtle excluding devices (TEDs) need to be used by trawlers does not significantly affect Tamil Nadu as none of its coastal areas are known to be important places of turtle breeding.

The forthcoming **WTO negotiations on subsidies in fisheries** may have some impact on the current policies that provide subsidies for fuel, boats, etc. While India may escape at the moment using the clause of "differentiated responsibilities" for developing countries, there is bound to be long term consequences for subsidies for fisheries in India. Already, the US action of imposing a 7.5% "anti-dumping duty" on Indian shrimp on account of subsidies provided by Govt is hurting the Indian seafood industry and the trawlers.

Environmental laws and fisheries

The last decade has seen the growing importance of non-fisheries legislation, particularly environmental legislation, in the marine fisheries sector. These laws are not intended to manage fisheries as such. They are mainly intended to conserve species and habitats that are threatened with extinction. When they are used in the marine fisheries context, often without any analysis of the fisheries situation, they act as blunt instruments that threaten to destroy livelihoods more than conserve species and habitat. However, if their use can be blended judiciously with fisheries management measures, they offer a great opportunity to protect resources and livelihoods.

Environmental Laws are enacted by the Parliament and environment is a central subject by virtue of it not having been listed in the original schedule of the Constitution and is a matter of legislation using the "residual clause" that gives the Central Government the powers to legislate on all subjects on listed. The following are the main environmental laws and regulations that are relevant for fisheries management.

- Wild Life Protection Act of 1972 (WLPA)
- Environment Protection Act of 1986 (EPA)
- Forest Conservation Act of 1986 (FCA)
- Coastal Regulation Zone Notification of 1991 & 2011 (CRZ)

Wild Life Protection Act: WLPA is the most important environmental legislation that impacts fisheries. Any species that is added to "Schedule I" of the Act means a total ban on its capture and trade. The offence is a criminal offence with severe penalties including jail time and hefty fines. As a signatory to CITES, India adds to "Schedule- I" all the species banned by CITES. It is also influenced by the IUCN "red list".

It is under the WLPA that the Ministry of Environment and Forests (MoEF) notifies certain areas as "National Park" or "Sanctuary". National Parks are subject to the control of the Forest Department, which has a full-fledged machinery (forest guards, etc.) to enforce its mandate. A national park has a "core area", which is a strictly a "no-take" area. The core area is surrounded by a "buffer zone" that allows for resource extraction in a limited manner.

The WLPA has impacted Tamil Nadu fisheries in two ways:

- the creation of the Gulf of Mannar Marine National Park
- the ban on a large number of marine species that are caught by Tamil Nadu fishermen, especially in the Gulf of Mannar and Palk Bay areas.

Gulf of Mannar National Park and Bio-sphere: The Gulf of Mannar Marine National Park was actually notified in 1986 but it was only around 2000 that it got implemented when the Forest Department set up shop on the coast and started putting human resources to enforce the provisions of the park notification. It is no coincidence that the Forest Department got going with the national park only with the setting up of the GEF funded Gulf of Mannar Bio-sphere Reserve Trust (GoMBRT).

The bio-sphere reserve is not a regulatory concept but more of a development concept under the UNESCO's "man and biosphere" project. The GoMB Reserve covers the entire Gulf of Mannar area, even though the national park is limited to the area surrounding the 21 islands on the northern side of the Gulf. The GEF project is based on the premise that enforcement of the national park regulations will lead to loss of current livelihoods and there is a need to support alternative livelihoods. It also tries to integrate nearby agricultural villages into the bio-sphere as it is assumed that the failure of crops due to droughts also lead to labour migration into fishing and swells the number of those dependent on fishing.

The national park is basically intended to protect the 21 (uninhabited) coral islands in the Gulf, which are valuable habitats for most of the marine life in the Gulf. The disappearance of the dugong is said to be one of the triggers for conservation and the dream of Dr.M.S.Swaminathan, who proposed the formation of the GoMBRT, is that the dugong will reappear due to diligent efforts to improve the habitat.

The marine national park has had some success in stopping illegal coral mining that was going on in the area, especially by communities that are not particularly skilled in fishing. It has attempted to restrict fishing in the Park, especially the core area—the 21 islands. It has posted guards on the islands and has stopped fishing families from camping on them to undertake fishing in the "core area". Seaweed harvesting around the islands is an important seasonal livelihood for hundreds of families around in some of the fishing villages. Whole families used to camp in the islands and harvest seaweed. This is now a banned activity as there is said to cause some "collateral damage" to the corals. This has become a serious bone of contention between the concerned villages and the Forest Department and the community is resisting the ban. The ban is enforced in fits and bursts when someone high up in the Forest hierarchy takes interest and nets are seized and the fishermen fined. Other times, the forest guards just turn a blind eye and are not above taking some bribes to let the fishing go on.

The latest attempt of the Forest Department to make the ban work has been to ring-fence the core area with buoys, clearly demarcating the area and giving no one (including the guards) an excuse to say that they did not know where exactly the core-area lies. The fishermen of the area have strongly organised themselves and have successfully prevented this from happening. The local politicians are clearly sympathetic to the communities and the Fisheries Department has woken up from its long slumber on this issue and is now clearly saying that such deprival of livelihoods cannot be justified without any clear plans for alternatives. After alternating between passive cooperation and resistance to the Forest Department, the Fisheries Department under the current management is clearly challenging the Forest Department and its various facile assumptions on the way to protect habitats and provide alternative employment.

The alternative livelihood idea still remains a mirage with various attempts being seen by the community as supplementary income-generation projects rather than genuine alternatives.

Ban on 52 species: A ban was brought on catching, processing and trading in a wide range of species in 2000. These included a range of shark species, *chanks*, sea-horse, sea-cucumber, etc. The ban on shark species was short lived as the shark fishermen of Kanyakumari, members of the SIFFS network, went to Delhi and camped there a full month to protest and lobby against the ban under the leadership of the NFF. This struggle was successful as the Ministry of Environment and Forests (MoEF) was unable to show any scientific evidence that shark stocks were down and many forces supported the fishermen's demands. However, for the record, some shark species still remain on the banned

list, but this is just a face saving compromise as it is virtually impossible to manage a ban on a few selected species when identifying them with the fins by the Customs authorities is virtually impossible.

The ban on sea-cucumber and chanks still remain. Chank fishing is a traditional activity of skin-divers in many villages of Tuticorin District as well as Ramnad District. There is considerable opposition to this and the MoEF has not really been transparent in its reasons and methods. At the moment, the sea-cucumber is the most controversial item among those on the banned list. The ban includes a ban on sea-cucumber culture that CMFRI appears to have mastered. The entire fisheries-scientific establishment is now against this ban. The TN Fisheries Department has also taken up the issue with the MoEF seeking review of the ban.

Issues on use of WLPA: These are some of the issues debated about the use of WLPA in marine fisheries:

- WLPA is largely based on terrestrial experience and its use has been merely extended to cover marine fisheries without a real assessment of the instruments appropriate for conserving marine fish resources and habitats
- The colonial legacy of the Forest Department as a means to extract revenue from the Forest and establish Govt "ownership" of a CPR is still evident in its style of functioning; the forest tribes have lost their access to and control over forests and this is likely to happen to fishing communities wherever a "national park" is notified
- The WLPA has so far been used by the MoEF and State Forest Departments without any due process: no consultation with any of the stakeholders in the fisheries including fishermen and fisheries departments, no transparency in the logic underlying the actions and regulations, etc.
- A failure to recognise that fisheries need to be managed holistically and understand that attempts to ban fishing in certain areas or certain species without dove-tailing such measures with larger fisheries management systems is bound to fail.

Forest Conservation Act: This potentially applies to mangrove areas and islands with mangroves. From a conservation point of view it is a useful act to protect the vegetation in the inter-tidal zone that is valuable for fish regeneration and to protect the coast from the ravages of the sea. In at least one instance, it has been used against the fishing community when a 10,000 strong group was thrown out for operating fishing units from Jambudweep island in West Bengal. The FCA has so far not appeared to be important in Tamil Nadu from the fisheries point of view

The Environment Protection Act: The EPA and its off-shoots, the Prevention of Pollution Acts and the Water Act, are important instruments to control coastal and marine pollution that is increasing day by day and threatening to affect the fish stocks and food safety. The State Pollution Control Board is in charge of implementing all pollution related laws but is considered weak in doing so. Some of the coastal areas that are threatened by pollution are Ennore (north of Chennai), Cuddalore (where there is a chemical industry complex) and Tuticorin (where the Port and industries have contributed to the destruction of the historical pearl fisheries of Tamil Nadu).

The Coastal Regulation Notification: The legal instrument that has emerged in recent years as one of the most important ones to protect the coast (and fishing community interests on the coast) is the CRZ, belying its humble status as a mere notification rather than a law. CRZ was first notified in 1991 under the provisions of the EPA. It protected the inter-tidal area as well as the narrow coastal strip that extends from the high tide line (HTL) to 500 m landwards of it. Many activities are prohibited in the CRZ while others are regulated and require permissions. While the CRZ 1991 did affect fishermen housing to some extent, it is also the only instrument available to protect the coast from non-fishing (especially, industrial) activities. Since the mid-1990s, the fishing communities have become champions of the CRZ and have been fighting for its implementation.

The CRZ saga is too long to be recorded here. It will just suffice to say that the MoEF itself has been diluting it from time to time to permit certain activities or "development". In 2008, there was an attempt to replace it with a Coastal Management Zone (CMZ) notification and this was stymied by a yearlong struggle of fishing communities across the coast of India. This was followed by another year long process to revise the CRZ 1991. Just as this review was being prepared, the CRZ 1991 has been finally replaced by a new CRZ 2011. The CRZ 2011, despite many negative features that the fishing community is agitated about, has many features that will protect fisheries and fishing communities. These are:

- The sea area up to 12 nautical miles in now under the purview of CRZ and hence can potentially be used to regulate activities that are likely to harm fishing habitats or pollute the sea
- Sea bed mining activities are also restricted and regulated
- Sea shore protection measures like sea walls and groynes, till now unregulated, are also brought under regulation
- Uncontrolled port development that is threatening the coast and displacing fishing villages, is now under stringent control
- Strengthening the regulations governing flow of effluents to the sea
- New coastal zone management plans to be prepared with protection for fishing villages; fishing villages to develop new long term plans for their expansion; relaxation of controls on fishermen housing
- Greater representation and say for fishing communities in the authorities and committees set up to implement the notification

An important aspect of the CRZ is that it wisely avoids getting into fisheries regulations and leaves this for other laws to do.

Other International Laws and Regulations

While national laws are the ones that really matter and most of India's international commitments are met through national laws, there are a few international instruments that need to be kept in mind as they may have a bearing on some aspects of fisheries development and management in India.

Freeze on Tuna fishing capacity by the IOTC: The Indian Ocean Tuna Commission (IOTC) has decided that there is adequate fishing capacity in the Indian Ocean for oceanic tuna fishing. However, countries like India are still trying the build new capacity in Tuna fishing and this could lead to a clash with the IOTC policies and regulation. There is obviously a serious issue at stake in the IOTC: more than half of the Tuna catch in the Indian Ocean is by European nations[29].

National Plans of Action (NPOA): India is currently preparing a Plan of Action for shark fishing with a view to conserve shark resources. This is based on commitments made to the Committee on Fisheries (COFI), FAO. The deadlines for submission of the plan is over but India still working on the plan with assistance from the Chennai based BOBP-IGO.

Commitment under the Convention on Bio-diversity: As per commitments made by all signatories to the Convention on Bio-diversity, India has to set apart 10% of the ocean area for "marine protected areas". This could lead to more Gulf of Mannar type national parks with obvious implications for fisheries.

Other laws & regulations

There are a number of other laws and regulations that have some bearing on marine fisheries and will be difficult to enumerate. Here a just a few of the more important among them.

Merchant Shipping Act (MSA): The MSA requires that all vessels used at sea need to be registered under the MSA by the Mercantile Marine Department (MMD), an agency of the Ministry of Surface Transport. This is a cumbersome process and leads to avoidable duplication. The requirements of the MSA are quite stringent from a design and construction point of view that very few fishing vessels may pass muster. Fortunately, the MSA gives the MMD the powers to exempt classes of vessels it deems fit. As the MMD lacks presence across the entire coast as well as adequate human resources, it has preferred to exempt boats lesser than 20 m length from its registration. Hence, the entire fishing fleet in TN & P is exempted from registration under the MSA. However, the period of this exemption

29 This is achieved through (i) licences provided by some East African nations, (ii) EEZs available around island territories like Diego Garcia that are still under European control and (iii) high seas fishing.

is not open ended and is renewed every two to three years. This requires periodical lobbying by mechanised boat associations for such an exemption. MSA hangs like a "Damocles sword" over the fisheries sector.

Indian Ports Act: Though there are exclusive fishing harbours, many of the mechanised boat landing centres are within areas notified as ports. Even motorised and non-motorised boats operate in some of the port areas. Often this implies certain controls by Port authorities over fishing boats30. Most ports are "minor ports", meaning they come under the control of the State Govt. However, Chennai and Tuticorin are "major ports" coming under the control of Govt of India. This can lead to problems at times. The pitiable state of the Chennai fishing harbour and Royapuram is a result of it being nobody's baby—it is in the area of the Chennai Port Trust for whom fishing boats and fishermen are a nuisance. Fortunately, the Tuticorin fisheries harbour has been handed over to the Fisheries Department and hence does not face similar problems. There is talk that the Chennai harbour may also be handed over to the Fisheries Department.

Coastal Aquaculture Authority Act: While we have not focussed on aquaculture in this review, it is worth noting that there is a separate national law—Coastal Aquaculture Authority Act, 2005—that governs aquaculture, especially that which takes place within 500 m from the sea and in brackish water. All aquaculture farms in the area require permission and are expected to follow certain rules. This Act is the result of strong fishing community protests against the anarchic growth of shrimp farms along the east coast of India with negative impacts on coastal eco-systems.

National Bio-diversity Act: This Act, coming out of India's commitment to protection of bio-diversity, regulates the introduction of new species. This has some implications for coastal aquaculture and mariculture. The cultivation of the controversial Pepsico introduced *Kappaphycus* seaweed in Rameswaram has the blessings of the Madras based National Bio-diversity Authority. The Forest Department of TN has serious objections to the cultivation of this "exotic" species of seaweed.

New Central law on the horizon

As mentioned earlier, there is no law governing fishing in the EEZ beyond 12 nautical miles, if one ignores the MZI that deals only with foreign vessels. This has been recognised long back and there have been at least two previous attempts at creating a Central law that governs all fishing in the EEZ. For long it was not considered necessary as most fishing by Indian vessels was taking place within the territorial waters. However, now the situation has reached a point where the absence of legislation is becoming a problem.

With the increase in fleet size and capacity, many mechanised and motorised vessels fish well beyond the 12 nautical mile limit. The international pressures to control IUU fishing mean that seafood exporters have to certify that all seafood exported come from vessels that are properly licensed and regulated. There is an ambiguity about the status of vessels fishing beyond 12 nautical miles. While they are not illegal as they are not breaking any law, they are unregulated, at least on paper. This, among other things, has forced the Ministry of Agriculture to work on a law to govern fishing in India's EEZ by all vessels, both Indian and foreign.

A draft Marine Fisheries Regulation and Management (MAFIRMA) Bill was circulated by the Ministry of Agriculture in 2009 to the State Governments and Fishermen Associations. This led to a wave of protests and disagreements with State Governments. The Bill talks about a separate system of licensing for the EEZ beyond 12 nautical miles. Mechanised boat associations feel threatened that the freedom of movement of their vessels will be curbed and new licensing procedures by Central Govt will be tiresome and problematic. The NFF has welcomed the idea of a central legislation and has approved the idea of regulation in the EEZ. However, it has sought a complete over-haul of the Bill to ensure that conservation takes place with equitable distribution of resources and the protection of the interests of small scale fishermen. It has sought a Bill that enunciates clear principles for fisheries management and not leave it to the bureaucracy to administer fisheries as it deems fit.

The Bill is going through a re-draft based on feedback received from various quarters. However, no information is available at the moment on the changes proposed to the original draft and whether there will be another round of

30 The fishermen seem to comfortably co-exist with Port authorities; the issues arising out of dual control, if any, need to be checked out.

consultations before it is taken to the Parliament. Whenever it comes, the new law will clearly set some boundaries for the future development and management of fisheries by the State Governments.

Puducherry—some specific comments

All the laws and regulations, other than the TNMFRA, technically apply to or influence marine fisheries in Puducherry as well. However, it is worth mentioning that the Union Territory of Puducherry had taken the pragmatic approach of following the MFRA of the state that surrounded each of its four territories. Hence Puducherry and Karaikal have largely followed whatever Tamil Nadu did. Given the limited coast line and the fact that fishermen of Puducherry and TN are kith and kin, any system that was out of sync with Tamil Nadu would lead to problems. Hence, Puducherry also followed the three nautical mile rule, monsoon fishing rule, etc. However, in 2009, Puducherry also enacted its own MFRA, which is largely in tune with TNMFRA.

Conclusions

There are myriad laws and regulations that have some impact on marine fishing in Tamil Nadu and Puducherry. Obviously, the most important is the MFRA. Increasingly, environmental laws are having a significant impact as are regulations by seafood importing nations and trade related instruments brought in by the WTO. A major central law is also in the making. The plethoras of laws (and agencies implementing them) also mean that there is considerable overlap and lack of coherence. There is no mechanism at the moment to ensure that they all converge towards a common understanding and vision for fisheries management.

An important factor that cannot be ignored is that the large traditional fishing community has its own laws and independent system of management that has a huge influence on how constitutional laws get implemented.

FIMSUL : FISHERIES MANAGEMENT FOR SUSTAINABLE LIVELIHOODS

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