LEGAL CONTROL OF FISHING INDUSTRY IN KERALA

Thesis Submitted
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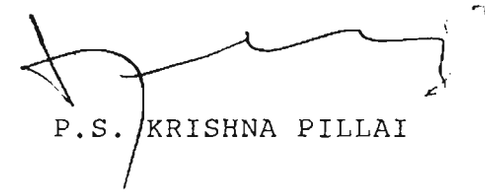
D E C L A R A T I O N

This is to certify that this Thesis titled '**Legal Control of Fishing Industry in Kerala**' is a bonafide record of work carried out by me under the supervision of Sri V.D. Sebastian and no part thereof has formed the basis for the award of any Degree/Diploma/Associateship of any University.



P.S. KRISHNA PILLAI

C E R T I F I C A T E

This is to certify that this Thesis titled **'Legal Control of Fishing Industry in Kerala'** is a bonafide record of work done by **Shri P.S. Krishna Pillai** under my guidance in the Department of Law and no part thereof has formed the basis for the award of any Degree/Diploma/Associateship of any University.

Dr. V. D. SEBASTIAN
Supervising Guide

C O N T E N T S

P R E F A C E

This work is a study on **'Legal Control of Fishing Industry in Kerala'**. Law sets the norms for social behaviour. What does the law do for those half-naked, poverty-stricken fishers who constitute a considerable portion of the foreign exchange earners ? How does law bring them into the national stream by regulating their behaviour and protecting their Rights ? An earnest attempt is made to find out answers to these questions.

Fishery and Fishery-related legislations are sought to be examined in the light of scientific opinion and judicial decisions. A purposive and inqusitorial enquiry is attempted to be made into the various problems of the fisheries sector and to find out viable and meaningful solutions for them.

This work is divided into five Parts. Part I is intended to prepare a background for the study. Part II examines the relevant legislations. Part III seeks to adopt a purposive approach to the provisions of Fishery Legislations. Part IV makes out a case for co-operative federalism and a national legislation in the fisheries sector. Part V is devoted for conclusions and suggestions.

The thrust of the Study is on the success of legislative measures in attempting to achieve socio-economic justice for the fishermen community. Any legislation or policy in this direction is not a grant or a concession for the fish workers. It is only a step towards complying with the mandates of the Directive Principles of State Policy.

I am heavily indebted to my respectful guide Dr. V.D. Sebastian, Professor (Retd), Department of Law, Cochin University of Science and Technology (CUSAT), for his help and guidance without which I would not have been able to complete this work.

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Chapter I ; INTRODUCTION

Fishing is more an avocation than an industry. It is basically the avocation of the artisanal or traditional fishermen who depend on it for their livelihood. As an 'industry', it is a generator of employment, income and wealth. It has a fundamental role to play in the socio-economic structure of a developing country like India especially in the background of our constitutional objectives as projected in the Preamble and the Directive Principles of State Policy. One of the main objectives of our constitutional set up is to achieve a socialistic pattern of society. Socialism aims at developing a classless society. Due to the peculiar nature of their avocation, our fishermen population maintain poor standards of living; they remain socially, economically and educationally backward. In the light of the socio-economic philosophy of our Constitution, any extent of legislation, government policy and administrative action aimed at ameliorating their standard of living and living conditions will not be out of place or excessive.

Like all other resources, the renewable fishery wealth available for us for exploitation is also limited. Rational exploitation and judicious management of the

fishery resources is unavoidable for a sound and sustainable fisheries management strategy. As in other parts of the world, our fishery wealth is also facing a stage of depletion due to over-exploitation and unscientific management. The U.N. Convention on Fishing and Conservation of the Living Resources of the High Seas, 1958 sounded the death-knell for the classical myth that every state has authority to fish as it pleases irrespective of its consequences for others. By the U.N. Conventions on the Law of the Sea, 1973-1982, there has been a gradual and progressive enlargement of national jurisdictions from the Territorial Waters to the Contiguous Zone, from there to the Continental Shelf, and even beyond. Almost all progressive nations including India have, by now, adopted the 200 mile Exclusive Economic Zone to which they have extended their jurisdiction and activities, more especially with respect to the exploration and exploitation of all resources therein. Serious limitations have been introduced by coastal states for the operation of foreign fishing vessels in such areas.

In conformity with these developments in the Law of the Sea, Article 297 of our Constitution was redrafted by the Constitution (Fortieth Amendment) Act, 1976 providing for defining our Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones, declaring the 'vesting' of all lands, minerals and other things of

value underlying the ocean within them in the Indian Union and the right of the Union to 'hold' those and other resources therein for the purposes of the Union. The Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act, 1976 specifies the extent of these zones, declares the sovereign right of the Union over them and empowers it to explore and exploit all living and non-living resources therein as also to conduct other activities in relation to them to protect our economic and other interests therein.

Such extension of national jurisdiction has widened the exploitable areas available with us in respect of fisheries. Fish constitutes a major item of export, and as such, it is a booster of foreign exchange. At least from the II Five Year Plan onwards, our planners and administrators gave importance to the export of fish for earning more and more foreign exchange for our country. It is in this background that mechanisation was introduced in our fisheries sector under the Indo-Norwegian Project with active participation of the State Department of Fisheries. Mechanised fishing boats were entrusted with fishermen groups without any security, on the condition that they should entrust the Department of Fisheries with 30% of their daily catch towards repayment of the value of the fishing boats entrusted to them. They operated these boats and brought increased catches, but did not practically make any repayment.

Such entry of the mechanised boats brought with it a competition between the traditional sector and the mechanised sector for space as well as for resource. The traditional fishermen use country crafts, canoes and catamarams; their fishing gears are also indigenous like their crafts. Their fishing activities were confined to the inshore waters. They found their craft and gear incompetent to compete with the mechanised sector. they started complaining of damages caused to their craft and gear by the operation of the mechanised boats. In the 1970's, the competition between the two sectors became worsoned and stray incidents of open conflicts took place. The traditional group started agitations complaining that the mechanised boats were operating in the same fishing grounds and for the same resources, the trawling operations were harmful to the fishery wealth and that the very operation of these mechanised boats disturbed the marine eco-system. They raised a clamour for delimitation of fishing zones. The Central Government appointed the Majumdar Committee to study and report on the same. Its report and a model Bill appended thereto sent over to the coastal states formed the basis for the Marine Fishing Regulation Acts passed by them.

Going by the Scheme of distribution of legislative powers in Articles 245 and 246 read with Entry 57 of List I and Entry 21 of List II of the Seventh Schedule to the

Constitution, legislative jurisdiction of the States is confined to 'fisheries' within 'territorial waters' and not beyond that. Apart from the Kerala Marine Fishing Regulation Act, 1980, the Indian Fisheries Act, 1897 as amended by Madras Act II of 1929 and the Travancore-Cochin Fisheries Act, 1950 are applicable to the Malabar and Travancore-Cochin areas of the State respectively. These two legislations are practically confined to inland fishing in the respective areas.

Inland fisheries can broadly be classified into backwater, riverine and reservoir fisheries. Backwater and riverine fisheries together are known as Conservation Fisheries. Several species of fish move from the sea to the backwaters and rivers during high tide at their larvae stage and remain there till they reach their stage at first maturity; and then they move back towards the sea for spawning. Therefore, the maintenance of the eco-system and introduction of conservation measures in the backwaters and rivers is indispensible for conserving the marine fishery wealth.

Fixed engines like stake nets, chinese dip nets and a large variety of free nets are used for inland fishing. Licensing of fishing and registration of fishing implements are provided for by legislation. Instances of breach of these and other legislative provisions are on the increase. The main hurdle in the way of proper

fisheries management in the backwater and riverine context in our state is the lack of proper and effective compliance mechanism. Unless this is remedied, no meaningful results can be expected from the conservation measures that are introduced.

The electricity and forest departments of the State Government were not in agreement with the fisheries department in the matter of developing reservoir fisheries in the dam sites of the hydro-electric projects of our State. By now, the Fiheries Department has started developing reservoir fisheries in the dam sites with the co-operation of the controlling departments. This is sought to be achieved with community participation and in liaison with the Harijan Welfare Department. Harijan Fisheries Co-operative Societies are being organised for this purpose and they are being given the necessary technical and financial supports.

The State Government has called for and obtained Reports after Reports from expert commissions touching upon various problems of the fisheries sector, both inland and marine. However, no earnest attempt has been made to chalk out or implement a result-oriented management policy supported by effective legislative measures or efficient administrative machinery for implementing even the unanimous recommendations of these expert bodies. Fisheries management can be successful only where there is

a co-ordination between legislative and administrative measures. Such co-ordination, for bringing about meaningful results, should be backed by a strong will on the part of the legislators, administrators and the fishermen themselves.

Legislative jurisdiction in respect of 'fishing and fisheries beyond territorial waters' is vested in the Union. This was not material before the introduction of technological innovations in the fisheries sector. Motorisation of fishing crafts, mechanisation of the methods of fishing and introduction of larger fishing vessels paved the way for diversified fishing and deep sea fishing. By now, we have developed a native fishing fleet capable of engaging in deep-sea fishing in areas far beyond our territorial waters. Recently, the Government of India adopted a policy of permitting Joint Ventures and licensing of foreign fishing vessels for fishing within our EEZ areas. Our native fishermen, with improved versions of their crafts and gear, are also venturing to exploit the fishery resources in areas upto the 200 mile limit of our EEZ. Small, medium and large-scale fishing operations are carried on in our inshore, offshore and distant waters respectively. Simultaneously, there is a strong demand for prohibiting foreign fishing altogether, which has found favour with the Murari Committee appointed by the Central government to study and report on this issue.

These developments point to the need for enacting a national legislation covering the various aspects of fishing upto our 200 mile EEZ area. The obligation cast on our national Government to adopt suitable and adequate conservation measures for our EEZ area by the Law of the Sea Conventions, 1973-1982, coupled with the migratory nature of several species of fish and the migratory character of our fishermen, add emphasis to the need for passing such a national legislation as also to evolve a national fisheries management plan and policy without any delay.

The basic objectives of fisheries management at the national and state level are:-

1. Conservation of the resources;
2. Achieving socio-economic justice to the fishermen population;
3. Conflict management in the fishing grounds;
4. Provision for supply and distribution of fish as a nutrient to the people;
   and
5. Earning foreign exchange by export of fish and fishery products.

The present work is a humble attempt at examining the topic from the above angles, to find out its drawbacks and short comings and to suggest measures for evolving a successful and meaningful fisheries management strategy.

This work is divided into four parts. Part I, consisting of two Chapters, prepares a background for the study. The present Chapter is intended to give a general introduction to the subject. Chapter II traces out the developments in the Law of the Sea and extension of national jurisdiction by absorption of the spirit of the International Conventions bearing on the subject into our municipal law. Article 297 of the Constitution, as originally enacted and as amended by the Fifteenth and Fortieth Amendments, is discussed in the light of the relevant case law and in the light of the distribution of legislative powers in respect of fishing and fisheries.

Part II, consisting of Chapter III, deals with Legal Control of Fishing Industry in Kerala. Trends in national legislations relating to fisheries are examined in the light of the relevant International Conventions and our existing fisheries legislations are examined in the light of the same. With respect to inland fisheries, an attempt is made to compare the provisions of the Indian Fisheries Act, 1897 and the Travancore Cochin Fisheries Act, 1950. The attempt of our fisheries department to develop reservoir fisheries is examined in some detail. Modern and

intensive aquaculture is a new development in our culture fisheries. The scientific and legal aspects of aquaculture are examined in the light of the relevant case law. The Kerala Marine Fishing Regulation Act, 1980 and the enforcement of the regulatory measures through the same are discussed. Deep sea fishing has given rise to new problems and challenges in our fisheries management policy. Joint ventures, Chartering and licensing of foreign fishing vessels have evoked serious criticism and disappoval from many quarters. The Gudicelli Report on Deep Sea Fishing and the recent Murari Committee Report on licensing of foreign fishing vessels are also examined.

Part III, consisting of Five Chapters, examines our fisheries legislations and policy in the light of the specific objectives set forth above. Chapter IV deals with conservation. The conservation measures insisted on by the U.N. Conventions are examined and the necessity and relevance of conservation measures are traced out. Overfishig and overcapacity are established as the basic reasons for depletion of the fishery wealth. Destructive and indiscriminate methods of fishing, pollution and environmental degradation attribute to the depletion of fishery wealth. The modernisation and mechanisation policies of our Central and State Governments have contributed much to overfishing and overcapacity and thereby, to the depletion of our fishery wealth. Confronted with this, and in the wake of fishermen's

reaction, different Scientific Committees were appointed by our Governments in power to study and report on different problems affecting the fisheries sector. The reports of these Committees are discussed and follow-up actions are suggested. Marine pollution is examined and the provisions of the Water Act, 1974 and the Environment (Protection) Act, 1986 are discussed in the light of the relevant case law.

Chapter V deals with conflict management. The problem of inter-gear conflicts is pointed out as an inevitable consequence of overfishing and overcapacity. Almost all coastal states have experienced it at one or other face of their fisheries development strategy. The Indonesian trawl ban, the zoning system of Malaysia, and the success of Japanese coastal fisheries management with the full participation and co-operation of the fishermen are discussed and pointed out as effective conflict management strategies. Lack of political will on the part of the legislators, poor enforcement measures and indifference on the part of the fishermen themselves are pointed out as the reasons for the failure of conflict management measures in Philippines and Thailand. Conflict management under the Kerala Marine Fishing Regulation Act, 1980 is examined in the aforesaid background and in the light of the recommendations of the Expert Committees. The judicial response to these conflict management

measures is also discussed in detail. The problem of enforcement is also examined and the limitations of the Department of Fisheries and the Coast Guards Organisation under the Coast Guards Act, 1978 are traced out.

Chapter VI, titled 'Supporting and Subsistence Sector', deals with the socio-economic aspect. Tecnological innovations in the fisheries sector and their impact on the socio-economic structure of the fishing community are attempted tobe analysed. Fishworkers' struggle for socio-economic justice is discussed in detail and its impact on fisheries legislation and policy is examined. A general picture of the fisheries villages as occuring now is given. The origin and development of co-operative movement in the fisheries sector are attempted to be traced out, its scope is examined and some guidelines for ideal fishery co-operatives are given. In this background, the establishment and failure of fishermen co-operatives in our State are discussed. The establishment of the 'Matsyafed' in the background of the failure of the fisheries co-operatives is pointed out as an attempt to revitalise the Fishermen Welfare Societies organised under the Kerala Fishermen Welfare Societies Act, 1980 and to co-ordinate and channelise the welfare measures in the fisheries sector. The various welfaremeasures introduced through legislative and administrative methods are also discussed. The role of women in fisheries and the welfare measures particularly

intended to benefit fisherwomen are also dealt with.

Chapter VII, titled 'Fish for Food', discusses the contribution of fisheries to food security. The role of fish as a food item, and more especially as a nutrient, as also its medicinal value are attempted to be explored. The consumption pattern of fish as a food item is examined and its availability for domestic consumption is assessed. Boosting of exports, diversion of a substantial portion of the marine fish catch as animal feed and wastages in substantial quantities as by-catches etc. reduce the availability of fish for domestic consumption. In the background of declining catches and fish food scarcity, aquaculture is being looked upon as an alternative source of fish. Its scope and limitations are examined in the context of the problem of fish food security.

Chapter VIII deals with 'Exports'. The role of the MPEDA in exporting of marine products within the framework of the MPEDA Act, 1972 is examined. The market structure and the trends in export are examined. The need for modernisation of processing of fisheries products for export is emphasised. The health conditions for the production and placement of fisheries products on the unified European market are discussed in the light of the relevant E.C. Directives. HACCP - based inspection procedures insisted on by the United States Food and Drug Administration (USFDA) is also examined. The quality improvement measures suggested by the MPEDA to cope with

such emerging trends in foreign markets are also discussed.

Part IV, consisting of Chapter IX, puts forward a strong plea for Co-operative Federalism and National Legislation in the Fisheries sector. The provisions of Article 297 and the scheme of distribution of legislative powers in respect of fishing and fisheries in our Constitution are sought to be reconciled. Distribution of legislative power in respect of fishing and fisheries in the federal context of the Canadian and Australian Constitutions is discussed with the help of the relevant case law. The Australian innovation of Offshore Constitutional Settlement between the Commonwealth and States for bringing about a national legislation in respect of fishing and fisheries throughout the Australian fishing zone and its absorption into the (Australian) Fisheries Act, 1952 by the Fisheries (Amendment) Act, 1980 is briefly discussed. The (Malaysian) Fisheries Act, 1985 (enacted by the Malaysian Parliament invoking Article 76 (1) of the Federal Constitution that empowers Parliament to make laws with respect to any matter enumerated in the State List for the purposes of promoting uniformity of the laws of two or more States) is cited as a comprehensive legislation covering all aspects of capture and culture fisheries in internal and maritime waters of Malaysia alike. It is also examined at some length. With the help

of the Australian and Malaysian models, a case for enacting a comprehensive national legislation is attempted to be made out.

Part V, consisting of Chapter X, is fully devoted for conclusions and suggestions.

Chapter II

DEVELOPMENTS IN THE LAW OF THE SEA AND EXTENSION OF NATIONAL JURISDICTION

'Freedom of the Seas':-

The First formal pronouncement on the legal status of the sea and on the right of men to use the sea and its products in recorded legal history dates back to the jurist Marcianus.[1] The doctrine of the free use of the sea by all men was the law of the Roman Empire at the beginning of the 2nd century even though it was not codified until the 6th century.[2] Fish was a food staple for mankind from early times. It was an important article of commerce with them. The Athenian and Roman States derived income from their fisheries. However, no records have been preserved on any legal doctrine of a Mare Clusum;[3] at the same time, there were claims to imperium[4]. But even this claim

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1. The sea and sea fisheries were given a definite place in the Institutes and Digests of Justinian in Roman Law. (See: J.B. Moyle, The Institutes of Justinian (Translated into English), Oxford, Clarendon Press, 5th Ed., 1913, pp.3-6.

2. Persey Thomas Fenn Jr., Origin of the Right of Fishery in Territorial Waters, 1926, p.3

3. It is a claim of the maritime state to a dominium over the adjacent sea or a part thereof. See Ibid.

4. This is a limited right to exercise jurisdiction over some parts of the sea.

was not expanded into a property right in any part of the sea itself. The claim to imperium had not developed into a claim to dominium[5].

The Roman Jurists were of opinion that the coastline of the State bordering the sea was not the property of the particular state whose territory was bounded by it, but on the contrary, was open to the use of all men. No one might be forbidden to fish in the sea from the shore. The right to fish in the sea was derived from the status of the sea. This right included that of drying nets on the shore and of building shelters.

These principles involve the exercise of jurisdiction over the sea shore. The Roman jurists regarded their coasts as being protected and guarded by the Roman people as "a sacred trust of civilization". It is to be noted here that the exercise of this jurisdiction was aimed at assuring the public welfare, as may be clearly seen from the provision that huts and fishing paraphernalia used by a fisherman were not to interfere with the public use of the place, or with the rights of other fishermen.

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5. The word 'dominium', "taken in its strict sense..... denotes a right indefinite in point of user:- unrestricted in point of disposition and unlimited in point of duration - over a determinate thing"; Austin, Lectures on Jurisprudence, Ed. R. Combell, 3rd Ed. (1869).

Mare Liberum Vs. Mare Clausum: The Battle of Books:-

Although accepted as a binding principle under Roman Law, the doctrine of 'freedom of the seas' was lost and forgotten in Europe after the disintegration of the Roman Empire and upto the beginning of the 17th century. The book 'Mare Liberum' was written in 1608 by Hugo Grotius who later came to be known as the Father of International Law.[6] It was written, as the title indicates, for vindicating the right of the Dutch to compete with the Spanish and the Portugese in the East Indian trade. According to Grotius, no part of the sea could be considered as within the territory of any people. In other words, the sea might not be restricted as to its use.

It is very important, then, to define what is meant by the 'Sea'. Grotius did this by eliminating from the purview of his discussion certain parts of the sea considered as a whole, which have, at least in appearance, a certain distinct character of their own. By putting to the side these specified bodies of water, he described what is left as 'the sea'. It is this body of water only, which he holds to be 'liberum'. He excluded inlets, inner seas, i.e., one which is surrounded by land and which does not, in some places, have more width than a river etc. from

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6. Persey Thomas Fenn Jr. Supra, at pp 3-6.

the definition. However, Grotius proposed a limit to the extent of the 'adjacent sea'. It was to be confined to just so much as can be protected by force from the land. Grotius was thus apparently making a sharp distinction between the high seas and mare proximum. It forced him, though by implication, to recognise the existence of territorial waters, and to grant a right of ownership in them. It left open the question as to the extent of such waters.

According to Grotius, the right of fishing was common to all as the right of navigation. Maritime fishery was free to all men. The sovereign taxes its subjects on the exercise of their right to fish there. This right was vested in him as of the Regalia. The effect of this doctrine was to give the sovereign control over the fishery, so far as the use of it by his subject; but the fishery itself was not subject to such control.[7]

The doctrine of property right in the fishery itself in favour of the Crown flowed naturally from that of a larger right of ownership of the sea adjacent to the shores of the King possessing such a right. These waters were then truly Territorial Waters. The right of jurisdiction over the adjacent sea, without any property right in them, could not give a right to tax foreigners. Grotius divided the

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7. Persey Thomas Fenn Jr. Supra, at p.157

coastal waters from the high seas and he acknowledged their existence. But whatever the basis of his division might be, it was not granted on any difference in kind from the sea proper. Grotius partially admitted in one place that the supply of fish is exhaustible, and that, therefore, and on this ground, it may be possible to prohibit fishing.

The most formidable reply to Grotius and challenge to his theory of Mare Liberum came in 1625 from John Seldon, who wrote at the behest of the English Crown, his comprehensive treatise titled 'Mare Clausum', which was a masterly exposition of the English claim to sovereignty over the English Seas.[8] Seldon was quick to see the bearing of the argument of Grotius on the English claims. He considered the subject first as a matter of law, and secondly as a matter of fact, giving one book to each division. In the second book, he conclued that the facts of British history proved the soundness of his claim, for, they proved that England has always held sovereignty over the sea around the British Isles. Seldon advocated the concept of the 'Closed sea' which asserts the right of the coastal state to exercise its sovereignty over the seas adjacent to its territory.[9]

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8. Ibid, at pp. 184-185.

9. Ibid.

European maritime powers interpreted the doctrine of 'Freedom of the Seas' as non-regulation or laissez faire: beyond a limited area near the coastline, for the purpose of security and for the enforcement of customs, health and fiscal regulations of the coastal states, the vast ocean remained to be used and abused, explored and exploited, by the maritime powers according to their selfish interests!

In the late 18th and 19th centuries, the doctrine of 'Freedom of the Seas' came to be accepted due to the needs and demands of the Industrial Revolution. Britain, having emerged as the greatest maritime power, became the strong champion of this freedom. Freedom of the 'High Seas' also came to be transformed into a licence to over-fish, especially near the coasts of other countries, triggering numerous fishery disputes. Still, it has become part of International Law: it provides a proper and convenient starting point in considering problems arising out of its own application.

Legal and Constitutional Developments concerning Coastal Jurisdiction:

Jurisdiction over Territorial Waters at Common Law:-

At Common Law, the public has a right to fish in the tidal reaches of all rivers and estuaries and in the seas and arms of the sea within the limits of

the territorial waters of the United Kingdom except where the Crown or some subject has acquired a propriety exclusive of the public right or where Parliament has restricted the common law rights of the public. Before Magna Carta, the Crown could exclude the right of the public in any particular subjects by granting a 'several fishery' to a subject, and frequently did so; the Crown also had power to bar fishing and fowling in any river, whether fresh or salt, until the King had taken his pleasure there. Since that date, however, these powers have ceased to exist, and the public right can now be excluded or modified only by an Act of the Legislature.[10]

Queen Vs. Keyn[11], known as the Franconia Case, arose out of a collision of the Franconia, a German ship, with a British ship called the Stratclyde, in the British territorial waters, allegedly as a result of the negligence of the Captain of the Franconia, due to which a passenger called Young was drowned. The German Captain was interdicted for manslaughter at the Central Criminal Court. The point for decision was whether that Court, a successor to the jurisdiction of the Lord High Admiral, had jurisdiction to try foreigners for offences committed within the territorial waters. This question was referred to the Court of Crown Cases Reserved. That court, with

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10. Halsburry's Laws of England, 4th Ed., Vol.18, FN2at p. 254.
11. (1876) 2 Ex. D.63

a narrow majority of 7 to 6, held that the Central Criminal Court lacked jurisdiction.

The above decision revealed a patent gap in the British law, which was promptly sought to be remedied by the passing of the Territorial Waters Jurisdiction Act, 1878. For reckoning any offence declared by the Act to be within the jurisdiction of the Admiral, the Act clarified that the term "territorial waters of Her Majesty's Dominion" would mean "any part of the open sea within one marine league off the coast measured from low water mark."[12]

This seems to have provided the basis for the subsequent adoption, in the Indian Fisheries Act, 1897, of the definition of 'water' as including "the sea within the distance of one marine league off the sea coast".[13]

Jurisdiction over Territorial Waters in British India:-

British India claimed exclusive fishery right within the territorial sea. These were common rights, to be generally shared by all the subjects of the country. In Regina Vs Kastya Rema[14], the Bombay

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12. This was a practice that came to be established after Lord Stowell's famous decision in The Anna Case (1805) 5.C. Rob 373 at 385. In that case, Lord Stowell applied Bynkershock's cannon - shot formula observing that since the introduction of fire arms, the boundary of territorial waters "has usually been recognised to be about 3 miles from the shore".
13. S.(7) 2, Indian Fisheries Act, 1897.
14. 8. Bom. HCR (Crown Cases) 63 (1871)

High Court held that it had jurisdiction to try an offence committed within 3 miles off the coast. That case arose from a traditional rivalry between two fishing villages. Both the villages claimed exclusive fishing rights off another village. In March, 1871, the Malwani fishermen fixed a number of stakes in the disputed area and continued to fish there. The other villagers came and removed the stakes from the disputed area and brought them ashore. On complaint, the local Federal Provincial Magistrate tried and convicted the former group of fishermen for participation in unlawful assembly (held for committing mischief) as also for mischief and theft. On appeal, the Sessions Court maintained the conviction on the first two counts, but reversed the trial court's finding of theft for want of proof of animus furandi. Invoking the extraordinary jurisdiction of the High Court, the accused challenged the jurisdiction of the trial Magistrate to take cognizance of the impugned act as also the applicability of the Indian Penal Code, 1860 to an act committed beyond the shores of British India. The Court rejected it holding that the Courts in India could exercise admiralty jurisdiction and that the term 'territories' in S.2, I.P.C. included the maritime belt also. West, J. held that the general powers of local jurisdiction enjoyed by Colonial Governments "extend, except where otherwise restricted, to the making of laws for sea-going vessels engaged in fishing or on voyages from one part of India to another and the persons on board such vessels".

Liberally considering the question of ownership by the Crown of the soil under the sea within 3 miles from the coasts of the territorial waters and common liberty of fishing in the sea, it was further observed thus:-

"These authorities support both the ownership by the Crown of the soil under the sea, and the proposition that the subjects of the Crown have also by common right, a liberty of fishing in the sea, and in its creeks or arms, as a public common of piscary. The Sovereign's rights are as great under the Hindu and Muhammadan systems as under the English; but without a minute examination of these, it is sufficient to say that by the acquisition of India as a dependency, the Crown of Great Britain necessarily became empowered to exercise its prerogatives and enjoy its jura regalia in this country and on its coasts, subject always to the legislative control of Parliament."[15]

The rights of the Crown and of the public in the waters and the subjacent soil of the sea came up again for consideration in Baban Mayacha Vs. Nagu Shravucha[16]. All the parties to the suit were fishermen owning stakes and nets fixed off the coast of Salsette, at a distance of 2 and 3 miles from the shore. Prior to 1862, plaintiffs or their predecessors sued defendants or their predecessors to eject defendants from a fishing ground claimed by plaintiffs and to recover from them damages

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15. Ibid at p. 87
16. I.L.R. 2 Bom. 19 (1878).

for trespass. The suit was dismissed and the decision was affirmed in appeal on the ground, inter alia, that the existence of private property in any portions of the open sea ought not be recognised without direct evidence of the appropriation. In 1873, plaintiffs brought a second suit to recover damages from defendants for having maliciously and wrongfully disturbed the plaintiffs in the enjoyment of their right to fish and unjustifiably preventing fish from getting into the nets of the plaintiffs and to obtain a perpetual injunction restraining defendants from so erecting their fishing stakes. For deciding whether defendants have caused any injury to plaintiffs so as to expose them to any liability in damages, the Court enquired into the right of the sovereign to the seas and the right of the public to fish in the sea and its arms. Interpreting the decision in Regina Vs. Kastya Rama[17] it was observed thus:-

> "We gather from the elaborate judgments in Regina Vs. Kastya Rama that the Learned Judges who gave them regarded the sea and its subjacent soil within the ordinary territorial limit atleast around British India as vested in the Sovereign, but held that the use of it for the purposes of navigation and fishing belonged communis juris to her subjects atleast so far as it had not been

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17. Supra, note 14.

otherwise appropriated by the sovereign; and West J., in speaking of the scope of the prerogatives of the Crown in India in this respect, said:- "..... the right of the Crown to sea is not, in general, for any beneficial interest to the Crown itself, but for securing to the public the privileges of navigation and fishing ....."[18]

Historical Rights over the High Seas beyond Territorial Waters:-

Claims of historical rights over areas that form part of the high seas seem to uphold the validity of the doctrine of mare clausum.[19] The idea is obviously to protect certain rights enjoyed undisturbed over a long period of time over such areas.[20] The British practice has been of claiming historical rights of ownership over sea bed resources in the adjacent high seas. British India followed this practice. The historical rights of ownership over sedentary fisheries beyond the territorial sea has been upheld by judicial practice as evidenced by the decision in Annakumaru Pillai Vs Muthupayal.[21] This case arose from an incident in 1904 that resulted from fishing by aliens on the high seas at a distance of 5

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18. ILR 2 Bom. 19 (1878) at p.43
19. See Supra, Note 3.
20. Yehuda Z. Blum, Historical Titles in International Law (1965), pp 331-334; Lee J. Bonchez, The Regime of Bays in International Law (1964), pp. 199-202.
21. ILR. 27 Mad. 551 (1904). For a comment on this case, See: Laxmi Jambholkar, Anna Kumaru Pillai Vs. Muthupayal Revisited, 13 I.J.I.L.(1973),p.273

miles off the coast near Ramnad. The Rajah of Ramnad sought to condemn it as amounting to theft of property. The Head Assistant Magistrate who took cognizance of the incident, rejected the Rajah's contention, holding that the waters where the incident occured were part of the high seas and that therefore, the regime of the high seas should apply. On appeal, the Court of Appeal found itself divided on the issue. The case was then remitted to a Bench which decided the case in favour of the Rajah. The central issue before the Court was whether a species of sedentary fish namely, the Chanks, from the Chank beds in the Palk's Bay, situate at more than 3 miles off the coast of Ramnad, could be the object of theft. The court took note of the special zoological features of Chanks and their habitat in the Palk's Bay and the Gulf of Mannar. It was found that from ancient times, these Chank beds were treated as the property of the local rulers and that they have always been under their effective control. The highly limited mobility of the sedentary fisheries like the Chanks and Pearl Oysters, according to the Court, rendered them to be the object of property. It was held that the Palk's Bay and the Gulf of Mannar were an integral part of Her Majesty's Dominions and the Chank beds were part of the territories of British India.[22]

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22. Ibid.

Coastal Jurisdiction under the Government of India Act, 1935:-

Prior to the enactment of the Government of India Act, 1935, the set up of the Government of India was Unitary. Therefore, no question could arise of any property being 'vested' in the Government of India or the Provincial Governments. The entire property stood vested in the Crown represented by the Secretary of State for India. But, for the first time under the Government of India Act, 1935, a scheme of division of properties was introduced, vesting all the property in the provinces in the concerned Provincial Governments subject to exceptions and the rest, together with the properties covered by such exceptions, in the Central Government.[23] The Act did not contain any specific provision on the exercise of maritime jurisdiction as between the Federation and the Provinces.[24] All legislative powers

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23. S. 172, G.I. Act, 1935.

24. However, D.D. Basu interpreted S.172 (1) of the G.I. Act, 1935 to mean that 'the territorial sea (which according to him must be deemed to be a 'property situate in a province') as well as the bed thereof vested in His Majesty for the purpose of the Government of that Province. Such a construction would be in conformity with a federal process just as in the United States, where, the constituent units, which had at one time been fully sovereign entities, had voluntarily joined the federation to form 'a more perfect union'. We have however, a different type of federation, especially in view of its historical evolution.

and proprietory rights in India were resumed to the Crown and redistributed between the Federation and the constituent units called the Provinces under the Federal Scheme.[25]

The ownership over the sea-bed underlying the territorial sea had already been settled in favour of the Crown in Secretary of State for India Vs. Chalikani Rama Rao.[26] The case concerned the question of ownership of certain islands formed on the bed of the sea at the mouth of Godavari, within 3 miles off the main land. The islands were in the occupation of some zamindars and the Crown sought to evict them. The Judicial Committee of the Privy Council ruled that the English common law rules recognised ownership of the Crown in the bed of the sea and in the islands arising in the sea within 3 miles off the coast and that this rule applied to India as well. Nothing short of proof of prescriptive title (by adverse possession) could weaken the Crown's claim to ownership over such lands.

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25. S.2. See: D.D. Basu, 4 Commentaries, 384 (5th Ed.1968). In India, Federalism has been a system superimposed in 1935 on an erstwhile unitary system; yet the stamp of unitarism has been left indelibly clear in respect of several aspects of the new system, evidently in the interests of the integrity and security of the nation as a whole. It is to be noted here that the theory of 'residuary rights', characteristic of American type of Federalism, does not fit into the Centre-State relations under the Indian Constitutional set up.

26. 43 I.A. 192 (1915-16)

The above decision rejected the Franconia case by implication[27] as regards the qualified nature of Crown jurisdiction over the territorial waters. It also laid down the rule that title to the territorial sea and the lands beneath it (including the islands) belonged to the Crown and that this title could be weakened only on the proof of superior adverse title.

Coastal Jurisdiction under the Constitution:-

Part XII, Chapter 3 of the Constitution of India deals with property, contracts, rights, liabilities, obligations and suits. Article 294 provides for succession by the legislature of the State or the Union as the case may be, to the respective property, contracts, liabilities and obligations which had severally stood vested in them prior to 26th January, 1950. Articles 295 and 296 deal respectively with succession to property, assets, rights, liabilities and obligations in respect of Part B States and with property accruing by Escheat or lapse or as bona vacantia.

As regards the territorial waters, the position under the Constitution remains what it was under the Government of India Act, 1935. The same provisions have

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27. Queen Vs. Keyn (1876) 2 D.63, commonly known as the Franconia Case: See supra, note 15.

been re-enacted in the Constitution.[28] Article 1 of the Constitution provides that the territory of India shall be comprised of the territories of the States. This corresponds to the definition of 'British India' in S. 311 of the Government of India Act, 1935.

Article 51 (c) mandates that the State "shall endeavour to..... foster respect for International Law and treaty obligations in the dealings of organised peoples with one another". In consonance with this, Article 297, as it originally stood, provided thus:- "All lands, minerals and other things of value underlying the ocean within the territorial waters of India shall vest in the Union and be held for the purpose of the Union." This Article vested in the Union the bed of the territorial waters and things of value underlying such waters, and not the waters themselves. This does not have the effect of vesting the territorial waters themselves in the union. As regards the territorial waters, this Article adopts the provision under the Government of India Act, 1935, that the several coastal states have dominion over the territorial waters as part of their territory from which the marginal sea takes off. Under Entry 57 of the Union List, the vesting in favour of the Union Government is only of fishing and fisheries

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28. Entry 57 of the Union List and Entry 21 of the State List of the 7th Schedule.

'beyond territorial waters'. Entry 21 of the State List clothes the State Legislatures with power to enact laws in respect of 'fisheries' (in territorial waters) notwithstanding that those waters are vested in the Union.

The founding fathers of the Constitution had, at the time of drafting original Article 297, in mind the controversy in the American constitutional law on the question whether the territorial sea belonged to the federal government or to the constituent states. Explaining the reasons behind the provision in the Constituent Assembly, Dr. B.R. Ambedkar said:- "We thought that this is such an important matter that we ought not to leave it either to speculation or to future litigation or to further claims that we ought right now to settle this question, and therefore this Article is introduced. Ordinarily, it is always understood that the territorial limits of a State are not confined to the actual physical territory but extend beyond that for three miles in the sea (i.e. the width of the territorial sea). That is a general proposition which has been accepted by international law. Now the fear is, for instance, Cochin, Travancore or Cutch came into the Indian Union, unless there was a specific provision in the Constitution such as the one we are trying to introduce, it would be still open to them to say: "Our accession gives jurisdiction to the Central Government over the physical

territory of the original States: but our territory which includes territorial waters is free from the jurisdiction of the Central Government and we will still continue to exercise our jurisdiction not only on the physical territory but also on the territorial waters, which according to International Law and according to our original status before accession belong to us". We, therefore want to state expressly in the Constitution that when any maritime states join the Indian Union, the territorial waters of that maritime State will got to the Central Government. That kind of question shall never be subject to any kind of dispute or adjudication. That is the reason why we want to make this provision in Article 271-A (the final Article 297)".[29]

Thus under Article 297, the territorial sea belongs to the Union. Therefore, it would not be open for the Constituent States to claim any title to the rights on the territorial sea merely on the ground that it had been originally enjoyed by them. However, the coastal states would continue to enjoy some of the benefits of the territorial sea, as allotted to them by the Union. All rights including surface rights and mineral and soil rights in the territorial sea belong to the Union. Thus, this Article can be said to form the basis for Entry 57 of List I of the Seventh Schedule, conferring upon Parliament competence to legislate on

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29. 8 C.A.D. 891-92. Alladi Krishnaswami Ayyar also expressed a similar opinion on the point. See Ibid, at p. 889

"Fishing and fisheries beyond territorial waters", and Entry 21 of List II, confering legislative competence on state legislatures to make laws on "fisheries".

The Chank Fisheries Cases:-[30]

However, Article 297, as originally enacted, had been subject to different interpretations in the cases that came up for consideration before the Madras High Court. AMSSVM & Co. Vs The State of Madras,[31] generally known as the Chank Fisheries Case, involved a challenge to the take over by the Fisheries Department of Madras Government of the Chank Fisheries in the Gulf of Mannar and the Palk's Bay of the coast of Ramnad, which were leased out to the Company by the Rajah of Ramnad in 1946. The chank beds in question formed part of the zamindari (estate) of the Rajah and the leasing in favour of the company was for a period of 10 yers. The take over of the fisheries was as per the Madras Estates (Abolition and Conversions into Ryotwari) Act, 1948 abolishing all estates within the State of Madras.

The validity of the government order by which the take over was made was challenged by petitioner company on three grounds: (1) The Government of India Act,

30. AMSSVM & Co., vs. The State of Madras, 1953 (2) M.L.J. 587 and P.S.A. Susai & another Vs. The Director of Fisheries, Madras and another (1965) 2 MLJ 35.

31. 1953 (2) M.L.J. 587.

1935 under which the Estates Abolition Act, 1948 had been passed did not empower a provincial legislature to make laws applicable to areas lying outside the physical land boundaries; (2) The Chank beds in question lay beyond the three mile territorial sea limits of India; and (3) in view of the provisions of Article 297 of the Constitution, all rights in areas of the sea within the territorial sea of India or beyond vested with the union, and thereore, the Madras Act, 1948 interfering with the exercise of proprietory rights in such areas was beyond the legislative competence of the State.

On the first point, the court examined whether the Act in respect of fisheries in the sea is 'incidental' to effective legislation on the subject which is within the competence of Madras Legislature or independent of it and outside its jurisdiction. Analysing the whole background and provisions of the statute in question, the Bench consisting of P.V. Rajamannar,C.J. and Venkatarama Ayyar. J. observed thus:- "The true position, therefore, is that the right to the fishery in the seas come into the picture only as forming part of the assets included in the zamindary under the sanad issued under the Permanent Settlement Regulation of 1802 and that it had no existence apart rom it. When that Regulation was repealed and the estate abolished by a competent Act of the Legislature, the rights appurtenant thereto including the right to fishery in the seas came to an end with it and that is clearly incidental to the legislation.

It is not without significance that the question of the right to fisheries in the seas arises only with reference to the zamindari of Ramanathapuram and that itself is sufficient to show that it is only incidental and is not the pith and substance of the legislation.[32]

The court then proceeded to determine how far the territory extend into the sea and whether the fishing waters concerned in the case fall within those limits. Citing various authorities on international law[33] and equally placing reliance on its own earlier decision in Annakumaru Pillai Vs. Muthupayal[34] it was held that the chank beds, both in the Palk's Bay and the Gulf of Mannar, are within the territorial waters of the State.[35]

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32. Ibid. at p. 592.

33. Hyde on International Law, 2nd Ed., Vol.1; Oppenhelm's International Law, 7th Ed., Vol.I; Higgus and Columbos on International Law of the Sea; Westlake on International Law, 2nd Ed., Vol.1.

34. Supra, Note 21.

35. At pp 596-598. It is submitted that Anna Kumaru Pillai case recognised historic rights over the Chank beds in the high seas beyond territorial waters and it is no authority for the proposition that the chank beds are within our territorial waters. Therefore, even though the conclusion of the Madras High Court in the Chank Fisheries case (AMSSVM & Co., Vs. State of Madras, 1953 (2) MLJ 587 is correct, its reasoning is erroneous and unsustainable.

It was argued for the petitioner that even on this conclusion, the impugned Act was ultra vires because it was only the Centre and not the State that had the competence to legislate on territorial waters. Considering the provisions of Sections 99 (1) and 311 of the Government of India Act, 1935 and the relevant legislative entries,[36] the court repelled this contention also. Accordingly, the Estates Abolition Act, 1948 was held to be intra vires the powers of the Madras Legislature in so far as fishing in territorial waters are concerned.

Petitioners then contended that the notice of take over was dated 13.3.1951, after the Constitution of India had came into force, that under Article 297, the territorial waters had come to be vested in the Union and that the notification issued thereafter was beyond the competence of the Madras State. This contention was also rejected holding that the notification is not a law coming within the scope of Articles 245 & 246. The correct position, according to the Court, was that "the property having already vested in the Government, they are entitled to take all steps which owners of properties are entitled to take wherever the properties might situate and the notice dated 13th March 1951 is within their rights as owners.[37]

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36. Entry 23 in the Federal List dealing with 'Fishing and Fisheries beyond territorial waters" and Entry 24 in the Provincial List dealing with "Fisheries".

37. Ibid. at pp. 598-99.

Dismissing the petition, the court proceeded to observe as follows:

> "And, further there is no warrant for the contention that under the Constitution, the territorial waters vest in the Union..... What vests in the Union is the bed of the sea beneath the territorial waters and not the waters themselves, and in law, they do not stand in the same position. The sea-bed belongs to the littoral State absolutely in the same manner as its lands. It has the fullest dominium over it; it alone is entitled to the minerals therein, and it is entitled to construct tunnels thereunder..... Therefore it cannot be said that Article 297 which vests sea-beds in the Union Government has also the effect of vesting territorial waters in them..... On this principle, there is no need to determine whether the right to the territorial waters vests in the States; it is sufficient that the power to legislate on fisheries therein is granted in them."

It is submitted that the interpretation given by the High Court to Article 297 does not appear to be correct. It does not appear to be sound in the light of

the debates in the Constituent Assembly in relation to this Article. The Court appears to have overlooked the historial background of our federal set up. It fails to take into account the distinction between sedentary fisheries and common fisheries. In its anxiey to uphold the validity of the legislation in question, the Court appears to have erred in identifying historic rights over sedentary fisheries in the high seas with jurisdiction in territorial waters.[38]

Sivaganga Chank Fisheries Case:-

The second case, known as the Sivaganga Chank Fisheries Case[39], involved a challenge to the right of the Madras Government to lease out the Chank fisheries on the Sivaganga coast. Petitioners, fishermen of Karungadu village on the Sivaganga coast contended that fishing in the chank beds in the Sivaganga waters is their occupation; the Indian Fisheries Act, 1897 or the Rules framed thereunder do not vest any power on the State Government to lease out the fishery rights in Sivaganga waters; going by the provisions of Article 297 of the Constitution, the Sivaganga waters is one of the fisheries vested in the Indian Union; the State Government has no right to lease the fishing right in those waters, and that the conduct of the State

38. For a comment on this decision, See: Nawas & Lakshmi Jambholkar, The Chank Fisheries Case Revisited, (1973) 13 IJIL 494; T.S. Rama Rao, Some Problems of International Law in India, (1957) 6 Indian Year Book of International Affairs, p.3.

39. P.S.A. Susai and another Vs. The Director of Fisheries, Madras & another, (1965) 2 M.L.J.35

Government in calling upon and accepting the tender for leasing the chank fisheries right in the area would amount to the imposition of an unreasonable restriction on the exercise of their Fundamental Right under Article 19(1) (g) of the Constitution.

It was contended on behalf of the respondents that the fisheries in question were part of the Sivaganga Zamindari which, on abolition by the Madras Estates Abolition Act, 1948, vested in the State Government as its absolute property and as such, it was entitled to lease out the same. It was also contended on their behalf that the chank fisheries are not affected by Article 297 in view of historical and other reasons. The questions that required consideration by the court were: (1) whether petitioners had any right, as fishermen and members of the public, to fish chanks in the territorial waters of Sivaganga or whether the State Government had exclusive proprietory right to the Sivaganga Chank fishery; (2) Whether the Indian Fisheries Act, 1897, as amended in Madras, with the Rules framed thereunder, apply to the chank fishery and to the lease in question; and (3) What was the effect of Article 297 in respect of the chank fishery.

Following the decision in Anna Kumaru Pillai Vs. Muthupayal[40] and A.M.SS.V.M. & Co. Vs. The State of

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40. ILR 27 Madras 551

Madras[41], it was held that chanks in the territorial waters of Ramanathapuram, of which the Sivaganga area formed a part, were the assets of the Rajah of Ramnad and belonged exclusively to him as his own property; it became vested in the State Government by virtue of the provisions of the Estates Abolition Act, 1948 and that petitioners, as fishermen, or as members of the public, had no common right to fish chanks in those waters or to appropriate the same for themselves. The Indian Fisheries Act, 1897 as amended in Madras and the Rules framed thereunder recognised 'private waters' as exclusive property of any person and in such waters, members of the public had no right in derogation of such exclusive rights.

On the question of the effect of Article 297 on the chank fishery, it was held that legislative power is distinct and different from proprietory right and that conferment of such power does not, by itself, carry with it or affect the ownership in the subject matter in regard to which such power is exercised. The effect of Article 294 was held to be that the properties which belonged to the provincial governments would, after the commencement of the Constitution, stand vested in the respective succeeding state governments subject to certain exceptions and adjustments. According to the Court, "Article 294 is not made subject to the other

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41. 1953 (2) M L J 587.

provisions of the Constitution. The question will, therefore, arise whether, notwithstanding the terms of Article 294 not made subject to any other provision in the Constitution, the intention of Article 297 is to transfer and vest in the Union Government, any proprietory rights in the subjects mentioned therein which had been previously vested in the Provincial Governments, and after the commencement of the Constitution stood, by Article 294, transferred to the succeeding State Government.....chank fisheries are not within the ambit of Article 297. What it vests in the Union is what underlies the ocean within the territorial waters of India and not the territorial waters themselves. For the purpose of the vesting under this Article, the dividing line appears to be between the bed of the ocean and the waters above it. What does not underlie the bed of the ocean is..... clearly, outside the purview of Article 297." Reliance was placed for this proposition on the earlier decision in AMSSVM & Co. Vs. The State of Madras.[42] Accordingly, it was held that the chank fishery in the territorial waters of Sivaganga was not, by virtue of Article 297, vested in the Union Govrnment, but continued to be the exclusive property of the State Government and that as its proprietor, the State Government was competent to grant the lease of the right to fish the chanks in those waters. Petitioners were held to have no common or other right to fish chanks in the waters or to question the

42. Ibid

lease.

The court appears not to have correctly appreciated the constitutional philosophy behind Articles 294 and 297 of the Constitution. As the Constituent Assembly Debates reveal, the Framers of the Constitution had not doubt in their mind regarding the scope of these provisions. In fact, they were trying to avoid unnecessary disputes between the Centre and States on the question of legislative competence in the territorial waters.[43]

These two decisions can be said to be the result of a clear misunderstanding of the position of the territorial sea in international law. They, however, reaffirm historical rights in the Palk's Bay and the Gulf of Mannar. It may be noted here that the State Government put forward wider rights in its favour based on the report of the Centre-State Relations Enquiry Committee, 1971 called the Rajamannar Committee which recommended that Article 297 should be amended so as to vest in the State Government itself all lands, minerals

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43. Article 372 provides for continuance in force of "all laws in force in the territory of India immediately before the commencement of this Constitution." "until altered or repealed or amended by a competent legislature or other competent authority". Pursuant to this provision, several Adaptation of Laws Orders have been promulgated in 1950 and 1951 to specifically provide for continuance of all the laws with necessary alterations including the Territorial Waters Jurisdiction Act, 1879 and the Indian Fisheries Act, 1897.

and other things of value underlying the ocean within the territorial waters adjacent to it. This suggestion, if materialised, would have resulted in serious consequences.

Further Developments in the Law of the Sea

Developments in Marine Science and Technology gave birth to many different regimes in the oceans of the world with conflicting interests among the comity of nations. The idea of 'freedom of the seas' meant that the common use of the seas should be made on the basis of equality. However, this freedom has always been freedom of the few: it is always unequal between developed and less developed countries. Therefore, the Geneva Convention on the High Seas, 1958[44] gave a new dimension

44. The regime of the high seas had engaged the attention of the United Nations International Law Commission as a topic in respect of which codification was considered by it as necessary and feasible. The examination of this subject was spread over eight sessions, 1949-1956. Thereupon, it adopted a final report on the Law of the High Seas. These came up before the U.N. General Assembly in 1956 and the Assembly, by Resolution dated 21.2.1957, deided to convene an international Conference.

The First U.N. Conference on the Law of the sea met in Geneva from 24th February to 27th April, 1958. Its labours resulted in the adoption of four Conventions, namely, (1) Geneva Convention on Territorial Sea and Contiguous Zone, April, 29, 1958; (2) Geneva Convention on the High Seas, April 29, 1958; (3)Convention on Fishing and Conservation of the Living Resources of the High Seas, Geneva, April 29, 1958; and (4) Convention on the Continental Shelf, Geneva, April 29, 1958. See, U.N. Publication: The work of the International Law Commission, 3rd Ed., 1980, pp.36-38; For the full text of the Conventions, see: Nagendra Singh, International Maritime Conventions, Stevens & Sons, 1983, Vol.4.

to the concept of freedom of the seas by providing for the freedom of navigation, fishing, laying of submarine cables and pipelines and to fly over the high seas.[45]

Tempted by defence and security purposes and economic necessity, States started claiming more and more areas of the seas. This gradual extension of national jurisdictions had pushed the 'high seas' [46] beyond the territorial waters, continental shelf and the Exclusive Economic Zone. Thus "the traditional division of the sea into territorial waters and high seas has been replaced by functional divisions with distinct regimes.[47]

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45. See Article 2 of the Geneva Convention on the High Seas, 1958.

46. The term 'high seas' is defined in Art. 1(1) of the aforesaid Convention as "all parts of the sea that are not included in the territorial sea or in the internal waters of a state."

47. J.S. Patel, Legal Regime of the Seabed, 1981, p.18.

Territorial Waters[48];-

The concept of 'territorial sea'[49] itself took its origin from Bynkershock's Cannon-shot formula[50] that was propounded for the purpose of defence. The Cannon-shot rule appears to have been blended or confused with a three mile limit[51] although this three - mile limit might

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48. In the course of its fourth session in 1952, the International Law Commission expressed a preference for the term 'territorial sea' to denote the maritime belt, and this has since came into universal currency of use, thereby displacing and rendering obsolete the expressions 'maritime belt' and 'territorial waters' to denote the coastal strip subject to the sovereignty of the littoral state. The Commission preferred the expression 'territorial sea' because 'territorial waters' may include internal waters. See: Starke's International Law, 11th Ed. by I.A. Shearer, Butterworths, 1994. See also; Art. 1 (1) of the Geneva Convention on Territorial Sea and Contiguous Zone, 1958; Art. 3 of the U.N. Convention on the Law of the Sea, 1982.

However, in Art. 297 of the Constitution and throughout the provisions of the Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act, 1976, we still cling on to the very same obsolete expression.

49. For the present position regarding territorial sea, see below at p.52.

50. In his work, De dominie maris dissertatio (Essay on Sovereignty over the sea), published in 1702, Bynkershock (1673-1743), a Dutch jurist, adopted the rule that the littoral state could dominate only such width of coastal waters as lay within the range of cannon shot from shore batteries.

51. The idea of limiting the territorial sea to three miles was proposed by Galiani in 1792. See: J.S. Patil, Legal Regime of the Seabed, 1981, p.15.

have an independent historical origin.[52] In the 19th century, the three-mile limit received widespread recognition by the jurists as well as the courts.[53] It was adopted and accepted by important maritime states. In the 20th century also, United States and Great Britain strongly advocated for the three-mile limit. By virtue of Art. 372 of the Constitution, independent India inherited a three - mile limit for its territorial waters as provided in the Territorial Waters Jurisdiction Act, 1878 that was applicable to British India. However, the three-mile rule failed to gain acceptance as a universal rule of international law. It had become obsolete and pressure for a wider area of territorial sea started at the Hague Codification Conference of 1930 and the Geneva Conference of 1948.

One important development following the end of World War II was the decision of the International Court of Justice in the Anglo-Norwegian Fisheries Case.[54] There, the Court held that a Norwegian Decree of July, 1935 delimiting an exclusive fishery zone along almost

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52. Starke, supra, note48, at p.220

53. In the Anna (1805) 5 Ch. Rob. 373, Lord Stowell, applying Bynkershock's Cannon-shot formula, observed that since the introduction of fire arms, the boundary of territorial waters "has usually been recognised to be about 3 miles from the shore". (at p.385)

54. ICJ 1951, p.116

1,000 miles of coastline north of certain latitude, being, in effect, a maritime belt of a breadth of four miles extending from straight baselines drawn through 48 selected points on the mainland or islands or rocks at a considerable distance from the coast, was not contrary to international law. According to the court, this baseline method, rather than the low water mark, was admissible where the coastline is deeply indented or cut into, or if there is a fringe of islands in the immediate vicinity, provided that the drawing of the baselines does not depart to any appreciable extent from the general direction of the coast, and that the areas lying within the baselines are sufficiently closely linked to the adjacent land domain as virtually to be akin to internal waters. If these conditions for permitting the drawing of the baselines are met, [illegible], account may be taken in determining particular baselines of economic interests peculiar to the particular region concerned, where such interests are a matter of long established usage.

Following this, numerous states adopted a wider breadth for the maritime belt. The President of India issued a Proclamation in 1956 extending the territorial waters of India from three to six nautical miles from the coast.[55] An increasing number of States were prompted to favour a limit as extensive as twelve miles, and even

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55. See the Gazette of India, No: 81, dt. 22nd March, 1956.

beyond that.[56] In its report submitted to the U.N. General Assembly in 1956, the International Law Commision pointed out that international practice is not uniform as regards the delimitation of the territorial sea and that international law does not permit an extension of the territorial sea beyond 12 miles.[57] At the Geneva Conference on the Law of the Sea, 1958, India took the stand that every coastal state be permitted to fix the breadth of its territorial sea upto a limit of 12 nautical miles from the "appropriate baselines".[58] By a Presidential Proclamation of 1967, India extended its territorial sea from six to twelve nautical miles.[59]

The 1958 Conference had left the question of breadth of the territorial sea unsettled. Therefore, the U.N. General Assembly adopted a resolution dated 10h December, 1958 asking the Secretary General to convene a Second U.N. Conference on the Law of the Sea to consider this question further. The Second U.N. Conference on the Law of the Sea was held in Geneva from 16th March, 1960

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56. Starke, supra, note 48, at pp. 220-221
57. II Year book of ILC, 1956, p.265
58. K.P. Misra, Territorial Sea and India, 6 IJLR (1966) p.465.
59. Proclamation dt. 30th September 1967, reprinted in 7 IJIL (1967) p.584.

to 26th April, 1960, which ended with inconclusive results. It was settled only at the Third U.N. Conference on the Law of the Sea, 1973-1982, known under the acronym, 'UNCLOS III'.[60] Thus Article 3 of the United Nations Conventon on the Law of the Sea, 1982[61] provides that every State has the right to establish the breadth of its territorial sea upto a limit not exceeding 12 nautical miles, measured from baselines "determined in accordance with this Convention". The outer limit of the territorial sea is the line every point of which is at a distance from the nearest point of the baseline equal to the breadth of the territorial Sea.[62]

Legal status of the territorial sea, as contained in Articles 1 and 2 of the Geneva Convention on Territorial Sea and Contiguous Zone, 1958 has been adopted with slight changes in Article 2 of the U.N. Convention on the Law of the Sea, 1982. Sovereignty of the coastal state extends to the territorial sea including the air space over the same and the seabed and subsoil therein.

As noted above, independent India had inherited a three-mile territorial sea from British India. It was

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60. For details, see Nagendra Singh, Supra, note 44, pp.2646 et. seq.

61. Ibid.

62. Article 4

extended to six miles in 1956 and to 12 miles in 1967 by Presidential Proclamations. By the Constitution (40th Amendment) Act, 1976, Art. 297 was redrafted. Clause (3) of amended Art. 297 empowers the Parliament to specify, from time to time, the limits of the territorial waters by law. By virtue of this power, Parliament passed the Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act, 1976. By S.3(2) of that Act, the limit of our territorial waters is fixed as 12 nautical miles from the nearest point of the appropriate baseline. However, the Central Government is empowered to alter the same by notification in the Official Gazette whenever it considers necessary to do so "having regard to international law and State practice."[63] Such notiication can be issued only after both Houses of Parliament pass resolutions approving the same.[64] Sub Section (1) of S.3 declares that the sovereignty of India extends, and has always extended, to the territorial waters, to the seabed and subsoil underlying and the air space over the same. S.4 of the Act provides for the use of territorial waters by foreign ships.

Contiguous Zone:-

In view of the difficulties experienced in protecting the various interests of the coastal states in

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63. S.3(3)

64. S.3(4)

their territorial waters, states began to claim contiguous zones.[65] It is "a belt of waters adjacent to the limits of the maritime belt, not subject to the sovereignty of the littoral state, but within which the littoral state could exercise certain rights of control for the purpose of its health or other regulations."[66] This idea got recognition at the Geneva Convention on Territorial Sea and Contiguous Zone, adopted on April 29, 1958. Art. 24 of the Convention provided as follows:-

> "Article 24
>
> 1. In a zone of the high seas contiguous to its territorial sea, the coastal State may exercise the control necessary to:
>
> (a) Prevent infringement of its customs, fiscal, immigration or sanitary regulations within its territory or territorial sea;
>
> (b) Punish infringement of the above regulations committed within its territory or territorial sea.
>
> 2. The contiguous zone may not extend beyond twelve miles from the baseline from which the breadth of the territorial sea is measured.
>
> 3. .....".

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65. The concept of the contiguous zone was first enunciated by the French Jurist, M. Louis Renault, See Starke, supra, note 48, at p.223.

66. Ibid.

The claim for wider powers and wider area for the contiguous zone followed. This could be achieved when the Third U.N. Conference on the Law of the Sea, 1973-82 adopted the Convention on the Law of the Sea on April 30, 1982, Art. 33 whereof provides thus:-

"Article 33.

Contiguous Zone:

1. In a zone contiguous to its territorial sea, described as the contiguous zone, the coastal State may execise the control necessary to:

(a) prevent infringement of its customs, fiscal, immigration or sanitary laws and regulations within its territory or territorial sea;

(b) punish infringement of the above laws and regulations committed within its territory or territorial sea.

2. The contiguous zone may not extend beyond 24 nautical miles from the baselines from which the breadth of the territorial sea is measured."

This provision has been incorporated in S.5 of our Maritime Zones Act, 1976. It empowers the Central Government to exercise such powers and to take such measures as it may consider necessary with respect to the security of India, immigration, sanitation, customs and other fiscal matters. For this purpose, the Central

Government may extend or modify any enactment and apply it to the Contiguous Zone as if it were a part of the territory of India.

Continental Shelf:-

Like 'Greenland', the term 'Continental Shelf'[67] is technical in character and has prima facie, to be interpreted in its usual meaning. It is a geological fact that continental land-masses do not terminate abruptly at the sea shore. The sea-bed frequently tapers off gradually and represents a continuation of the continent. This continental continuation extends under the ocean generally as far as 100 fathom line. At this depth, the continental land mass tends to fall away abruptly. It may extend even beyond such a depth in exceptional circumstances.[68]

The 'Continental Shelf', also called the 'Continental platform', is the submerged bed of the sea, continuous to a continental land mass. It is formed rarely as an extension of, or appurtenant to, this land mass. It is generally found within a depth of 200 metres beneath the sea level. Approximately at this depth, there occurs, as a rule, a substantial 'fall-off' to the vastly greater ocean depths.[69]

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67. This expression was first used by the Geographer H.R. Mill in his 'Realm of Nature' published in 1897. See: L.C. Green, 'The Continental Shelf', 4 CLP. (1951), P.54.

68. Ibid.

69. Starke, supra, note 48, at pp.223-225.

The initial claims over the continental shelf were founded on considerations of geographical contiguity and security. The littoral states were also anxious to reserve oil, minerals and fisheries in the continental shelf area for themselves. The idea of extending the territorial sea to include the continental shelf was successfully raised at the National Fishery Congress held in Madrid, Spain in 1916. A statute incorporating this idea that was passed by the State of Taxes in the United States was struck down in U.S. Vs. Texas[70] as infringing the rights of the Federal Government. In 1945, President Truman issued a Proclamation as to the jurisdiction of the United States over its continental shelf for the purpose of exploration and exploitation of the natural resources, expressly leaving intact the nature of the shelf waters as high seas and the right of free navigation.[71] This tempted several states to raise unilateral claims to sovereignty and ownership in respect of the seabed and subsoil as well as the waters of the shelf. By a Presidential Proclamation of 30th August, 1955, India too declared its sovereignty over the continental shelf.[72] This was later incorporated in the Constitution by the Constitution (Fifteenth Amendment) Act, 1963 which amended Art. 297 to include the Continental shelf also.

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70. 339 US 707 (1950). The State of Texas insisted that it had originally been a sovereign republic, with dominion over the marginal sea which it had never surrendered by implication. The U.S. Supreme Court rejected this plea holding that such ownership had not been established at the time of the Constitution and that the interests of sovereignty favoured natural dominion.
71. Fenwick C.G.,International Law,1975,pp.433-34.
72. See: The Gazette of India, Extraordinary, Part II,

The Geneva Convention on the Continental Shelf, 1958[73] confined it:

a) to the seabed and subsoil of the submarine areas adjacent to the coast, but outside the area of the territorial sea, to a depth of 200 metres or beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the natural resources of the said area; and

b) to the seabed and subsoil of similar submarine areas adjacent to the coasts of islands.[74] It had also made provision for the manner of division of a shelf common to states with opposite coastlines, or common to states adjacent to each other.[75]

The problem of the division of a common continental shelf for the German Federal Republic, Netherlands and Denmark came up before the International Court of Justice in the North Sea Continental Shelf Cases.[76] The German Federal Republic was not a party to the 1958 Convention and it had not accepted the rules

73. For the text of the Convention, See: Nagendra Singh, International Maritime Conventions, Stevans & Sons, 1983. Vol. 4, pp. 2643-2646.
74. Article 1,
75. Article 6.
76. ICJ 1969, 3.

laid down by it. The court held that rules of the 1958 Convention were not binding on a state not a party to it and that in such cases, the governing principles of international law concerning the delimitation of a common continental shelf were:

1) that such delimitation should be the object of agreement between the countries specially concerned; and

2) that any arrangement for division should be arrived at in accordance with 'equitable principles'.

The continental shelf doctrine continued to raise increasing claims on the high seas. The exploitability criterion adopted in the 1958 Convention as marking the limit of the outer shelf was viewed as unsatisfactory. Fishing grounds were faced with depletion. The rules as to fisheries unairly favoured the developed countries. Uncertainty surrounded the extent of the rights of the littoral states over the resources of the continental shlef. The 1958 Convention failed to healt a scramble by developed states to exploit resources in the seabed beyond national jurisdiction. The newly emerged states realised that, due to their lack of technical know-how and owing to their financial limitations, they would be powerless to prevent exploitation of the ocean floor resources by a monopoly of developed states having both finance and technical skill.[77]

77. Starke, supra, note 48 at p. 228.

The Third U.N. Conference on the Law of the Sea, 1973-1982 adopted a Convention "dealing with all matters relating to the law of the sea" on 30th April 1982.[78] Part VI (Articles 76 to 85)[79] of the Convention deals with the Continental Shelf. Article 76(1) defines the continental shelf as follows:-

"Article 76

Definition of the continental shelf

1. The continental shelf of a coastal State comprises the sea-bed and subsoil of the submarine areas that extend beyond its territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines from which the breadth of the territorial sea is measured where the outer edge of the continental margin does not extend upto that distance."

This definition recognises both a fictitious and an actual continental shelf. The fictitious one is where the natural prolongation of a state's territory under the sea extends to a distance of not less than 200 nautical miles: in that case, the state is deemed to have a continental shelf extending beyond the geographical

78. For the full text of the Convention, see: Nagendra Singh, supra, note 29, at pp. 2646 et. seq.
79. Articles 1 to 15 of the Geneva Convention on the Continental Shelf, 29th April, 1958.

limit to the legal limit of 200 miles. The criterion of exploitability as determining the outer limit of the shelf, adopted in Article 1 of the 1958 Convention, has been discarded. Georgraphical criteria, both of a territorial and marine nature, have been adopted in Article 76 (3) for fixing the continental margin. The outer limits of both the shelf and the margin are governed by Article 76 (4) to (7). Information on shelf limits outside the 200 mile belt is to be submitted by the coastal state to the Commission on the limits of the Continental Shelf set up under Annexure II of the Convention. The shelf limits established by the coastal state on the basis of the recommendations of the Commission are declared by Article 76 (8) to be "final and binding."

Article 77 defines the rights of the coastal states over the continental shelf. This definition is practically the same as that contained in Article 2 of the 1958 Convention. Articles 78 to 81 clarify some of the limits of these rights. They are not to affect the legal status of the superjacent waters or the air space above them and their exercise is not to impair navigation.

The coastal state has the exclusive right to construct artificial islands, installations and structures on the shelf. It has the exclusive right to authorise drilling operations on the continental shelf

for all purposes.[80] Where exploitation of natural non-living resources occurs on a shelf area seaword of 200 nautical miles to the edge of the continental margin, the coastal state must make pay-ments, or contributions in kind, to the International Sea-bed Authority established under Part IX of the Convention.[81]

The aforesaid definition of the Continental Shelf in Article 76 of the U.N. Convention on the Law of the Sea, 1982 has been incorporated in S.6 of our Maritime Zones Act, 1976.[82] That provision declares that India has, and always had, full and exclusive sovereign rights in respect of its continental shelf.

Exclusive Economic Zone:-

With the growing realisation of the fact that the sea is not a place of untold riches, a new concept of Exclusive Economic Zone - that lies somewhere in between the territorial sea and the high seas has emerged. It can also be viewed as a transformation of the ideas of Exclusive Fisheries Zone and the Continental Shelf which are traceable back to the Truman Proclamation of 1945.

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80. Articles 80 and 81.

81. Article 82.

82. See: S.6(1)of the Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act, 1976.

At the 7th Session of the International Law Commission in 1955, the Permanent Mission of India to the United Nations took the stand as follows:-

> "The Government of India feels that coastal state should have the exclusive and pre-emptive right of adopting conservation measures for the purpose of protecting the living resources of the sea within a reasonable belt of the high seas contiguous to its coast."[83]

In the year 1956, a Presidential Proclamation was issued by which India assumed the right to establish conservation zones in areas of the high seas adjacent to its territorial sea upto a distance of 100 nautical miles.[84]

The First U.N. Conference on the Law of the Sea, 1958 had adopted a Convention on Fishing and Conservation of the Living Resources of the High Seas.[85] While reaffirming the traditional freedom of fishing on the high seas, the Convention sought to subject that freedom to the interests and rights of the coastal states. It declared the right of the State to take unilateral

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83. II Year book of International Law Commission (1956),p.50.
84. See: The Gazette of India, Extraordinary, Part II, S.3 No.361, dated 29th November, 1956.
85. Geneva Convention on Fishing and Conservation of the Living Resources of the High Seas, April 29, 1958. For the full text of the Convention, see, Nagendra Singh, supra, note 44, pp. 2638 -2643.

actions to introduce conservation measures where its own nationals were involved in fishing. If nationals of other countries also were involved in fishing, the coastal state was to enter into negotiations with the governemnts of those states before introducing such measures. The Convention thus recognised the special interests and rights of the coastal state in the high seas.

At the second U.N. Conference on the Law of the Sea, 1960,[86] the Indian deleation emphasised the need for introducing an exclusive fishery zone in the interests of the economically less developed countries.[87] The emphasis was for an exclusive right to fish in a zone of 12 miles from the coast, free from competition at the hands of developed countries. At the Santiago Declaration of 1958,[88] India had been advocating for a 100 mile zone. That Declaration, however, claimed a 200 mile maritime zone to secure conditions necessary for subsistance and economic development. The developing countries including India raised their voice against freedom of fishing in the Seabed Committee[89] on the

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86. See supra, note 44.
87. Second U.N. Conference on the Law of the Sea, 1960, Official Records, p.77.
88. The Sanitago Declaration, adopted by Chile, Ecuador and Peru on 18th August 1952 asserted the exclusive sorvereignty and jurisdiction of the declarants in the adjacent seas upto a distance of 200 miles.
89. Committee on the Peaceful Uses of the Seabed and the Ocean Floor Beyond the Limits of National Jurisdiction established by the U.N. General Assembly in 1968.

ground that it had always been favourable to the developed countries alone.

India submitted a working paper at the Caracas Session, 1974[90] advocating the establishment of an Exclusive Economic Zone wherein the coastal state should be able to exercise:-

a) Soverreign rights for the purpose of exploring and exploiting the natural resources, renewable and non-renewable, of the seabed and subsoil and the superjacent waters; and

b) The other rights and duties specified therein with regard to the protection and preservation of marine environment and conduct of marine research.[91]

By this time, the general opinion was in favour of a 200 mile limit for the E.E.Z. although there was, no general consensus on details of the coastal states' rights within it. India passed the Maritime Zones Act, 1976 declaring sovereign rights over a 200 mile E.E.Z.[92]

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90. See UNCLOS III, 1 Official Records.
91. Ibid, at p. 96.
92. As early as in 1976 itself, India made the first ever positive and pioneer attempt towards this direction by redrafting Art. 297 of the Constitution. The international community could arrive at a general consensus on this issue only in 1982 at the U.N. Convention on the Law of the Sea, 1982.

This was followed by many other countries establishing Exclusive Economic Zones of their own through national legislations. The Third U.N. Conference on the Law of the Sea has now recognised it in the United Nations Convention on the Law of the Sea, adopted on 30th April, 1982.[93]

The Convention deals with E.E.Z. in Part V, consisting of Articles 55 to 75. Article 55 defines EEZ as:

> "an area beyond and adjacent to the territories, subject to the specific legal regime established in this part, under which the rights and jurisdiction of the coastal state and the rights and freedoms of other States are governed by the relevant provisions of this Convention."

Article 57 provides that the EEZ shall not extend beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured. The rights, jurisdiction and duties of the coastal state in the EEZ are detailed in Article 56. The rights and duties of other States are laid down in Article.58.

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93. United Nations Convention on the Law of the Sea, 1982. For the text of the Convention, See: Nagendra Singh, supra, pp. 265l et. seq.

The adjacent coastal state does not have the equivalent of territorial sovereignty within the E.E.Z. However, it can exercise sovereign rights for the purpose of exploring, exploiting, conserving and managing the resources of the E.E.Z. It can also exercise jurisdiction thereon with due regard to the rights of the other states with respect to the establishment and use of artificial islands etc.

Articles 61 and 62 deal with conservation and management of living resources in the E.E.Z. Under Para 1 of Article 61, the coastal state shall determine the allowable catch of the living resources in the E.E.Z.[94]. The remaining paras of Article 61 deal with perils of over-exploitation and the necessity of proper management. Article 62 provides for utilisation of the living resources in the EEZ. It requires the coastal states to promote the objective of optimum utilisation of the living resources. The coastal state is to allow other states access to any surplus beyond its national requirements on the considerations set out in para 3 of the Article.

94. Cf. Article 297 (3) (a) of the Convention dealing with the settlement of fisheries disputes, which refers to the coastal states' 'discretionary powers' for determining the allowable catch. "These provisions can be reconciled by treating para 1 of Article 61 as involving a mandatory exercise of a discretion, the discretion being in regard to the end result". See: Starke, supra, note 48, at p. 251.

Subject to the rights, duties and interests of coastal states in the protection or preservation of certain species of the living resources in the E.E.Z and subject also to the treaty obligations between states, all states have the right for their nationals to engage in fishing in the high seas.[95]

The Exclusive Economic Zone has now become a reality. The International Court of Justice treated it as now a settled part of modern international law in the Continental Shelf (Tunisia - Libya) Case.[96].

As mentioned earlier, India had asserted here sovereignty over the EEZ long before the U.N. Convention on the Law of Sea, 1982. Article 297 of the Constitution was redrafted and amended by the Constitution (40th Amendment) Act, 1976 to declare the vesting of all lands, minerals and other things of value underlying the ocean within our Exclusive Economic Zone also in the Union of India. These and other resources of the EEZ shall also vest in the Union and be held for the purposes of the Union. The limits of the EEZ, like those of the territorial waters, the continental shelf and other maritime zones of India, are to be specified from time to time by or under any law made by Parliament.

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95. Part VII, S.2, Art. 116

96. ICJ, 1982, 18.

S. 7 (1) of the Maritime Zones Act, 1976 declares that the EEZ of India is an area beyond and adjacent to our territorial waters, and that the limit of the same is two hundred nautical miles from the appropriate baseline. The Central Government may, having regard to international law and state practice, alter that limit by notification in the Official Gazette.[97] Such notification can be issued only after both Houses of Parliament pass resolutions approving it.[98]

The rights of the Union in the EEZ are[99]:-

(a) Sovereign rights for the purpose of exploration, exploitation, conservation and management of the natural resources, both living and non-living, as well as for producing energy from tides, winds and currents;

b) Exclusive rights and jurisdiction for the construction, maintenance or operation of artificial islands, off-shore terminals, Installations and other structures and devices necessary for the exploration and exploitation of the resources of the zone or for the convenience of shipping or for any other purpose;

c) Exclusive jurisdiction to authorise, regulate and control scientific research;

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97. S.7(2)
98. S.7(3)
99. S.7(4)

d) Exclusive jurisdiction to preserve and protect the marine environment and to prevent and control marine pollution; and

e) Any other rights as are recognised by international law.

Exploration or exploitation of any resources of the EEZ or any search, excavation or research or drilling therein or construction, maintenance or operation of artificial islands, off-shore terminals, installations or other structures or devices thereon can be undertaken only under, and in accordance with, the terms of an agreement with, or of a licence or letter of authority issued by, the Central Government.[100] However, these restrictions do not apply to fishing by an Indian citizen in the E.E.Z.[101]

The Central Government may notify any area within the E.E.Z. as a designated area and make provisions necessary for exploring, exploiting and protecting the resources thereon, for production of energy from tides, winds and currents thereon, for the safety and protection of artificial islands, offshore terminals, installations, structures and devices thereon, for the protection of marine environment of such designated area as also with respect to customs and other fiscal matters in relation to such area.[102] The Central Government is also

100. S.7(5)
101. Ibid.
102. S.7(6)

empowered to apply any of its laws to the EEZ with or without modifications and to make provision for facilitating their enforcement thereon.[103] Freedom of navigation and overflight in the EEZ is provided subject to the exercise by India of its rights therein.[104]

As a signatory to these International Conventions and as a developing country, India has a challenge and responsibility beore it with respect to its 200 mile EEZ. Article 62 of the Law of the Sea Convention, 1982 enjoins a duty on India, as a coastal state, to determine the total allowable catch of the living resources in its EEZ. Our "rights, duties and interests in the protection or preservation" of different species of the fishery resources in our EEZ are emphasized by that provision, for terms of that Article, our duty towards other nations is "to allow them access to any surplus" of our fishery wealth in the EEZ "beyond our national requirements". Our EEZ area of about 2.02 million square kilometres is spread over the eastern and western coastal areas. These coastal areas are abutting the different maritime states like Kerala, Karnataka, Gujarat, Tamil Nadu and West Bengal. In view of the migratory nature of several species available in different parts of our EEZ and in

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103. S.7(7)
104. S.7(9)

the light of the freedom of access and mobility of our fishermen from different states, all measures for protecting, preserving and conserving the fishery wealth in the EEZ require to be under a uniform national legislation. Again, considering the feeding and breeding habits of several species and their migrations from and to our brackish and riverine waters for that purpose, any such conservation measures should be uniform and integrated in their application to our whole inland, coastal, offshore and deep sea waters. Do our existing fishery legislations conform to these standards or requirements ? If not, are we not bound to fill the gaps in our fishery legislations ? Are there any obstacles that desist us from bringing our fishery legislations to such standards, and if so, what are the ways and means for overcoming them ? What is the trend of fishery legislations in other countries that are signatories to the U.N. Conventions ? As an advocate of an Exclusive Fishing Zone at the Second U.N. Conference on the Law of the Sea, 1960,[105] is India showing the same spirit and

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105. The Indian delegation in that conference had emphasized the need for introducing an Exclusive Fishery Zone in the interests of the economically less developed countries. See p.63, supra.

enthusiasm towards that direction thereafter ?[106] What are the minimum standards required of a national fisheries legislation ? These and other related questions arise for consideration in this context. For answering them, we will have first to examine our existing fishing legislations in the inland and maritime contexts and to delve into the objects they seek to achieve. On the basis of such study, we will proceed to attempt at suggesting ways and means for resolving these issues.

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106. Malaysia, Pakistan and several other maritime states have, by this time, declared their EEZ areas as their Exclusive Fishing Zones.

Malaysia: By Articles 6 to 8 of Part III of the Exclusive Economic Zone Act, 1984, the "seas in the zone" are declared as part of 'Malaysian Fisheries Waters' and all written laws relating to fisheries are made applicable to it. The Fisheries Act, 1985 as amended by the Amendment Act of 1993 provides for planning and conservation measures for all inland, coastal, off-shore and deep sea fisheries.

Pakistan: Proviso to Article 6 of the Territorial Waters and Maritime Zones Act, 1976 provides that fishing in the EEZ shall be regulated by the provisions of the Exclusive Fishery Zone (Regulation of Fishing) Act, 1975.

Chapter III

LEGAL CONTROL OF FISHING INDUSTRY IN KERALA

A. Necessity and Relevance of Legislation

As in the case of other renewable resources, rational exploitation and judicious management of the valuable renewable fishery resources is unavoidable for a sound and sustainable fisheries management. This includes measures providing for preventing damage to the resource and, at the same time, providing sustainability to it. Any such healthy management policy should provide measures for regulating the rights of the users of the resource. Equally important is the need for equitable distribution of the resource benefits. Scientific criteria should form the basis of policy and legislation for the sustained development of the resource. With the introduction of modern technology in the fisheries sector, inter-gear conflicts and their management have also developed as an area requiring special attention. Since fishing is the avocation of a substantial part of the population, the stress should be for protecting the socio-economic interests of the fishers with special emphasis on upliftment of the artisanal/traditional fishermen. Provision should be made for assuring availability of fish as a nutrient for domestic consumption at reasonable cost. In view of its importance as the highest earner of foreign

exchange, fish production and fisheries policy should be targeted towards the export market also.

B. Trends in National Legislations

The 1982 Convention on the law of the Sea specifies a separate legal regime for the 12 to 200 nautical mile EEZ as distinct from the regime applicable to the territorial seas.[1] The territorial seas are not subject to the Convention provisions requiring the setting of an allowable catch and providing for access by foreign vessels to be declared surpluses. Again, coastal states are not bound to the same obligations with respect to the management and conservation of fishery resources within their own territorial sea limits as they would be in their Execlusive Economic Zones. This difference in Legal regimes is relected in the legislations of a number of coastal states in the Indian Ocean[2] and Western and South

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1. Art.55 of the Convention defines EEZ as "an area beyond and adjacent to the territorial sea". See also S.7of the Territorial Waters, Continental Shelf, Execlusive Economic Zone and other Maritime Zones Act, 1976.

2. See generally, Regional Compendium of Fisheries Legislation (Indian Ocean Region), Vol.1, FAO, 1984, Part 1, Analysis of National Legislation, pp.1 to 18.

Pacific[3] Regions. India[4], Pakistan[5], Sri Lanka[6] and Thailand[7] in the Indian Ocean Region and New Zealand[8], Fiji[9] and Tonga[10] of the South Pacific Region have separate legal enactments dealing with the declaration and allocation of surpluses and fishing by foreign fishing

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3. See generally, Regional Compendium of Fisheries Legislation (Western Pacific Region), Vol.1, FAO, 1984, pp. 1 to 36.

4. Maritime Zones of India (Regulation of Fishing by Foreign Vessels) Act, 1981.

5. (Pakistan) Exclusive Fishery Zone (Regulation of Fishing) Act, 1975.

6. (Sri Lankan) Fisheries (Regulation of Foreign Fishing Boats) Act No. 59 of 1979.

7. Act governing the right to Fish in Thai Fishery Waters, B.E. 2482 (1939).

8. (New Zealand) Territorial sea and Exclusive Economic Zone Act, 1977, S.12.

9. (Fiji) Marine Spaces Act, 1977, S.11.

10. (Tonga) Territorial Sea and Exclusive Economic Zone Act, 1978, S.11(2).

crafts in the E.E.Z. Australia,[11] Indonesia,[12] Malaysia[13] and Bangladesh[14] of the Indian Ocean Region and a large number of coastal states of the South Pacific Region[15] have preerred to deal with all waters under coastal state jurisdiction and all forms of fishing activity. However, the tendency in both the Regions as a whole seems to be towards the integration of the legal provisions relating to the EEZ fisheries into the general fisheries legislation for simplifying the administration involved.

The Law of the Sea Convention charges the coastal state with legal responsibility for managing resources in its EEZ and gives several criteria according to which management should be conducted.[16] For achieving this in a rational way, a country must engage in a process of planning that relates its management measures to the

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11. (Australia) Fisheries Act, 1952-81.

12. (Indonesia) Law No. 9 of 1985 on Fisheries.

13. (Malaysian) Fisheries Act, 1985 as amended by the Fisheries (Amendment) Act, 1993.

14. (Bangladesh) Marine Fisheries Ordinance, 1983.

15. Regional Compendium at Note 2, supra, at p.4.

16. See Articles 61 and 62 of the U.N. Convention on the Law of the Sea, 1982.

objectives it has set. Even if the machinery, procedures and criteria for planning are not set up by legislation, it is essential that the problem of how much management planning should be carried out should be properly confronted. Thus, the legislation implementing the U.S. 200 mile fishery conservation zone provides for the drawing up of management plans for each fishery by Regional Fishery Management Councils working on the basis of national standards and criteria.[17]

One set of countries in the Indian Ocean Region like Australia[18], Malaysia[19], and Bangladesh[20] specify the general management planning and criteria in their national legislation. The legislations of India, Pakistan and many outher countries of the Indian Ocean Region and most of the coastal states of the South Pacific Region say little on the subject of general conservation and management objectives; they are left largely to the fisheries administration to define through licensing and development policies and specific conservation measures.

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17. (U.S.A.) Fishery Conservation and Management Act, 1976, Title III: National Fishery Management Programme.

18. (Australian) Fisheries Act, 1952-81, Part IVA - Co-operation with States and Northern Territory in Management of Fisheries.

19. (Malaysian) Fisheries Act, 1985, S.6.

20. (Bangladesh) Marine Fisheries Ordinance, 1983, Sections 19 and 24 (2).

C. Legal Control of Fishing Industry in Kerala

(a) Distribution of Legislative Power:-

Legislative power in respect of fishing and fisheries in India is distributed between the Union and the States. 'Fishing and Fisheries beyond territorial waters' is arrayed as Entry 57 of the Union List in the 7th Schedule to the Constitution, while 'Fisheries' is included as Entry 21 in the State List.[21] It is to be noted here that Entry 21 of the State List is not made subject to any Entry in the Union List. There is no scope for conflict of jurisdictions also, because Entry 57 of the Union List operates in areas beyond territorial waters. Therefore, the scope of the expression 'fisheries' in Entry 21 of the State List is to be fixed by construing that expression in its natural sense. Going by the dictionary meaning, 'fisheries' includes both fishing and the place where fish is found or grown.[22] Legislative practice is to use the expressions 'fishing'

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21. There was a corresponding division of powers in Entry 23 of the Federal List and Entry 24 of the Provincial List in the Government of India Act, 1935.

22. The New Shorter Oxford English Dictionary, 1993, Vol. 1; Webster's Third New International Dictionary, Vol. 1; Black's Law Dictionary.

and 'fisheries' interchangeably.[23] Judicial decisions also tend towards the same direction.

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23. Section 6(2) of the Indian Fisheries Act, 1897 mentions of "all persons having for the time being any exclusive right of fishery" in any private water, while S.6 (4) thereof provides for prohibiting "all fishing in any specified water". The corresponding provisions of the Travancore Cochin Fisheries Act, 1950, namely Ss. 4(2) and 4 (3) respectively, was identical expressions.

Section 4(1) of the (Australian) Fisheries Act, 1952 defines 'fishing' and 'Australian Fishing Zone' while Part III of that Act contains detailed provisions relating to 'Regulation of Fisheries.'

Section 2 of the (Malaysian) Fisheries Act, 1985 defines 'fishing' as meaning "any one or more stocks of fish which can be treated as a unit for the purposes of their conservation, management and development and includes fishing for any such stocks and aquaculture."

Article 1 (1) of (Indonesian) Law No. 9 of 1980 on Fisheries defines 'fisheries' as "any activity the purpose of which is to exploit or make use of fishery resources."

The Kerala Marine Fishing Regulation Act, 1980, going by its Preamble, is intended to "provide for the regulation of fishing by fishing vessels in the sea along the coast line of the State" and it uses only the expression 'fishing' throughout its provisions. It is submitted that this does not make out any difference, since regulation of fishing effort is the best mode of conserving fisheries.

Section 91 (12) of the British North America Act, 1867[24] confers exclusive power on Canandian Parliment to legislate in respect of "sea coast and inland fisheries."[25] The power to legislate on "property and civil rights in the Province" is conferred on the Provinces by S. 92 (13). In A.G. for Cananda Vs A.G. for Ontario[26] the Privy Council held that in view of S. 91 (12), the exclusive power to legislate on fisheries should be found in the Dominion Parliament and not in the Province, though proprietory rights in relation to Fisheries would remain a subject for legislation by the province in view of S.91 (13). Parliament's power to legislate in respect of 'fisheries' was held to include the power to prescribe times of fishing and the instruments to be used for the purpose, and also the power to introduce licensing of fishing. 'Fisheries' was held to be wide enough to include 'fishing' even if there was the danger of such legislations encroaching upon a provincial subject under S.92.

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24. Subsequently renamed as the Constitution Act, 1867

25. Cf: Entry 57 of the Union List of the 7th Schedule to the Constitution of India and S. 51 (X) of the Commonwealth of Australia Constitution Act, 1900.

26. 1898 AC 700.

In A.G. for Canada Vs. A.G. for British Columbia,[27] one of the questions was whether a legislation on 'fisheries' could extend to the licensing of fish cannery or canning establishments, so as to include within the scope of the expression all operations for converting fish caught into some form of marketable commodity. While answering this question in the negative, the Privy Council held that all operations involving 'fishing' or the catching of fish would be so covered. While recognising wide powers under the head 'fisheries', the court refused to permit encroachment into regions clearly outside its scope. This is clear from their Lordships' observations as follows:-

> "It may be, though on this point their Lordships express no opinion, that effective fishery legislation requires that the Minister should have power for the purpose of enforcing regulations against the taking out of unfit fish or against the taking of fish out of season, to inspect all fish canning or fish curing establishments and require them to make appropriate returns. Even if this were so, the necessity for applying to such establishments any such licensing system as is embodied in the sections in questions does not follow."[28]

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27. 1930 AC 111

28. Ibid, at p.123.

An argument that control on 'fisheries' was different from control of 'fishing' in the context of S.51 (X) of the Commonwealth of Australia Constitution Act, 1900.[29] was raised in Bonser Vs. La Macchia.[30] Rejecting this contention, Barwick C.J., observed thus:-

> "The last submission of the defendant was that to legislate to control fishing was not to make a law with respect to fisheries. The point needs no discussion for, in my opinion, it completely lacks substance. The most direct way to protect a fishery is to regulate how and to what extent waters may be fished."[31]

Windeyer J. Observed:

> "In law a fishery means, and since the Middle Ages..... it has meant, the right or liberty, of the public or a particular person, of fishing in specified waters. When that is understood, it is apparent that the constitutional power is to make laws defining rights of fishing in Australian waters. It follows that the power enables the Parliament to prescribe conditions for the exercises of the right or liberty. I can see no basis at all for the suggestion that provisions

29. This provision empowers the Commonwealth Parliament to legislate on "Fisheries in Australian Waters beyond territorial limits."
30. 122 CLR 177 (1944)
31. Ibid. at 191-192

prescribing the size of the fish that may lawfully be taken, or nets that may lawfully be used are not laws with respect to fisheries. Such laws have for centuries past been a common feature of the statute law of England governing fisheries."[32]

The distribution of legislative power in respect of fishing and fisheries in the Government of India Act, 1935 was identical with the corresponding distribution in our Constitution.[33] Item 24 of the Provincial List in the Government of India Act, 1935 was 'fisheries'. Interpreting this Item in United Provinces Vs. Atiqa Begum,[34] the Federal Court observed thus:-

"Item 24 is 'fisheries'; could it reasonably be argued that this only included the regulation of fishing itself and did not include the prohibition of fishing altogether in particular places or at particular times ?"

In Babu Joseph Vs. State of Kerala,[35] one of the questions for consideration of a Division Bench of the

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32. Ibid, at p. 201.
33. Item 23 of the Federal List and Item 24 of the Provincial List under the Government of India Act, 1935 corresponding to Entry 57 of the Union List and Entry 21 of the State List in the Constitution are identically worded.
34. AIR 1941 FC 16 at p.23.
35. (1985) 1 ILR (Ker) 402.

Kerala High Court was whether the sweep of Entry 21 of the State List ('fisheries') should be restricted by comparing it with Entry 57 of the Union List ('fishing and fisheries beyond territorial waters'). Holding that 'fisheries' can comprehend 'fishing' also in the context of distribution of legislative powers in a federal scheme, it was observed as follows:-

> "Entries in the lists do no more than indicate the nature of the powers granted; they do not do so with the precision and details of a code. The purpose of enumeration is to name a subject, a field of legislation for assigning it to one of the legislatures; the purpose is not to draw up a list of subjects with scientific accuracy, or to allocate legislative powers by way of logical definition."[36]

From the aforesaid discussion, we can safely conclude that in the context of distribution of legislative power under the Constitution as also in the interpretation of legislations relating to 'fishing' and 'fisheries', both these expressions convey more or less the same idea and that they can be used interchangeably. Both 'fishing' and 'fisheries' may be used to mean and include the activity of fishing, the fish available or caught in particular fishing grounds, the method used for fishing, the species available or caught, their habits and

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36.Ibid, at pp. 412-413.

~~and~~ habitats, the effect or consequence of the fishing activity on their habitats and future availability for further fishing and so on.

> "The term 'fishery' can refer simultaneously to the people, equipment, species and/or regions involved in fishing. Therefore, one can refer to marine or fresh water fisheries, commercial or traditional, Cod, anchovy, large-scale or small-scale, coastal or high seas - even whole fisheries."[37]

(b) Classification of fisheries:-

This brings us to the classification of fisheries. A broad classification is between capture and culture[38] fisheries. Capture fisheries consist of inland and marine fisheries. Inland fisheries can further be grouped into freshwater fisheries and backwater or brackishwater fisheries. The freshwater group are found in lakes, rivers, ponds and tanks. Those species living in saline waters occupy the backwaters.

Marine fisheries can broadly be classified into coastal and deep-sea fishries. Another classification

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37. Peter Webber, Net Loss: Fish, Jobs and the Marine Environment, Worldwatch Paper 120, July, 1994, p.9.

38. Examples are aquaculture and mariculture.

based on habitats is between demersal[39] and pelagic[40] species. Yet another classification based on migratory nature[41] is between Anadromous[42] and Catadromous[43] species. Depending on physiological features, fisheries can be grouped as Crustaceans[44], Cephelopods[45] and the like. Based on commercial value, fisheries can broadly be classified into target species and non-target species or between economic and uneconomic species.

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39. Those living near the bottom of the sea, like Penaeid Prawns, Cephalopods, Perches and Cat fish.

40. Those living on or near the surface of the sea like Oil sardine (Chala), Mackerel (Ayila), Anchovies (Netholi) and Tunnies (Choora).

41. Sedentary species like Chanks and pearl oysters are not migratory.

42. Species that ascend rivers from the sea to spawn.

43. Those species that descend rivers to lower reaches or to the sea to spawn.

44. Hard shelled fishes like Crab, Lobster and Shrimp.

45. Those having well-developed head surrounded by tentacles, like cuttle fish and octopus.

Depending on the investment and return, catch and effort, energy used for, and methods adopted in, fishing operations, fisheries can be grouped into small-scale and large-scale, non-mechanised and mechanised or traditional and modern. Based on the areas of fishing, fishermen[46] can generally be grouped into inland and marine fishermen. Marine fishermen can further be grouped into traditional or non-mechanised and mechanised fishermen depending on the methods of fishing undertaken by them.

Attempts at classifying the fishery wealth as above can be of great use in identifying the species, their feeding and breeding habits and habitats, as also to select the seasons, areas and the methods of cultivating or catching them. Classification of fishermen and their fishing methods is equally relevant from the points of view of conservation of the fisheries, management of inter-gear conflicts and the socio-economic well-being of the fishermen themselves.

D. Inland Fisheries

The present State of Kerala consists of the Malabar area of the former Madras Presidency and the

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46. This expression may possibly be criticised as gender-biased. 'Fishworkers' and 'Fishers' appear to be better expressions capable of withstanding such criticism.

erstwhile Princely States of Travancore and Cochin which were subsequently integrated to form the State of Travancore-Cochin. The State of Kerala was formed merging all these areas as per the States Reorganisation Act, 1956. In the Malabar area, the Indian Fisheries Act, 1897 (as amended by Madras Act 2 of 1929) continues in force. The Travancore - Cochin Fisheries Act, 1950 is applicable to other parts of the State.

The Indian Fisheries Act, 1897:-

The necessity of legislating for the protection of fresh water fishes in British India was felt when Dr. F. Day of the Madras Medical Service conducted an enquiry into the subject in 1869 and submitted his report for the North-Western Provinces recommending the passing of a Fisheries Act. Some of the Provinces had already taken actions or submitted proposals towards this direction. All these together came up for consideration in the Agricultural Conference held at Delhi in 1888. That Conference unanimously recommended legislation covering the following:-

1. Prevention of dynamite and other explosives being used for the destruction of fish;

2. Prevention of poisoning of waters;

3. Enforcement of fish ladders on weirs and other

works in rivers of any size; ten yards width being suggested as a minimum;

4. Regulation of fixed obstructions and engines in such waters; and

5. Protection of stock-pools.

The Government of India had already recognised the necessity for legislation in respect of fisheries. However, positive steps in this direction were being delayed due to the hesitation on the part of the Provincial Governments to take any measures which were likely to interfere with private rights. Giving due allowance to it, the Government of India proposed to forbid certain practices injurious to the fishery wealth as such, and to empower the local Governments to take under their management some selected streams or head-waters belonging to the state and other selected streams and waters wth the consent of the owners thereof or persons interested therein. It was thought that this would afford practical experience as to the measures most essential to insure the desired results. The idea was only to extend the provisions of the Bengal Act 2 of 1889 (an Act for the protection of fishing in private waters) so as to cover all private fisheries throughout the country.

The use of dynamites and poisoning were noted to be overt acts more or less easily repressible. Therefore, they were to be universally forbidden in view of the wanton and useless destruction of food caused thereby. Other restrictions were found to be either not needed or impossible on the larger rivers which are naturally protected by heavy floods during rainy season, when most of the important fish spawn and, on the other hand, are beyond the control of river police. These considerations generally confined the issue involved in the question of enforcing further restrictions for the preservation of fish in the smaller rivers.

Thus, the Indian Fisheries Act was enacted in 1897[47] as a protective measure prohibiting the use of explosive or poisonous material for catching or destroying fish except when permitted by the concerned Provincial Government through a notification to that effect. The Act empowered the Prinvincial Governments to make Rules to select waters which form the property of the Province and other waters, with the consent of persons owning or interested in them, for making its provisions applicable with respect to specified matters.

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47. For Statement of Objects and Reasons, see: Gazette of India, 1897, Pt.V, p. 101. For Report of the Select Committee, see: Gazette of India, 1897, Pt.V, p.15.

Most of the Provincial Governments adopted the Indian Fisheries Act, 1897 as it was. States like Saurashtra[48], Andhra Pradesh[49], Pondicheri,[50] Goa, Daman and Diu[51] and Tamil Nadu[52] have locally amended it. Some of such amending Acts authorise the concerned State-Governments to make Rules prohibiting all or any fishing in any specified waters except under a licence granted by it. The Amendment Act of Goa also prohibits ejection in the water of any solid or liquid or gasious matter which may be harmful to the fishes in such waters. In Tamil Nadu, the Act was amended by Madras Act 2 of 1929 as also by the Indian Fisheries (Tamil Nadu Amendment) Acts 22 of 1965 and 12 of 1980. These amendments prohibit attracting prawns in private waters except under a licence and confers exclusive power on the Government over chanks an chank fisheries.

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48. Indian Fisheries Act, 1897, as Adapted and Applied to the State of Saurashtra.
49. Indian Fisheries (Andhra Pradesh) Andhra Area Amendment Act II of 1929 and Indian Fisheries (Andhra Pradesh Extension and Amendment) Act V of 1960.
50. Indian Fisheries (Pondicherry Amendment) Act, 1965.
51. Indian Fisheries (Goa, Daman & Diu Amendment) Act XI of 1970.
52. Indian Fisheries (Madras) Amendment Act, 1929.

In Assam[53], Punjab[54], Andaman and Nicobar Islands,[55] Madhya Pradesh[56], Utter Pradesh[57], Rajasthan[58], Maharashtra[59], Jammu and Kashmir[60] and West Bengal,[61] local laws on fisheries have been enacted.

In our State, the Indian Fisheries Act, 1897 as amended by Madras Act 2 of 1929 applies to the Malabar area which was part of the erstwhile Madras Presidency. Travancore and Cochin were independent states at the times of the passing of the Indian Fisheries Act, 1897. These states had sepaate legislations of their own covering the area.

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53. Assam Land and Revenue Regulation 1 of 1886.
54. Punjab Fisheries Act II of 1914.
55. Andaman and Nicobar Islands Inland Fisheries Regulation 1 of 1938.
56. Madhya Pradesh Fisheries Act VIII of 1948 as amended by Madhya Pradesh Fisheries (Amendment)Act, 1981.
57. United Provinces Fisheries Act XLV of 1948.
58. Rajasthan Fisheries Act XVI of 1953.
59. Maharashtra Fisheries Act 1 of 1961.
60. J & K State Fisheries Act, 1960.
61. West Bengal Inland Fisheries Act XXV of 1984; West Bengal Agricultural and Fisheries (Acquisition and Resettlement) Act XIII of 1958.

The Travancore Regulation XI of 1097 M.E.:-

The earliest legislation on the subject in the erstwhile Travancore State was the Travancore Game and Fish Protection Regulation XII of 1089 M.E. It was originally intended for the protection of game and drafted specifically for that purpose. After the Bill was taken up by the Legislative Council for discussion, the Government thought it necessary to widen the scope of its operation so as to include in it the protection of fish as well. The only provisions in that Regulation regarding fish were:

1. Those empowering the Government to prescribe a close season in any particular area by means of a notification.

2. Those prohibiting the capturing of fish in that particular area during such close time; and

3. Those authorising the Government to grant licences and specifying the circumstances and grounds for cancelling the licences.

Since the passing of Regulation XII of 1089, a Department of Fisheries was organised in Travancore. The Director of Fisheries wanted to frame Rules for the working of the Regulation. It was doubtful whether Rules

for regulating the method of capturing fish or for prohibiting persons from using dynamites or other explosives for capturing fish or poisoning water could be issued. He therefore suggested certain amendments to be made to the Regulations. It was also brought to the notice of the Government that legislation was required to empower the owners of certain private waters in the High Ranges to issue licences for capturing non-indigenous fish breed brought and maintained by them there at considerable cost so as to avoid the variety becoming extinct due to reckless fishing. Other amendments were also required to be made in the Regulation. A need for separating fisheries from gaming was also being seriously felt. In this background, it was thought necessary that a separate Fisheries Regulation should be enacted. Thus, the Travancore Fisheries Regulation XI of 1097 was enacted for the purpose.

The Travancore Cochin Fisheries Act, 1950:-

The Cochin State had enacted the Cochin Fisheries Act III of 1092 M.E.[62] more or less in terms of the Indian Fisheries Act, 1897. After the integration of the States of Travancore and Cochin, the Travancore-Cochin Fisheries Act 4 of 1950 was passed which is now in force in the Travancore and Cochin areas of the State.

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62. For the text of the Act, See: Kerala Laws Manual, 2nd Ed., Vol. V.

A Comparative Study of the Provisions:-

The Indian Fisheries Act, 1897 was enacted nearly a century ago. The Travancore-Cochin Fisheries Act, 1950 was enacted mainly on the model of the Indian Fisheries Act, 1897. Both the legislations are more or less similar in nature and substantially, they cover more or less the same area.

(a) Coverage: Going by the coverage, both these legislations use the expressions 'any water'[63], 'waters not being private waters'[64] and 'private water'[65]. The term private water alone is defined as meaning "water which is the exclusive property of any person or in which any person has, for the time being, an exclusive right of fishery, whether as owner, lessee or in any other capacity"[66]. It is explained that the water shall not cease to be 'private water' only for the reason that other persons may have, by custom, a right of fishery therein.[67]

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63. See Sections 4 and 5 of the Indian Fisheries Act, 1897 and Sections 7 and 8 of the T.C. Fisheries Act, 1950.
64. See: Section 6(1) of the Indian Fisheries Act, 1897 and Section 4 (1) of the T.C. Fisheries Act, 1950.
65. S.6(2), Indian Fisheries Act,, 1897 and Clauses (2) and (5) of S.4 of the T.C. Fisheries Act, 1950.
66. S. 3 (3) of the Indian Fisheries Act, 1897 and S. 2 of the T.C. Fisheries Act, 1950.
67. Ibid.

'Waters not being private Waters' is a broad category which takes in rivers, lakes, tanks, canals, backwaters and even the territorial sea.[68] Reservoirs, as prospective fisheries, do not appear to have been conceived of by the legislatures while enacting the Indian Fisheries Act, 1897 or the Travancore-Cochin Fisheries Act, 1950.[69] Still, they can be brought within the ambit of the expression "waters not being private waters". The Management and Control of Fisheries in Government Waters Rules, 1974 issued under Sections 4 and 18 of the T.C. Fisheries Act, 1950 defines 'Government Waters' as including reservoirs and provides, in Rule 1 (iii) that those Rules are applicable for any reservoir (Hydro-Electric or Irrigation) of which the fishing right is vested with the Department of Fisheries under the Orders

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68. In S.4 (2) of the Indian Fisheries Act, 1897 and in S.7(2) of the T.C. Fisheries Act, 1950, it is clarified that the word 'water' includes "the sea within a distance of one marine league of the sea coast". However, in Rule 2 (a) of the Management and Control of Fisheries in Government Waters Rules, 1974 issued under Sections 4 and 18 of the T.C. Fisheries act, 1950, 'Government Waters' are defined as including the "territorial waters of the Kerala State."

69. It may be noted here that most of the reservoirs in Kerala came into existence between 1950 and 1960.

of the Government.[70] Again, waters that are not 'private waters' are public waters and as such, they are 'property of Government' as defined in S.3 of the Kerala Land Conservancy Act, 1957[71] or 'Poromboke' as defined in S.4 of the very same Act[72] and 'Government land' as defined in S. 2 (1) of the Kerala Land Assignment Act, 1960.[73] Rule 2 (a) of the Management and Control of Fisheries in Government Waters Rules, 1974 mentioned above defines 'Government Waters' as "all poromboke waters including

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70. See: Notification No. 16739/57/PW/PR2 dated 18.3.1958 published in the Kerala Gazette dated 25.3.1958, Part 1, p. 904; G.O. No. 202/89 dt. 18.4.1989; G.O. No. 547/89 dt. 30.10.1989; and Notification No. EL-4878/52/PWC dt. 28.8.1992 published in the Kerala Gazette dt. 9.9.1952.

71. 'Property of Government' is defined in S.3 of the Land Conservancy Act, 1957 as to include "all ditches, dikes and creaks, below high water marks, the beds and banks of rivers, streams, irrigation and drainage channels, canals, tanks, lakes, backwaters and water courses and all standing and flowing water."

72. 'Poromboke' is defined in S.4(1) of the Land Conservancy Act, 1957 as meaning and including "unassessed lands which are the property of the government used or reserved for public purposes or for the communal uses of the villagers as such, the beds and the banks of rivers, irrigation and drainage channels, traffic canals, tanks, lakes, backwaters and water courses" and all other property which the government declares as poromboke.

73. S.2(1) of the Land Assignment Act, 1960 gives a definition of 'government land' as similar to that of 'property of government' in S.3 of the Land Conservancy Act, 1957.

backwaters, rivers, lakes, canals, irrigation canals, reservoirs and territorial waters of the Kerala State". Thus reservoirs are also waters covered by the provisions of the Indian Fisheries Act, 1897 and T.C. Fisheries Act, 1950.

(b) Destruction of fish by explosives and by poisoning waters:-

Both the Acts contain certain provisions applicable to 'any water'.[74] Needless to say that such provisions are applicable to public waters and private waters alike. The use of dynamites and other explosive substances in any water with intent thereby to catch fish or destroy any of the fish that may be therein and putting any poison, lime or noxious material into any water with intent thereby to catch or destroy fish are made punishable by Sections 4 and 5 of the Indian Fisheries Act, 1897 corresponding to Sections 7 and 8 of the Travancore Cochin Fisheries Act, 1950. While the Indian Fisheries Act, 1897 prescribes a punishment of either imprisonment for two months or a fine which may extend to two hundred rupees, the Travancore Cochin Fisheries Act, 1950 confers a discretion on the convicting court to award either imprisonment for two months or a fine extending to two hundred rupees or both together.

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74. See: Sections 4 and 5 of the Indian Fisheries Act 1897 and Sections 7 & 8 of the T.C. Fisheries Act 1950.

(c) Protection of fish in selected waters:-

Both the Acts empower the Government to make Rules for regulating fishing in specified waters and for managing the fisheries therein.[75] These provisions apply as such to public waters also.[76] The Government is also empowered to apply such Rules to any private water "with the consent in writing of the owner thereof and of all persons having for the time being any exclusive right of fisheries therein."[77] The Travancore-Cochin Fisheries Act, 1950 further empowers the Government to make Rules for the purpose of preserving or protecting fish in any area by restricting, regulating or otherwise controlling fishing in private waters generally. The Government is empowered to apply such Rules to any specified private waters after giving notice to all affected parties and after hearing their objections, if any.[78]

The provisions in the two Acts for protection of fish in selected waters can best be appreciated by a comparison of S.6 of the Indian Fisheries Act, 1897 and S.4 of the T.C. Fisheries Act, 1950 which are reproduced

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75. S.6(1) of the Indian Fisheries Act, 1897 and S.4(1) of the T.C. Fisheries Act, 1950.
76. Ibid.
77. S.6(2) of the Indian Fisheries Act, 1897 and S.4(2) of the T.C. Fisheries Act, 1950.
78. S.4(5), T.C. Fisheries Act, 1950.

below:-

S.6 Indian Fisheries Act,1897 (as amended by Act II of 1929)	S.4. T.C. Fisheries Act, 1950
1. The Local Government may make rules for the purposes hereinafter in this section mentioned and may, by a notification in the official Gazette, apply all or any of such rules to waters, not being private waters, as the Local Government may specify in the said notification.	Protection of fish in selected waters by rules passed by State Government:- 1. The State Government may m make rules for the purposes hereinafter in this section mentioned and may, by notification in the Kerala Government Gazette, apply all or any of such rules to such waters, not being private waters, as the state Government may specify in the said notification.
2. The Local Government may also, by a like notification, apply such rules or any of them to any private water with the consent in writing of the owner thereof and of all persons having for the time being any exclusive right of fishery therein.	2. The State Government may also, by a like notification, apply such rules or any of them to any private water with the consent in writing of the owner thereof and of all persons having for the time being any exclusive right of fishery therein.
3. Such rules may prohibit or regulate either permanently or for a time or for specified seasons only all or any of the following matters, that is to say: a. the erection and use of fixed engines; b. the construction of weirs; and c. the dimension and kind of the contrivances to be used for taking fish generally or any specified kind of fish and the modes of using such contrivances.	3. Such rules may prohibit all fishing in any specified water except under a licence granted by the State Government, and in accordance with such terms and conditions as may be specified therein.

4. Such rules may also prohibit all fishing in any specified water except under a lease or licence granted by Government and in accordance with such conditions as may be specified in such lease or licence; provided that no rule shall be made under this sub-section to prohibit sea fishery other than pearl fishery or chank fishery unless, after previous publication under Sub Section (6) of this section, it has been laid in draft before the Legislative Council either with or without modification or addition, but upon such approval being given, the rule may be issued in the form in which it has been so approved.

4. Such rules may also prohibit or regulate either permanently, or for a time for specified seasons only, all or any of the following matters, that is to say -

a. the erection and use of fixed engines;

b. the construction of weirs;

c. the dimension and kind of the contrivances to be used for taking fish generally, or any specified kind of fish and the modes of using such contrivances;

d. the minimum size of weight below which no fish of any prescribed species shall be killed; and

e. the destruction of fish or depletion of fisheries by pollution or by trade or industrial effluents.

5. In making any rules under this section, the Local Government may:

a. direct that a breach of it shall be punishable with fine which may extend to one hundred rupees, and when the breach is a continuing breach, with a further fine which may extend to ten rupees for every day after the date of the first conviction during which the breach is proved to have been persisted in; and

b. provide for:

(i) the seizures, forfeiture and removal of fixed engines erected or used, or net used, in contravention of the rules; and

(ii) the forfeiture of any fish taken by means of any such fixed engine or net.

5. Notwithstanding anything contained in sub-sections (1), (2), (3) or (4), the State Government may, for the purpose of preserving or protecting fish in any area, make rules restricting, regulating or otherwise controlling fishing in private waters generally, and they may, by notification in the Kerala Government Gazette, apply all or any of such rules to such private waters as they may specify in the said notification after giving notice to the owners thereof and to all persons having or believed to have an exclusive right of fishing therein and after hearing their objections, if any.

6. The power to make rules under this section is subject to the condition that they shall be made after previous publication.

6. In making any rule under this section, the State Government may provide for -

a. the seizure, forfeiture and removal of any fixed engine erected or used or nets or other contrivances used for fishing in contravention of the rules;

and

b. the forfeiture of any fish taken by means of any such fixed engine or nets or other contrivances.

Sections 6(1) and 6(2) of the Indian Fisheries Act, 1897 are identically worded as Sections 4(1) and 4 (2) of the T.C. Fisheries Act, 1950. The enumeration of the fishing methods that may be prohibited or regulated by Rules as occuring in S. 4 (4) of the T.C. Fisheries Act, 1950[79] is far more a specific and elaborate when

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79. In exercise of this power, the Government has prohibited/restricted certain fishing methods in certain specified areas as follows:-

(i)) Notification No. Fd.13/7678/54/Fd. dt. 5.8.1955 published in the Kerala Gazette dt. 5.8.1955, Part I, p.457: prohibiting fishing by using 'Kochumattu', otherwise known as 'Aayiramchoonda' in the waters within a distance of one mile from the seashore.

(ii) Notification No. Fd.13/6092/53/Fd.D. dt. 5.4.1955 published in the Kerala Gazette dt. 5.4.1955, Part I, p.451: prohibiting fishing by using 'Paithuvala' in the backwaters within 15 chains on both sides of the Venduruthi Rail road bridge and Palluruthy road bridge.

(iii) Notification No. Fd.13/8120/Fd.D. dt. 31.5.1955, published in the Kerala Gazette dt. 7.6.1955. Part I, p. 658: restricting the use of 'Othukkavala' for fishing in specified areas of Ashtamudi backwaters.

(iv) Notification No. D. Dis.6153/55/Fd.D. dt. 6.1.1956, published in the Kerala Gazette dt. 10.1.1956, Part I, p. 424: prohibiting fishing by using larger type of nets like 'Atakkamkolli', 'Pernvala' and 'Neriya vala' in canals, the width of which is less than fifty chains.

(v) Regulation of Fishing with Fixed Engines (Stake nets, China nets etc. Rules, 1973.

(vi) Management and Control of Fisheries in Government Waters Rules, 1974.

compared to the corresponding enumeration in S.6(3) of the Indian Fisheries Act, 1897. Section 6(4) of the Indian Fisheries Act, 1897 provides for regulation of fishing in specified waters through lease or licence,[80] while S.4(3) of the T.C. Fisheries Act, 1950 confines such regulation to licensing alone.[81] The provisions for the seizure, forfeiture and removal of fixed engines and nets used in contravention of the Rules as also for forfeiture of the fish caught thereby, as contained in S. 6 (5) (b) of the Indian Fisheries Act, 1897 and S. 4 (6) of the T.C. Fisheries Act, 1950 are substantially the same.

It is to be noted here that S.6(5) (a) of the Indian Fisheries Act, 1897 provides for punishment for breach as well as continuing breach of the Rules with fine, and fine only. A similar breach of the Rules framed under S.4 of the T.C. Fisheries Act, 1950 is punishable with a fine which may extend to one hundred rupees[82] and every subsequent conviction will entail a punishment of either imprisonment which may extend to six months or with fine which may extend to five hundred rupees or with both.[83]

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80. See G.O. Ms.No.288 dated 8.12.1953. It provides for licensing of fishing with stake nets and China nets in the particular areas of the rivers mentioned in Schedule 1 thereto.
81. Issue of Fishing licence Rules, 1974.
82. S.6, T.C. Fisheries Act, 1950.
83. Ibid, S.13.

Again, the Government is empowered to issue notifications prohibiting the offering or exposing for sale or barter of any fish killed in contravention of the Rules made under S.4 of the Act in any area specified therein.[84] Both the Acts empower any police officer or authorised offer to arrest any person committing "in his view" a breach of the provisions of the Act or the Rules framed thereunder without a warrant.[85]

Section 3 of the T.C. Fisheries Act, 1950 empowers the Government to delcare the whole year or any part thereof to be a 'close time' in any area for any kind of fish and prohibits capture of any fish in such area during such close time except under, and in accordance with the terms of, a licence. The breach of this provision is made punishable with fine which may extend to one hundred rupees.[86] There is no corresponding provision in the Indian Fisheries Act, 1897.

The practice of attracting prawns and causing or allowing of migration of prawns into private waters from any notified waters by the use of sluices, openings, alluring lights or other contrivances and catching, destroying, causing injury to, or preventing escape of, any such fish by the use of nets, grantings, gears or any other means whatsoever except under a licence and in

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84. S.5
85. S.7, Indian Fisheries Act 1897; S.21, T.C. Fisheries Act, 1950.
86. S.6, T.C. Fisheries Act, 1950.

accordance with the terms and conditions thereof as prescribed by Rules is prohibited by the T.C. Fisheries Act, 1950.[87] Contravention of this prohibition will entail punishment of fine which may extend to two hundred rupees.[88] There is no corresponding provision in the Indian Fisheries Act, 1897.

Reservoir Fisheries

There are about 30 reservoirs in Kerala used for irrigation, hydro-electric power generation and water supply. The total maximum water spread of all these reservoirs is about 30,000 ha. Most of them were constructed during the 1950s and 60s. Of these, nine are located in Idukki District,[89] nine in Palakkad District,[90] four in Thrissur District,[91] three in Thiruvananthapuram District,[92] two in Pathanamthitta District,[93] and one each in Kollam,[94] Kozhikode[95] and Kannur[96] districts.

87. S.22(1), T.C. Fisheries Act, See also: Regulation of Prawn Fishing in Private Waters Rules, 1974.
88. Ibid, S. 22 (2).
89. Idukki, Ponmudi, Anayirankal, Kundala, Mattupetty, Sengulam, Neriamangalam, Bhothathankettu and Periyar.
90. Malampuzha, Mangalam, Meenkara, Chulliyar, Pothundy, Walayar, Parambikulam, Thunakadavu and Kanjiramapuzha.
91. Peechi, Vazhani, Sholayar and Peringalkuthu.
92. Neyyar, Peppara and Aruvikkara.
93. Pamba and Kakki.
94. Kallada
95. Peruvannamuzhi
96. Pazhassi.

Out of them, seventeen reservoirs are primarily for irrigation and fourteen out of these are under the control of the Irrigation Department.[97] Three reservoirs lie within wildlife sanctuaries and are controlled by the Forest Department.[98] Eleven are primarily used for power generation under the Kerala State Electricity Board[99]. The remaining two are used for drinking water supply under the Kerala Water Authority.[100]

These reservoirs, except those in the highlands, "provide good to excellent conditions for fish production."[1] Indigenous and non-indigenous varieties of fish are grown therein. These reservoirs were being fished by the riparian inhabitants since their inception. They had no previous experience of fishing. Fishing was being done in these reservoirs in a rudimentary manner during the first two decades after their creation.

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97. Malampuzha, Mangalam, Meenkara, Chulliyar, Pothundy, Walayar, Kanjirampuzha, Peechi, Vazhani, Neyyar, Pamba, Kallada, Peruvannamuzhi and Pazhassi.
98. Parambikulam, Thunakadavu and Periyar.
99. Sholayar, Peringalkuthu, Kakki, Idukki, Ponmudi, Anayiramkal, Kundala, Mattupetty, Sengulam, Neriamangalam and Bhoothathankettu.
100. Pappara and Aruvikkara.
1. W.D. Hartmam and N. Aravindakshan, Strategy and Plans for Management of Reservoir Fisheries in Kerala, Indo-German Reservoir Fisheries Development Project, March, 1995, p.13.

In the mid 1960s, the Department of Fisheries stocked fingerlings of different species of Indian major carps and started fishing directly or through the Inland Fisheries Corporation employing locals as fishermen on its pay-roll. This practice was stopped when reservoir fisheries were exclusively reserved for the Scheduled Caste and Scheduled Tribe communities for opening up alternate occupations for them. In 1984, a few reservoir fishermen Co-operative Societies were established under the supervision of the Department of Fisheries. The Special Component Plan and the Tribal Sub Plan, specially formulated in the late 1970s for bringing about social and economic upliftment of Scheduled Castes and Scheduled Tribes, extended the necessary finance for provision of craft and gear and for stocking the reservoirs. Now there are about eleven Reservoir Fishermen Co-operative Societies with a membership of about 1,200, of which about one half are active fishermen. It remains a fact that even after over ten years of their existence, most of these co-operatives are not self-reliant and that they heavily depend on the Department of Fisheries for their management and financial support. Members operate craft and gear owned by the co-operatives and share the gross income with the co-operatives and the Government, to each of which, they pay 25% of the sale proceeds.

Reservoir fisheries is a new development in our State. The reservoirs are under the control and management of the concerned department or agency of the government like the Departments of Irrigation and Forests, the Kerala State Electricity Board and the Kerala Water Authority. The management of the water bodies in the reservoirs is regulated by legal provisions spread over a set of enactments like the Wild Life Protection Act, 1972[2], the Kerala Panchayat Raj Act, 1994[3], the Kerala Land Conservancy Act, 1957[4] and the Kerala Land Assignment Act, 1960.[5] Quite naturally, the provisions of the Indian Fisheries Act, 1897 and the T.C. Fisheries Act, 1950 are applicable for fishing in the reservoirs of Malabar and Travancore-Cochin areas of the State respectively. The Government has issued notifications providing for licensing of fishing in specified reservoirs and orders transferring fishing rights in reservoirs to the concerned Harijan Fishermen

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2. See Sections 18, 32 and 35.
3. See in this connection, especially, the Constitution (73rd Amendment) Act, 1993, Art. 243 G and the 11th Schedule to the Constitution, Sections 16 and 218 of the Panchayat Raj Act, 1994 and the Third, Fourth and Fifth Schedules to the same. See also: GO (P) No. 189/95 L.S.G.D. dated 18.9.1995 issued by the Government of Kerala transferring the post of a Sub Inspector of Fisheries to the Grama Panchayat concerned and the Fisheries Schools to the concerned District Panchayats.
4. Sections 3 and 4.
5. Sections 3 to 8.

Co-operative Society.[6]

There is no coordination between the Fisheries Department and the concerned controlling Department in the matter of reservoir fisheries management. The fishermen co-operatives organised for these reservoir areas are not properly functioning. Many non-fishermen are members of these societies. A large section of neighbouring population who are neither Harijans or Girijans nor members of these co-operatives are engaged in fishing in the reservoirs. Among them, there are people whose lands are acquired for the reservoirs; there are others who migrated to the reservoir areas in connection with their construction and have settled around it. In view of all these, there is the need for a comprehensive legislation for the co-ordinated management of reservoir fisheries and their organised development. The existing co-operatives require to be revamped or reorganised eliminating their fake and non-fishermen members. Proper management measures require to be introduced for making our reservoir fisheries viable and profitable.

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6. Notification No.16739/51/PW/(IR2) dt. 18.3.1950; Notification No.12-16739/57/PW dt. 18.3.1958; Notification No.4729/K1/73-III/DD dt. 4.5.1974; G.O. No. 202/89 dt. 18.4.1989; G.O. No. 547/89 dt. 30.10.1989.

The Indo-German Reservoir Fisheries Project, with its headquarters in Malampuzha, commenced its activities of technical assistance in 1992. It aims at improving the living conditions of fishermen households through a better and sustainable utilisation of reservoir fish resources. It extends advice on all aspects of reservoir fisheries development and provides infrastructure and equipment to a certain extent. The target group is the personnel of the Department of Fisheries and members of reservoir fisheries co-operatives. The activities of the Project include improvement of the organisational and managerial capacity of fisheries co-operatives, strengthening knowledge of reservoir fish production and its biological, ecological and economic base and identifying, promoting and popularising appropriate craft and gear.

In view of the declining catches of the marine sector and the growing consumer demand for fresh water fish, reservoir fisheries is expected to contribute significantly to our inland production. Side by side with the orientation and training extended to fishermen and their cooperatives, proper legislative measures require to be made for the orderly and sustainable development and management of our reservoir fisheries. Any such legislative measures, to be meaningful, should be integrated and unified, so as to cover within their sweep, all aspects of fishing and fisheries in all our

water bodies, inland as well as marine.

Aquaculture

The basic form of exploitation of fishing resources has remained as hunting and gathering, rather than cultivation. Increase in population and the growing demand for fish as a food item together with limitations in the supply of fish from marine and inland sectors necessitated discovery of new resources and adoption of more efficient methods of fish production. Though aquaculture existed as early as before 2500 B.C., as a science and as an industry it is still in its infancy.[7] Its contribution to the world fish supply has been negligible on a global scale until about the last four decades. However, for over the last ten years, the fastest growing portion of the world fish supply has come from aquaculture.

Aquaculture has been practised for many centuries by small farmers and fishermen for their livelihood. Traditional aquaculture including shrimp[8] is usually

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7. T.V.R. Pillai, Aquaculture: An International Perspective, in 'Fisheries Development: 2000 A.D.', Proceedings of International Conference held at New Delhi, Feb. 4-6, 1985, Ed: K.K. Trivedi, Oxford & IBH Publishing Co., P.154.

8. Shrimps are basically marine. They are also called prawns. Marine prawns are referred to as shrimps and freshwater ones as prawns. Sea is their home and they grow to adulthood and breed into the sea. The progeny start their life by drifting into estuaries and such other brackishwater areas for feeding. The larvae grow into adolescence in about 4 to 6 months and move back to the sea.

small-scale, using low inputs and relies on natural tidal action for water exchange. There is a tradition of rice and shrimp culture in rotation. Chemicals, antibiotics and processed feeds are not used in the traditional method. This is a low-yield, natural method in which the harvest is small, but sustainable over long periods. It has no adverse effect on the environment and ecology. Filtration fishery in the Pokkali fields and in small and medium scale farms is a traditional form of fish culture, mainly of prawns by "holding and trapping". This is popularly known in Kerala as 'Chemmeenkettu'. Individual and collective fish farming are prevalent in certain parts of our coastal districts. It may be perennial (yearly) or seasonal (half yearly) in duration. In Poromboke or public waters, licences for filtration fishery are issued on the basis of no objection certificates issued by the concerned Revenue Divisional Officer under the Kerala Land Assignment Act, 1960. Licences for individual or collective fish farming in private agricultural fields are issued on the basis of a certificate issued by the local Village Officer that agricultural operations therein are not viable. Licensing is governed by the provisions of S. 22 of the T.C. Fisheries Act, 1950 read with the Regulation of Prawn Fishing in Private Waters Rules, 1974 framed thereunder.

Scientific farming or aquaculture was introduced in Kerala around the year 1975. Both brackishwater aquaculture and freshwater aquaculture are developing side by side with the support and financial aid of the Central Government and technical aid offered by Central Marine Fisheries Research Institute and Marine Products Export Development Authority. Aquaculture Development Authority of Kerala (ADAK), Brackishwater Fish Farming Development Agency (BFFDA) and Freshwater Farming Development Agency (FFDA) are the agencies directly sponsoring aquaculture programmes. Intensive aquaculture is supported by the Central Government directly and through the State Governents.

Mariculture is one form of coastal aquaculture. It includes Pearl, Pen, cage, mussel, seaweed and pissiculture.

Our fishery managers at the Central and State levels are recently paying increasing attention towards aquaculture development in view of its potentials for the export market. "In general, ... aquaculture serves as a distraction from facing the limits of marine fisheries. Policy makers may be tempted to assume that we can make up for mistreating the oceans and small-scale fishers by farming fish".[9] The basic note of

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9. Peter Waber, Net Loss: Fish, Jobs and the Marine Environment, Worldwatch Paper 120, July, 1994, p.42.

caution against aquaculture development is that it should not be made an alternative or substitute for fisheries management. As a fisheries management strategy, it is acceptable if it would provide part-time or full-time employment for small-scale fishers and rural small-scale farmers. On the contrary, if it diverts entrepreneurs and their investments from medium and large-scale fisheries to coastal aquaculture with the object of boosting production for export, it will have serious repurcussions on our fisheries and their environment.

Fishers who sell fish-feed go so far as to use fine-mesh nets to make a clean sweep: everything caught is taken and fed to farmed fish, thus reducing the food fish supply in the domestic market. This is called biomass fishing. Similarly, fish population in the coastal waters will be reduced by fish seed collection for fish culture. Marine aquaculture is a major cause of coastal habitat destruction, which is harmful to marine fisheries. Destruction of mangrove forests for making artificial shrimp ponds is on the increase. It is to be noted here that coastal wetlands are the nurseries for wild fisheries. Their destruction badly affects marine fisheries. Over and above these, marine aquaculture is directly responsible for coastal water pollution, introduction of alien species and new diseases and for loss of genetic diversity in wild fish populations.[10]

10. Hal Kane, Growing Fish in Fields, World Watch, Sept/Oct., 1993.

Aquaculture, as an 'industry', is presently facing a set back due to the decision of the Supreme Court in S. Jagannath Vs. Union of India.[11] In that case, the Court has declared that the shrimp culture industry/the shrimp ponds set up within 500 m of the High Tide Line (HTL) in our coastal areas are covered by the prohibition contained in Para 2 (1) of the Coastal Regulation Zone Notification issued by the Central Government under S.8 of the Environment (Protection) Act, 1986. It directed all of them to be demolished and removed and that no new units should be set up in the areas covered by the CRZ Notification. The Central Government is directed to set up an Aquaculture Authority under S. 3 (3) of the Act headed by a retired Judge of a High Court with experts in aquaculture, pollution control and environmental protection as members specifying and conferring the necessary powers. The Authority so constituted is to regulate the conduct of such units implementing "the Precautionary Principle" and "the Polluter Pays" Principles.[12]

Fish Farms using traditional and improved traditional types of technologies as defined in the

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11. AIR 1997 SC 811.

12. Ibid, Para 45, at pp. 848 - 850.

Alagarswami Report[13] which are practised in the low-lying areas have been specifically exempted from the aforesaid direction for demolition and removal. It is also clarified that the farmers who are operating traditional and improved traditional systems[14] of aquaculture "may

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13. India was one of the 16 countries that participated in the FAO Regional Study and Workshop on Environmental Assessment and Management of Aquaculture Development. Copy of a Report of the same, published in April, 1995 and a paper titled "The Current Status of Aquaculture in India - The Present Phase of Development and Future Growth Potential", presented by Dr, K. Alagarswami, Director, Central Institute of Brackishwater Aquaculture, Madras, were relied on by the Court for its decision. It is that paper presented by Dr. Alagarswami at the FAO Workshop that is referred to as the Alagarswami Report.

14. These are given in para 5.1.2 of the Alagarswami Report as follows:
"5.1.2. Types of Technology - Changes in technology with time.
Traditional: Practised in West Bengal, Kerala, Karnataka and Goa, also adopted in some areas of Orissa, Coastal low-lying areas with tidal effects along estuaries, creeks and canals; impoundments of vast areas ranging from 2-200 ha in size.
Characteristics:- Fully tidally - fed; salinity variations according to monsoon regime; seed resource of mixed species from the adjoining creeks and canals by autostocking; dependent on natural flood; water intake and draining managed through sluice gates depending on local tidal effect: no feeding; periodic harvesting during full and new moon periods; collection at sluice gates by traps and by bag nets; seasonal fields alternating paddy (monsoon) crop with shrimp/fish crop (inter-monsoon); fields called locally as "th&ries", pokkali fields and Khazan lands.

Improved Traditional: System as above, but with stock entry control; supplementary stocking with desired species of shrimp seed (P. monodon or P. indicus); practised in ponds of smaller area 2-5 ha .....".

adopt improved technology for increased production, productivity and return with the approval of the "authority" constituted by this order"2.[15]

Pursuant to the direction of the Supreme Court, the National Aquaculture Bill, 1997 constituting a National Aquaculture Authority was passed by the Rajya Sabha on 20th March, 1997. However, the Central Government has postponed the introduction of the Bill in the Loka Sabha since the Supreme Court has stayed the decision in Jagannath's Case[16] till 30th April 1997 by its order dated 21st March 1997 on a petition seeking to review the same.

The above decision points to a most welcome trend on the part of our judiciary. In utter disregard of the provisions of the Environment (Protection) Act, 1986 and in spite of the CRZ Notification issued in February 1991, the Central and State Governments and their financing agencies have been promoting and supporting intensive coastal aquaculture started by big business houses and multi nationals on a large commercial scale. The scientific information placed before Court and on-the-spot study report obtained by it revealed the seriousness of the situation, based on which the court was tempted to come to the rescue of coastal fisheries and their habitat and environment by issuing strict directions as above.

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15. AIR 1997 SC 811, Para 45 at pp.848-850.
16. Ibid.

The Supreme Court's decision is in consonance with the FAO Code of Conduct for Responsible Fisheries (1995) which urges responsible aquaculture development.[17] A statement endorsed by 25 internationally recognised Non-Governmental Organisations[18] have urged national Governments to ensure the use of environmental and social impact assessments prior to aquaculture development and the regular and continuous monitoring of the environmental and social impacts of aquaculture operations and to ensure the protection of mangrove forests, wetlands and other ecologically sensitive coastal areas from the adverse effects of extensive,

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17. Article 19.

18. NGO Statement Concerning Unsustainable Aquaculture to the United Nations Commission on Sustainable Development, 18th April - 3rd May, 1995.

intensive, and semi-intensive aquaculture.[19] Fish kills, pollution, damage to coral reefs, destruction of mangrove forests and swampy lagoons and other adverse effects of industrial type of intensive aquaculture have been reported from Malaysia, Thailand, Taiwan, Philippines, Indonesia, and China.[20]

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19. These are illustrated in the Alagarswami Report as follows:-
Extensive: New Pond Systems; 1-2 ha ponds; tidally fed; no water exchange, stocking with seed; local feeds such as clams, snails and pond-side prepared feed with fishmeal, soya, oilcake, cereal flour etc; wet dough ball form; stocking density around 20,000/ha.

Modified Extensive: System as above; pond preparation with tilling, liming and fertilisation; some water exchange with pumpsets; pellet feed indigenous or imported; stocking density around 50,000/ha.

Semi-intensive: New pond systems; ponds 0.25 to 1.0 ha in size; elevated ground with supply and drainage canals; pond preparation methods carefully followed regular and periodic water exchange required; pond aerators (paddle wheel) at 8 per ha; generally imported feed with FCR better than 1:1:5 or high energy indigenous feeds; application of drugs and chemicals when need arises; regular monitoring and management; stocking density 15-25/m^2

Intensive: Ponds 0.25 - 0.50 ha in size; management practices as above; 4 aerators in each pond; salinity manipulation as possible; central drainage system to remove accummulated sludge; imported feed; drugs and chemicals used as prophylatic measures; strict control and managements; stocking density 20 -35/m^2

20. A. Srinivasan, Aquaculture Pollution - No Fallacy, Fishing Chimes, Vol. 16, No: 10, Feb. 1997, p.21.

Freshwater fish farms produce comparatively less expensive species which lower-income group are more likely to be able to afford to pay. The Indo-German Reservoir Fisheries Project is developing technologies for cultivating Tilapia and Indian Major Carps (Catla, Mrigal and Rohu) in our reservoirs.[21] Our fish farmers have developed farming systems that integrate fish ponds with crop production, so that waste from the ponds fertilizers crops instead of causing pollution. Therefore, freshwater aquaculture is more advantageous, and at the same time, less harmful, when compared to marine aquaculture. "For the purpose of feeding needy people while protecting the environment, freshwater aquaculture holds more promise than marine farming."[22]

Aquaculture has, no doubt, great potential for maintaining fish supplies for domestic markets and affluent consumers at the same time. But restoration of marine fisheries to sustainable levels is unavoidable for supporting the subsistance sector and for optimum utilisation of our fishery wealth.

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21. W.D. Hartman and N. Aravindakshan, Strategy and Plans for Management of Reservoir Fisheries in Kerala, Indo-German Reservoir Fisheries Development Project, March, 1995, pages 26-29.

22. Peter Weber, supra, note 9, at p.114.

E. MARINE FISHING:

a) Coastal Fishing:-

Coastal marine fisheries in India were traditionally being exploited by the indigenous crafts like catamarams, dug-out canoes, plank built boats, beach siene boats etc. They were mostly confined to the inshore coastal waters. Originally, state policy was directed towards assisting the traditional fishermen to obtain a better harvest by extending their area of operation. Mechanisation of fishing crafts was encouraged since the First Five Year Plan. The Indo-Norwegian Project that came into being in 1953 introduced a few hundred gill-net boats in the Kerala coast in the early 1960s. They were complementary to the artisanal fleet. The high market price for prawns overseas led to the introduction of small 32' coastal trawlers capable of catching them. Simultaneously with such modernisation of coastal fishing, the establishment of a deep-sea fishing industry was felt necessary for ensuring exploitation of the fishery resources to the fullest extent possible. This gained a further momentum with the declaration of the 200 mile Exclusive Economic Zone. Government policy was to encourage fishermen co-operatives and public and private sector companies to enter the field of deep-sea fishing which is a capital - intensive industry requiring large investment. The idea was to develop a commercial fishing fleet capable of

exploiting the deep-sea fishing resources.

The coastal mechanised vessels and medium sized shrimp trawlers started exploiting more or less the same resource; the former depending more on the inner area of the shrimp fishing grounds and the latter exploiting the outer periphery. There was no adequate information on the commercial availability of living resources in the area beyond the 40 fathom limit. Therefore, the offshore fishing fleet continued to exploit mainly the coastal resources.

Development of marine fishery resources was showing an uneven picture in the coastal states. In states like Kerala and Karnataka, some fishing grounds started showing signs of depletion. On the other hand, more information about exploitable resources in the coastal waters of Orissa and West Bengal encouraged large-scale migration of fishing boats from other states.

The introduction of modern fishing techniques like shrimp trawling and purse-seining brought about a drastic reduction in the fish catch of the artisanal fishermen. A general discontentment and struggle for survival among the traditional marine fishermen was the inevitable consequence. The traditional fishing sector started complaining of fish being scared away by the sound of motor boats and they themselves being deprived of their

share of the catch due to higher efficiency of machanised fishing crafts. Increase in the number of mechanised boats operating in the coastal areas aggrevated the problem. This resulted in a decline in the Catch Per Unit Effort (CPUE). The mechanised boats started operating closer to the shore. As a consequence, disputes and conflicts between the traditional non-mechanised boat operators assumed greater dimension. Violent clashes took place in the open sea between the traditional fishermen and the trawlers. The traditional fishermen asserted their exclusie right of fishing in a considerable area of the territorial sea which they wanted the government to declare as an exclusive fishing zone for themselves. This was the situation in all the marine states and particularly in Kerala, Tamil Nadu, Pondicherry and Goa. The National Fishermen's Forum launched a nation-wide campaign in 1978 protesting against the introduction of shrimp trawling and purse seining and also demanded immediate government action for prohibiting such activities in the coastal waters. Some of the State Governments also requested the Government of India to consider appropriate legislative measures regulating operation of largher vessels in the coastal area which is traditionally exploited by small fishermen".[23] The Central Government offered to draft a

23. Report of the Committee on Delimitation of Fishing Zones for Different Types of Fishing Boats, submitted to the Government of India in 1978, known as the Majumdar Committee Report, para 2.7 at p.4.

Marine Fisheries Bill incorporating provisions for safeguarding the interests of traditional fishermen. In 1979, the Forum picketed the Parliament House and submitted a model Marine Fishing Regulation Bill.

In fact, the idea of demarcating fishing areas "in order to safeguard the interests of coastal fishermen operating small boats and crafts" was mooted at the 10th meeting of the Central Board of Fisheries held in March, 1976. After discussions, the Board recommended the constitution of a Committee "to advise the Government of India on the need and scope of legislation on delimitation of fishing zones among non-mechanised, small mechanised and large mechanised fishing vessels," Accepting this recommendaton, the Government of India issued a notification[24] constituting a Committee on Delimitation of Fishing Zones for Different Types of Fishing Boats, headed by Sri A.K. Majumdar with the terms of reference as follows:-

> "The Committee shall examine the question of delimiting areas of fishing for different types of boats, particularly by big trawlers, so that there is no unfair competition with small mechanised boats and country crafts. The Committee shall also recommend measures for ensuring implementation of its recommendations."[25]

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24. Notiication No. 14-7/72-FY(T-1) dt. 24.5.1976 issued by the Government of India, Ministry of Agriculture & Irrigation.
25. Ibid.

The Committee submitted its report to the Govenment along with a Draft Marine Fishing Regulation Bill. The Government made over that Bill to the States advising them to adopt it with suitable modifications.[26] Pursuant to this, the States of Goa,[27] Maharashtra,[28] Orissa,[29] Tamil Nadu[30] and Kerala[31] enacted the Marine Fishing Regulation Acts.

The Kerala Marine Fishing Regulation Act, 1980:

Going by its Preamble, the Kerala Marine Fishing Regulation Act, 1980 is intended "to provide for the regulation of fishing by fishing vessels in the sea along the coastline of the State." It provides for regulation of fishing, licensing and registration of fishing vessels and for enforcement of its provisions.

(a) Regulation of Fishing:-

The Act empowers the Government:

a. to reserve and delimit specific areas of the territorial sea for fishing by specified types of vessesls;

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26. D.O. No. F. 30035/10/77-Fy (T-1) dated 29.3.1978.
27. Goa Marine Fishing Regulation Act, 1980.
28. Maharashtra Marine Fishing Regulation Act,1981.
29. Orissa Marine Fishing Regulation Act, 1982.
30. Tamil Nadu Marine Fishing Regulation Act, 1983.
31. Kearala Marine Fishing Regulation Act, 1980.

b. to lay down the number of vessels to be operated in the specified areas;

c. to regulate or prohibit catching of specific species of fish in any specified areas; and

d. to regulate or prohibit the use of specified fishing gear in specified areas.[32]

(b) Relevant considerations:-

The aforesaid powers are to be exercised having regard to:

a. the need to protect the interests of different sections of persons engaged in fishing, particularly those engaged in fishing using traditional fishing crafts such as catamarams, country crafts and canoes;

b. the need to conserve fish and to regulate fishing on a scientific basis;

c. the need to maintain law and order in the sea; and

d. any other matter "that may be prescribed".[33]

(c) Licensing and Registration:-

Fishing vessels are required to obtain licences and registration. A licence is liable to be cancelled if it is obtained by misrepresentation, or if any of the

32. S.4(1)
33. S.4(2)

conditions thereto are contravened. The movement of a registered fishing vessel from the area of one port to the area of another port is to be brought to the notice of the authorised officer as also of the Port Officer having jurisdiction over the area. The owners of registered fishing vessels are required to furnish periodic returns with respect to matters prescribed by Rules. An appeal is provided against the order of the licensing or registering authority. Subject to such appeal, the orders made by such authorities are final.[34]

(d) Compliance Mechanism:-

Officers authorised by the Government have the power to enter and search any vessel used or suspected to have been used in contravention of any of the provisions of the Act or of the Rules framed thereunder or of any of the conditions of the licence.[35] The officer shall keep the fishing vessel impounded and may dispose of the seized fish and deposit the proceeds thereof in the office of the Adjudicating Officer.[36] The authorised officer shall report the contravention or suspected contravention in respect of a fishing vessel to the Adjudicating Officer who shall hold an enquiry into the matter with notice and opportunity to the concerned parties.[37] Any person found guilty of any such contravention is liable to such penalty as may be

34. Ss. 6-13.
35. S. 14
36. S. 15
37. S. 16.

adjudged by the Adjudicating Officer.[38] Over and above this, the Adjudicating Officer may cancel, revoke or suspend the registration certificate or licence in respect of the fishing vessel which was used or caused or allowed to be used for such contravention.[39] He may also direct that the fishing vessel or fish impounded or seized for the contravention be forfeited to the Government unless he is satisfied that the owner or any person claiming any right thereto had exercised due care for avoiding such contravention.[40]

Any person aggrieved by an order of the Adjudicating Officer may prefer an appeal to the Appellate Authority constituted under the Act.[41] It is a condition precedent for entertaining an appeal that the amount of penalty payable under the order appealed against is deposited along with the appeal. However, the

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38. S.17(1). Originally, the penalty contemplated by the Section was Rs.5,000/- or five times the value of the fish caught. This provision was amended by the Kerala Marine Fishing Regulation (Amendment) Act, 1986 by adding a Proviso to S.17(1). It empowers the Adjudicating Officer to impose a minimum penalty of Rs.25,000/- which may extend to Rs. 50,000/-.
39. S.17(2).
40. Proviso to S.17(2). This was substituted by a new Proviso by the Kerala Marine Fishing Regulation (Second Amendment) Act, 1986. It empowers the Adjudicating Officer to forfeit the vessel and the fish caught in case of a subsequent contravention contemplated by this section.
41. S.18. Originally, appeals were to be preferred to an Appellate Board. It was substituted by the District Collector as Appellate Authority as per S.3 of the Kerala Marine Fishing Regulation (Second Amendment) Act, 1986.

Appellate Authority may dispense with such deposit if it is satisfied that the deposit is to be made as above causes undue hardship to the appellant. The decision of the Appellate Authority on such appeal shall be final.[42]

The Appellate Authority may call for and examine the records of any order passed by an Adjudicating Officer against which no appeal has been preferred for the purpose of satisfying itself as to the legality or propriety of such order or as to the regularity of the procedure and pass such order thereon which it deems fit.[43]

The Adjudicating Officer and the Appellate Authority, while exercising the aforesaid powers, are vested with the powers of a civil Court under the Code of Civil Procedure, 1908 like summoning and enforcing the attendance of witnesses, requiring discovery and production of documents, requisitioning any public record or receiving evidence on affidavits and issuing commissions for examining witnesses or documents. They will be deemed to be civil courts for the purpose of Ss. 345 and 346 of the Code of Criminal Procedure, 1973.[44]

(e) Rule Making Power:-

Section 24 of the Act empowers the Government to make Rules for carrying out the provisions of the Act by notification in the Gazette. Such Rules may provide for

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42. Ibid. 43. S.19
44. S. 20

all or any of the matters enumerated in S.24(2). Sub Section (3) of S. 24 provides that such Rules are to be laid before the Legislative Assembly while it is in session for a total period of 14 days. The Rules shall have effect with such modifications or amendments as may be made by the Legislative Assembly. By virtue of this Rule making power, the Government has framed the Kerala Marine Fishing Regulation Rules, 1980.

(b) Deep Sea Fishing:-

Inspite of declaration of sovereignty over a 200 mile Execlusive Economic Zone as early as in 1976, we have not so far made any general law relating to fishing and fisheries beyond territorial waters. Deep Sea Fishing is highly capital-intensive and risk prone and we did not have the required entrepreneurship or technology for venturing into it directly. The Government of India was eager to promote investment in this sector for greater exploitation of marine fishery resources towards availability of fish for export earnings. Therefore, it provided certain "policy supports for the development of the industry"[45] The Shipping Development Fund Committee was entrusted with the task of extending soft loans to the deep sea fishing sector. Loans were provided to the extent of 95% of the coust of the vessel and the debt-equity ratio was 6 :1.

45. Report of the Committee to Review Deep Sea Fishing Policy, Feb., 1996, submitted to the Government of India, known as the Murari Committee Report, p.22.

A number of Indian Companies acquired deep sea fishing vessels since 1975. Almost all of them were shrimp trawlers. They operated on the east coast in a limited areas from Visakhapatanam. Their number went on increasing since their operations were economically viable in the beginning. By 1984, the number of deepsea fishing vessels was around 84 and it increased to around 180 in 1991. Their catches were showing a fluctuating trend during the period between 1987 and 1991. They had to face serious competition from mini trawlers and sona boats. The increase in the deep sea fishing fleet was induced by national economic policies which foresaw the fishery sector making an increasing contribution to its foreign trade balance. Liberalised financial assistance and support and the consequent over-investment resulted in negative impacts. Firstly, the shrimp resources were overfished with a manifest decline in the Catch Per Unit Effort. Secondly, initial success of the deep sea fishing fleet tempted the small-scale sector to venture into shrimping in the same fishing grounds, thereby aggravating the situation of overfishing. Thirdly, due to the nature of the development policies, over-investment and overfishing, the entrepreneurs had to struggle for survival by resort to opportunistic practices. Lastly, these developments put the entrepreneurs at the mercy of the crews and administrators; huge debts coupled with strikes and labour unrest brought in further financial loss and paralised the deep sea fishing industry.

In spite of their problems, the deep sea fishing entrepreneurs have attempted to diversify their operations for deep-water lobsters off the south-west coast and Andaman and Nicobar. Here again, because of initial good results, more trawlers entered the scene. Deep sea lobsters are particularly vulnerable to trawlnets; they have a long life cycle and slow growth rate. Intensive trawling depleted the stock. In spite of the availability of continental slopes having a total surface of about 1,47,000 Km, our deep sea trawlers did not venture to look for new deep water lobster grounds. Insufficient knowledge of the deep water resources, hesitation of the DS F fleet for risking new fisheries ventures in the wake of financial problems and limitations of the skippers were the reasons for their attitude.[46]

In 1987, the Government of India abolished the Shipping Development Fund Committee and appointed the Shipping Credit and Investment Corporation of India Limited, as its designated agency. A rehabilitation package was offered to the DSF fleet in 1991 which were further liberalised in 1992. However, these efforts did not succeed.

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46. M. Giudicelli, Study of Deep Sea Fisheries Development in India, FAO, Rome, April, 1992, p.44.

Chartered Fishing:-

During 1977-78, the Government of India permitted a few companies to charter vessels from Thailand. It was then realised that a legisltion would be required to regulate the activities of foreign fishing vessels operating in the Indian EEZ. For this purpose, the Maritime Zones of India (Regulation of Fishing by Foreign Vessels) Act, 1981 was enacted.[47] The objectives of the Original Charter Policy of 1981 were:-

a. to establish the abundance and distribution of fishery resources in the Indian EEZ;

b. to assess suitable craft and gear for economic operations;

c. transfer of technology;

d. to enlarge the deep sea fishing fleet on ownership basis; and

e. to establish overseas markets for non-conventional fish.

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47. The owner of a foreign vessel or any other person intending to use such vessel for fishing within any maritime zone of India is required to obtain a licence for the same as per Sections 3 and 4 of the Act. Indian citizens, Companies with not less than 60% share holdings by Indian citizens and registered co-operative societies, the members of which are Indian citizens desirous of using any foreign vessel for fishing within any maritime zone of India should obtain a permit for the same in terms of Sections 3 and 5 thereof.

Under this policy, the charterers were required to acquire the same number of vessels as they had operated under the charter. The idea was to build up a deep sea fishing fleet capable of adopting modern fishing methods for exploiting resources of the Indian EEZ on a sustainable basis.

On a review, certain modifications to the same were considered necessary; and acordingly, a new Charter Policy was introduced in 1986. It allowed only resource-specific vessels like tuna fishing vessels, squid jiggers, stern trawlers and the like.[48] Even though a modified Charter Policy was formulated in 1989, it was not pressed into service. New applications for charter are not being considered.[49]

Chartered fishing vessel operations in the Indian EEZ are reported to have made little positive impact on the DSF Sector[50]. The information provided by the operators of these trawlers and longliners cannot be fully trusted. For example, the long liners that operated off the North-West coast during 1990 claim to have applied about 35% of their fishing effort for less than 11% of the catch per day per boat! Commenting on this claim, the FAO Consultant observes as follows:-

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48. Bull trawlers, which were permitted under the 1981 policy, were no longer permitted since their operation in unlimited numbers was found to be not ecologically safe.
49. Murari Committee Report, supra, note 45.
50. See Giudecelli, supra, note 45

> "Such lack of insight for longlining professionals of world fame, such as the East Asian fishermen, who were involved in this operation, is hard to accept."[51]

Nor has chartered fishing resulted in any bio-economic analysis which could have been used for evolving national development policies or for compiling techno-commercial information for future guidance in deep sea fishing. No native skippers were trained in operating the deep sea fishing vessels and local entrepreneurs were not trained in the management of fishing companies.[52]

In this background, the Government of India and the Association of Indian Fishery Industries requested the Food and Agriculture Organisation of the United Nations for assistance in identifying avenues for the sustainable and viable development of the DSF fleet. A study on Deep Sea Fisheries Development in India was conducted by a team under the leadership of Sri M. Giudicelli on behalf of the FAO and the report was made available in April, 1992.

That report quantified and qualified the theoretical potential marine resource existing in the Indian EEZ and identified an available resource of 1,64,000 tonnes per year for exploitation by the DSF

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51. Ibid.
52. Ibid.

fleet. Its finding is that our DSF fleet has the technical and managerial capacity to continue and diversify its operations. Measures have been proposed for the gradual and phased redeployment of the DSF fleet and for collection of catch based on the suggested 'demonstration commercial fishing'. Exphasising the need and scope for diversification, as a strategy helpful for resource management also, the study opines as follows:-

> "..... the main problem of the fishery is not so much its capital and operation costs, which have been generally fair, by developing countries standards. The primary problem is, by far, the situation of over-investment in the shrimp business, and subsequently of economic overfishing its target resource. Therefore the priority need for the fishery is not further development, but resource management. The first step of this policy should be to decrease the pressure of the DSF on the penaid shrimp stock through retargetting a substantial portion of its catching power on other resources."
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> However, the DSF managers, inspite of their understanding of this need and of their willingness to redeploy their activities, cannot be expected to initiate such an undertaking largely due to their poor financial position."[53]

53. See p. 27 of that Study Report.

The proposals of that Study Report include demonstration commercial fishing, redeployment of the DSF fleet, identification of the most promising DSF enterprises for rescheduling their past debt and offering new credit at conditions sustainable by their new operations, guidelines for extending incentives to them, maintenance of stock assessment estimates for ensuring effectiveness of a resource management aiming at sustainability of the resource and thereby the sustainable development of the DSF fleet.[54]

Deep Sea Fishing Policy of 1991:-

In the meanwhile, the Government of India announced its new Deep Sea Fishing Policy in March 1991 involving the following schemes:-

1) Joint Ventures between Indian and foreign companies in deep sea fishing;

2) Leasing of foreign fishing vessels for operation in the Indian EEZ;

3) Test Fishing by engaging foreign fishing vessels; and

4) 100% Export Oriented Units.

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54. Ibid, at pp. 31-33.

This endeavour is directed more towards a wider utilisation of the export potentials of the DSF sector than to its development or diversification. Joint Ventures, on a World Scale, are generally "lucrative combinations for financiers and merchants" and "they often fail to create independent and genuine national fisheries enterprises."[55] The leasing system, if not properly handled, has the inherent danger of introducing boats which are often too big, powerful, costly or old into the country and that are not the most appropriate for the local conditions as happened all along the coast of West Africa, in South East Africa and in Southern Latin America.[56] The foreign collaborators undertaking test fishing have primarily other alternatives than operating exclusively in Indian Waters. They basically aim at seeking quick and highly lucrative results. They may not be interested in utilising the correct technology for determining the commercial potential of the resources in the Indian EEZ. Since the resource potential is not very dense outside the 0-50m depth of Indian coastal waters, they are likely to move out of the Indian EEZ without demonstrating anything useful for the local entrepreneurs. Given the right support, the Indian entrepreneurs may be able to identify development opportunities "where their foreign partners could find nothing positive for their own interest"[57]

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55. Ibid, at p.25
56. Ibid.
57. Ibid, at p.26

After the Government of India pronounced its new Deep Sea Fishing Policy in 1991, the National Fish Workers' Forum and other organisations of fishers started protesting against it, organised public opinion, submitted representations and started agitations against it. They insisted on introduction of Deep Sea Fishing Regulations. An all India Fisheries Bandh was organised in February, 1994, and a Black Day was observed in July, 1994. An indefinite All India Fisheries Strike was launched in November 1994. Such agitations conitinued in 1995 also.

In the background of these agitations, the Government of India constituted a Committee to review the Deep Sea Fishing Policy of 1991 under the Chairmanship of Sri P. Murari.[58] That Committee submitted its report in February 1996.[59] It recommended all permits issued for fishing by joint venture, charter, lease and test fishing to be cancelled immediately. It has also suggested demarcation of different depth zones for traditional crafts, mechanised boats and deep sea vessels in the areas upto the EEZ as a strategy for fishing deversification and viable operation of the native fishing fleet. The Committee noticed that conflicts over space and resource have erupted in the Deep Sea Fishing grounds and that

58. Order No. 21001-1/95 FPI (Fy) dated 7.2.95 issued by the Ministry of Food Processing Industries, Government of India.

59. Report of the Committee to Review Deep Sea Fishing Policy submitted to the Government of India in February, 1996, known as the Murari Committee Report.

complaints of poaching by foreign and Indian vessels have been common. It has recommended that the Parliament should pass Deep Sea Fishing Regulation after consulting the fishing community for conserving the fishery resources and for reducing conflicts in the seas. It has also suggested that the Coast Guard or some other suitable central or state agency should be entrusted with the taks of preventing conflicts between the traditional, small mechanised and large deep sea vessels. It has suggested upgradation of the technological skills and equipment in use in all the sectors and to extend financial assistance for that purpose. As a future strategy for fisheries development at the national level, the Committee has recommended as follows:-

> "All types of marine fisheries should come under one Ministry. The Government should also consider setting up a Fishery Authority of India to function in the manner in which such authorities set up in other countries function and to be responsible for formulation of policies as well as their implementation".[60]

The Murari Committee has suggested that the Government should take a decision on its recommendation

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60. Ibid at pages 60-61.

within a period of six months.

It appears that the Government succeeded in pacifying the fish workers and their organisations by appointing the Committee. The Government's response to the recommendations of the Committee is yet to be seen.

The concern of the fishworkers and the recommendations of the Murari Committee are not to be taken lightly. Our obligation to pass a national legislation on fisheries for conserving and managing our deep sea resources based on the United Nations Convention on the Law of the Sea, 1982 and in the light of the U.N. Treaty on Straddling and Highly Migratory Fish Stocks (1995) and in harmony with the FAO Code of Conduct for Responsible Fisheries (1995) was highlighted by a dissenting note of Fr. Thomas Kocherry, Chairperson, National Fisheries Action Committee Against Joint Ventures and other six members of the Murari Committee.[61] Such steps in these directions require to be made by passing a national legislation on fisheries under which a Fisheries Authority of India capable of formulating national policies and co-ordinating state-level policies can be constituted. The necessary legislative power is to be traced from the provisions of the Constitution itself.

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61. The dissent is only on a minute point, regarding the modalities of putting an end to foreign fishing.

F. Conclusions:

The modern tendency in national legislations is to integrate legal provisions relating to EEZ fisheries into the general fisheries legislation. There is a strong need for the same in the Indian context also in view of the migratory nature of the species available as also in view of the migratory habit of coastal fishermen inhabiting our coastal waters abutting different States. Such integrated national legislation gains importance in view of the apparent link between our inland and marine waters also and in view of the feeding and breeding habits of different species found in our fisheries waters.

After the commencement of the Constitution, tremendous developments have taken place in our inland and marine fisheries. Reservoir fisheries and scientific aquaculture are essentially recent developments in the inland sector. In the marine context also, there is a consierable expansion of our fisheries from inshore to offshore and from there to the deep sea up to the EEZ. With the expansion of our inland and marine fisheries as above, we are faced with further problems of conservation and management. In view of our federal set up and in the light of the distribution of legislative powers in respect of fishing and fisheries, the task before us is to strive at formulating a unified and integrated natinal legislation covering different aspects of fishing and fisheries that can cater to the needs of the present

situation effectively coordinating and managing our policies applicable to the entire Indian fisheries waters.

The Indian Fisheries Act, 1897 has become obsolete. The T.C. Fisheries Act, 1950, modelled mainly on the same, has also become out-moded. Both these enactments are unsuited to manage the fisheries in our rivers and reservoirs; they do not contain provisions for regulating scientific aquaculture. A unified legislation applicable to the whole State of Kerala could not be passed so far. Even the provisions of these existing enactments are not being effectively implemented in the context of our estuaries, backwaters and other public waters. The task of fishery management cannot be left to the local bodies concerned. They have no experience or expertise in managing them; they are more interested in increasing their revenue, and quite naturally. Our Fisheries Department has neither the incentive nor the infrastructure for properly and effectively implementing the provisions of the existing legislations. Needless to say that the compliance mechanism provided in the Indian Fisheries Act, 1897 and T.C. Fisheries Act, 1950 is out-moded, ineffective and highly insufficient.

Coming to the marine context, maritime states including Kerala had approached the Centre demanding the

passing of a suitable legislation for delimiting fishing zones for different types of crafts and gear in the coastal waters. This was by 1976, long after the Law of the Sea Conventions of 1958. Our Governments at the Centre and the States have a duty cast on them by Article 51 (c) of the Constitution to respect the provisions of the U.N. Conventions on the Law of the Sea. Article 252 empowers Parliament to legislate upon matters assigned to the States, when two or more States request it to do so. That apart, under Article 253, Parliament has the power to legislate on such matters for respecting such International Conventions. Therefore, there was scope and chance for a national legislation on fisheries when the maritime states looked upon the Centre for such steps in 1976. After the Marine Fishing Regulation Acts were passed by the coastal states at the advice of the Centre on the model of the Draft Bill appended to the Report of the Majumdar Committee, the Law of the Sea Convention, 1982 came into existence. Even though India declared her sovereignty over the 200 mile EEZ much earlier than that, in 1976, by redrafting Article 297 of the Constitution and enacting the Maritime Zones Act, 1976, no attempt has hitherto been made to respect her obligation to implement the spirit of the Law of the Sea Convention, 1982 into our national legislation. Of late, a new global treaty has been concluded on 4th August 1995. The United Nations Treaty for the Conservation and Management of Straddling

Fish Stocks and Highly Migratory Fish Stocks, 1995 establishes important and new conservation obligations in the management of fisheries for Straddling and Highly Migratory Fish Stocks inside and beyond the nation's EEZ. The FAO has, more or less simultaneously, prepared a Code of Conduct for Responsible fisheries in 1995 itself. These developments also oblige us to pass a comprehensive fisheries legislation.

The only legislation applicable to Deep Sea Fishing in our EEZ area is the Maritime Zones of India (Regulation of Fishing by Foreign Vessels) Act, 1981. Going by the provisions of Articles 61 and 62 of the U.N. Convention on the Law of the Sea, 1982, foreign fishing need be permitted in our EEZ area only if there is any surplus left after meeting our national requirements. We have got a legal and constitutional obligation to equip our fishermen to explore the fishery wealth in the EEZ area for providing employment opportunities and a decent livelihood for them since they collectively form a weaker section of the society. Going by the Giudicelli and Murari Committee Reports, our fishing fleet need only be diversified and encouraged to tap the fishery wealth of our EEZ areas. Our fishermen from Gujarath, Karnataka, Tamil Nadu and West Bengal have proven themselves to be capable of venturing to deep sea fishing. Foreign fishing is reported not to have helped us in improving our

technology or in identifying the untapped fishery wealth. Going by the Reports of these Committees also, we should totally avoid foreign fishing and encourage our native fishermen and their talents to explore the bounties of our EEZ.

Excepting conflict management, no conservation measures, worthy of mention, could be achieved by the Marine Fishing Regulation Acts. From the point of view of conservation of the fishery wealth, their habits and environment, much more regulatory measures covering and integrating inland and marine fisheries require to be adopted. We are bound to have a Natioal Fisheries Plan and Policy with viable and suitable regional variations and adjustments. Steps for conservation and management should be chalked out at the local level, involving the fishermen themselves. There should be co-ordination of such steps at the regional and national levels.

Fisheries legislation and management policy should aim at conservation of the fishery wealth, management of inter-gear conflicts, support to the subsistance sector, provision of fish for food in the domestic front and also at export of fish to foreign markets for earning foreign exchange. In the following Chapters, we will examine our fishery legislations from these angles and try to find out solutions which will help us in suggesting the contents of a proposed national fisheries legislation.

CHAPTER - IV - CONSERVATION

a) Conservation Measures insisted on by the U.N. Conventions:-

Legislation in respect of fishing and fisheries should basically be aimed at sustainability of the resource, supply of fish as a cheap and nutritious food item as well as its availability to the fishers who depend upon it for their livelihood. The Geneva Convention on Fishing and Conservation of the Living Resources of the High Seas, 1958 imposed a general obligation on its signatories to adopt conservation measures, when necessary, supplemented by other obligations of specific kinds. Article 6 (1) of the Convention declared that a coastal state has a special interest in the maintenance of the productivity of the living resources in "any area of the high seas adjacent to its territorial sea." Article 7 enabled coastal states to adopt even unilateral measures of conservation for maintaining the productivity of the living resources in such areas. Such measures would take effect in the absence of agreement with other states concerned and on fulfilment of the following conditions:-

a) That there is a need for urgent application of conservation measures in the light of the existing knowledge of the fishery;

b) That the measures adopted are based on appropriate scientific findings; and

c) That such measures do not discriminate in form or in fact against foreign fishermen.

Thus the need for conservation measures in respect of the living resources of the 'High Seas' adjacent to the territorial seas and the right of the coastal state to adopt unilateral (or bilateral) conservation measures as applicable to it stood internationally recognised by the said Convention of 1958.[1] Needless to say that the coastal state was always having the power to introduce conservation measures in its own territorial seas and internal waters.

The U.N. Convention on the Law of the Sea, 1982 recognised the desirability of promoting the equitable and efficient utilisation of the resources of the seas and oceans, the conservation of their living resources and the study, protection and preservation of the marine environment. The coastal state is to determine the allowable catch of the living resources in

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1. Simultaneously with this, the Geneva Convention on the Continental Shelf, 1958 declared that the coastal state exercises sovereign rights over its continental shelf for the purpose of exploring it and exploiting its natural resources including living organisms of the sedentary species.

its Execlusive Economic Zone.[2] It shall, on the basis of best scientific evidence available to it, take proper conservation and management measures to prevent over-exploitation of the living resources in the EEZ. Some minimum standards are to be evolved and maintained at levels which can produce the Maximum Sustainable Yield (MSY), "as qualified by relevant environmental and economic factors" including the special requirements of developing states. The fishing patterns, the interdependence of stocks and other generally recommended international minimum standards are to be taken into account in determining the Total Allowable Catch. The effects on species associated with or dependent upon harvested species should also be taken into consideration with a view to maintaining or restoring populations of such associated or dependent species above levels at which their reproduction may become seriously threatened.[3]

The coastal state is to promote the objective of optimum utilisation of the living resources in the EEZ. It shall determine its capacity to harvest these resources in the EEZ. Where it has no capacity to harvest the entire allowable catch, it may enter into agreements with other states to have access to the surplus.[4]

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2. Art.61
3. Art.119
4. Art.62

Duty of Coastal States in relation to anadromous stocks:-

States in whose rivers anadromous stocks[5] originate have the primary interest in, and responsibility for, such stocks. The state of origin of anadromous stocks shall ensure their conservation by the establishment of appropriate regulatory measures for fishing in all waters landward of the outer limits of its EEZ. It may also establish total allowable catches for stocks originating in its rivers.

Fisheries for anadromous stocks shall normally be conducted only in waters landward of the outer limits of the EEZ.[6]

Catadromous Species:-

A coastal state in whose waters catadromous species[7] spend the greater part of their life-cycle have responsibility for the management of these species and shall ensure the ingress and egress of migrating fish. Harvesting of catadromous species shall be conducted only in waters landward of the outer limits of the EEZ.[8]

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5. Those species of fish that ascend rivers from the sea to spawn.
6. Art. 66
7. Those species that descend rivers to lower reaches or to the sea to spawn.
8. Article 67

All states have the duty to take or to co-operate with other states in taking such measures for their respective nationals as may be necessary for the conservation of the living resources of the high seas.[9]

India being a signatory to these Conventions, Art. 51 (c) of the Constitution enjoins a duty on the Central and State Governments to implement it. Art. 253 empowers Parliament to make any law for implementing it. It is in this background that our legislations on fishing and fisheries within and beyond our territorial sea have to be examined from the conservation point of view.

b) Necessity and Relevance of Conservation:-

Of the world's 15 major fishing regions,[10] the catch in all but[11] has fallen; in four[12] of the hardest hit areas, the total catch has shrunk by 30 percent. "With fewer fish to net in many of the world's fishing grounds, fishers fear becoming fewer than the fish they seek."[13] In the South Western Region of the Indian coastal waters consisting of the areas of Goa, Karnataka

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9. Art. 117

10. Atlantic Ocean:- 1) Northwest; 2) Northeast; 3) West Central; 4) East Central; 5)Southwest; 6)Southeast; 7) Meditarranean and Black Seas; Pacific Ocean:- 8) Northwest; 9) Northeast, 10) West Central; 11) East Central; 12) Southwest; 13) Southeast; Indian Ocean:- 14) Western; 15) Eastern. See: Peter Weber, Net Loss: Fish, Jobs and the Marine Environment, Worldwatch Paper 120, 1994, pp. 6 & 13 and Table 1 at p.14.

11. Western and Eastern areas of the Indian Ocean Region.

12. Northeast and Southeast Atlantic Regions, Meditarranean and Black Seas and Northeast Pacific Region.

13. Peter Weber, supra, note 1.

and Kerala, indications of depletion of fisheries have already been detected.[14]

Overfishing and Overcapacity:-

Overfishing, destructive and indiscriminate methods of fishing, pollution and environmental degradation attribute to the depletion of the fishery wealth. Overfishing can be brought into three major categories. Firstly, when fishing does not become economically viable due to operation of more units than required, even though landings are not adversely affected by it, Economic Overfishing sets in. Then, there is a tendency to increase effort-pressure, such as reduction in mesh size and increase in the overall dimensions of the gear. This situation automatically leads to gradual reduction in the average size of the fish caught. This may finally result in Size Overfishing or growth overfishing. Secondly, clashes among sectors of fisheries and reduction in the average size of the fish caught are signs of Economic and Size Overfishing. Lastly, if size overfishing is allowed beyond limits such as catching the entire fish at a spot before they reach the size at first maturity so as not to give them

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14. Report of the Expert Committee on Marine Fisheries in Kerala, submitted to the Government of Kerala on 19.5.1985, known as the Kalawar Committee Report, p.210.

a chance to spawn at least once, then Recruitment Overfishing will set in. As a result, no fishery resources worth mentioning will be left for minimum exploitation. "Fertile fishing grounds will thus be converted into virtual acqua-deserts.[15] Intensive and indiscriminate fishing in an area may destabilise the ecosystem to the point of bringing about changes in species dominance. This is known as ecosystem overishing and it can cause long term declines in the target species. As fishermen shift from species to species as each become depleted, Serial Overfishing sets in.[16]

Overfishing is a direct consequence of overcapacity. It is not just the number of fishers alone that creates the problem, but also the size of their nets, their craft and gear. Depending on the type, size and capacity of the craft and gear used for fishing operations, fisheries can be grouped into small-scale or community based fishers,, medium scale and large-scale industrial fishers. Each sector has more or less the same capacity to bring in fish, even though the employment and other social implications are different.

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15. Report of the Expert Committee on Marine Fishery Resources Management in Kerala, submitted to the Government of Kerala, on 26.6.1989, known as the Balakrishnan Nair Committee Report, p.22.
16. Peter Weber, supra, at. p.18.

Modernisation Policy of the Governments:-

In our State, the Central and State Governments, in their anxiety to promote exports, pursued a policy of 'modernisation' in the sixties' and seventies' which developed a commercial fishing fleet owned by outside businessmen. The State Government paid for 25 percent of the hull and 50 percent of the engine for commercial fishing vessels in the form of subsidies and provided low-interest loans for the rest. When the small-scale fishers protested, the Government reversed its policy by 1978 and started providing them with subsidies for outboard motors, small boats and modern gear. Both the policies resulted in overfishing; the former, through the newly introduced mechanised fishing fleet and the latter, through the small-scale fishermen themselves.

Mechanisation and its Consequences:-

Three types of mechanised fishing have been introduced in the waters off the Kerala coast - gill

netting;[17] shrimp trawling[18] and purse-seining.[19] During the period 1969-80, marine fish production by the artisanal fishers in Kerala was showing a declining trend at an annual rate of 3.34% resulting in very poor household incomes and this resulted in a general social

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17. Gill nets are entangling nets in which the fish get enmeshed in the netting. They can be either a single layered gill net, a triple layered trammel net or a combination of both, in which case, the finer meshed trammel net catches the bottom species, leaving the gilled top half to trap semi-demersal or pelagic fish. They can be used alone or placed in files as a fleet of nets. They can be put to use at the surface, in mid-water level or at the bottom. In its passive form, it is often used as set gill nets or on stakes in coastal waters. They are also used as enclosing gill nets; a circle is drawn in water with the net and the encircled fish is secured to flee and get enmeshed. They can also be used as drift gill nets, moving with the current or attached to a boat.

18. Trawl Nets are towed nets with a cone-shaped body closed by a bag and extended at the mouth by wings. More than one net can be towed by a boat, or a single net towed by two boats. Specificity is attempted by adjusting the depth of the trawl, mesh size and the size and lay of the net mouth.

19. Purse-seine is a version of surround nets which catch fish by surround them both from the sides and from underneath. Purse-seines are characterised by the use of a purse line which closes the net like a purse to retain the catch.

unrest. Production from the trawler fleet during the same period kept on increasing at an annual rate of 158.7% . The artisanal fishers attributed the decline in their production to resource depletion by the trawlers. Both the groups were concentrating in the same fishing grounds, though essentially for different species, Competition for space was also believed to be a major reason for the declining catches of the artisanal sector.

Fishermen's reaction:-

Fishermen complained that the wall-like position of the gill nets prevents the movement of fish from the offshore to the inshore waters and that it scared away the fish reducing the availability of fish for their traditional nets in the inshore waters. They maintained that the ploughing and sweeping of the sea bottom by the trawling nets pressurised by the heavy otter boards destroy the eggs, juveniles, small living organisms and fish nutrients. According to them, the purse seiners catch not only the adult species of oil sardine and mac kerel, but also even their young ones in huge shoals. They destroy pelagic fishes in large number. They demanded a total ban on night fishing. The entry of the purse seine fleet by the end of 1979 and its subsequent growth created problems of competition for fishing space, resources as well as prices. By the year

1980, about 10% of the active artisanal fishers were forced to take up alternate avocations. The decline in their productive capacity and income resulted in the demand for a scientific enquiry into the problem and for intorudcing appropriate measures to improve their position.

Government Policy of Conflict Management:-

Confronted with this demand, the State Government attempted to deal with the situation by:-

1. restricting mechanised trawling to waters beyond a depth of 10f.;
2. restricting purse seining to areas beyond territorial waters;
3. banning night trawling;
4. temporarily banning monsoon trawling at Saktikulangara - Neendakara area;
5. enhancing the minimum mesh size of the cod end of trawls to 35 mm; and
6. introducing a motorisation programme for enhancing the productive capacity of the artisanal sector.

Simultaneously with this, the State Government appointed the Babu Paul Committee "to study the need for conservation of marine fishery resources during certain

seasons of the year and allied matters".[20] That Committee unanimously recommended[21] certain conservation measures of a general nature. However, the opinion of the Committee was 'divided' on the question of the specific need for adopting a close season for trawling boats as a management measure. Those who opposed it maintained that though there were definite indications of economic overfishing, signs of biological overfishing are not there. They attributed inadequate management measures and unregulated entry of trawlers as the causative factors responsible for economic overfishing.

The artisanal fishers insisted on strict enforcement of the Kerala Marine Fishing Regulation Act, 1980 and implementation of the recommendations of the Babu Paul Committee including the monsoon trawl ban. In view of the divided opinion of the Committee on the issue of monsoon trawl ban and due to the persistant social unrest posed by the artisanal fishers, the State Government appointed the Kalawar Committee to study and report on these matters. That Committee found[22] over capacity as the source of the problem and advised

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20. G.O. Tt. 980/81/TF & PD dt. 19.8.1981.
21. Report of the Committee to study the Need for Conservation of Marine Fishery Resources During Certain Seasons of the year and Allied Matters, submitted to the Government on 21.7.1982, Known as the Babu Paul Committee Report.
22. Report of the Expert Committee on Marine Fisheries in Kerala, submitted to the Government on 19.5.1985, known as the Kalawar Committee Report.

emphasizing small-scale, traditional fishing to maximise employment and to protect the livelihood of the poor artisanal fishers. It did not agree to a ban on monsoon trawling, but suggested a series of measures for the conservation and management of the resources. It strongly recommended reduction of the number of trawlers from 2,807 to 1,145, eliminating all the 54 purse seiners, reducing small motorised boats from 6,934 to 2,690 and keeping all the 20,000 non-motorised crafts.[23] In the case of our backwater fishery, the Committee found that there were three times as many illegal stake nets and Chinese nets as the licensed ones[24] and recommended reduction of the existing number of units to half of that pending estimation of the optimum number of units.

Fisheries Crisis:-

The recommendations of the Kalawar Committee were not implemented. No attempt was made to prevent the increase in the number of fishing boats. Trawlers, gill netters and other mechanised boats went on increasing in numbers. This tendency virtually undermined the very spirit of the Kalawar Report. Side by side with this, motorisation of traditional crafts

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23. Ibid,at pp 430 - 431.
24. Ibid, at p. 431. The 1975-76 Statistics that was relied on by the Committee indicated that 1,585 Chinese nets, 6,929 stake nets and 4,256 free type gears had been licensed by the Department of Fisheries, Government of Kerala, See, p.334 of that Report.

also went on increasing. Ring seines,[25] though banned, had become very popular and it continued to be operated by the artisanal fishers in increasing numbers. Mini trawling,[26] was also increasingly being resorted to by them. The fisheries sector of the State was facing a serious crisis characterised by surplus production inputs, unsteady catches, shrinking margin of returns, over-investment, uneconomic operations and a general social unrest.

Faced with such a sorry state of affairs, the State Government over again resorted to the very same device of appointing[27] (this time) the Balakrishnan Nair Committee to review the whole issue. The recommendations of that Committee include:-

1. Strict implementation of the existing delimitations of fishing zones for different types of craft[28] and the existing gear

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25. Ring seine is in effect a miniature purse seine, but considerably bigger in size than the traditional encircling net.

26. A small version of trawling operated in the Shallow waters.

27. See: G.O. Ms. No. 36/88/F & PD dt. 12.9.1988.

28. G.O.(P) No. 29/86/F & PD dt. 14.3.1986 prohibiting mechanised fishing except by motorised country crafts in areas upto 30 metre line in the sea along the coastline of the State from Kollangode to Paravoor Pozhikkara and upto 20 metre line from Paravoor Pozhikkara to Manjeswaram.

restrictions for fishing in territorial waters;[29]

2. Phasing out all the existing 3,497 mechanised trawling boats "in order to reduce the pressure on the fishing grounds as well as to ensure adequate return of investment"[30] and phasing out of all the 2,000 ring seine units in view of "the deleterious effect of the ring seine on the marine fishery resources."[31]

3. Removal of all the unlicensed stake nets and Chinese dip nets[32] and reduction of the number of the licensed ones to at least fifty percent of them by phasing them out gradually;[33] and

4. A total ban on trawling throughout the territorial waters of Kerala during the months of June, July and August.[34]

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29. G.O.(MS) No. 144/80 F&PD dt. 29.11.1980 and G.O.(P) No. 138/84/PWF & PD dt. 30.11.1984 prohibiting the use of purse seine, ring seine, pelagic trawl and midwater trawl for fishing in the territorial waters.
30. Report of the Expert Committee on Marine Fishery Resources Management in Kerala, submitted on 26.6.1989, p. 59. It is known as the Balakrishna Nair Committee Report.
31. Ibid.
32. The Committee noted that the number of licensed and unlicensed fixed engines and free nets exceeded 40,000.
33. Ibid, at p.70.
34. Ibid.

Governmental inaction:-

Excepting the monsoon trawl ban, the other recommendations of these Expert Committees seem to have practically been ignored or overlooked by the successive Governments in Kerala. The United Democratic Front and the Left Democratic Front come to power in Kerala in turn; both competing among themselves in their respective terms to undo or unsettle whatever the other front has done in its term. A close look at the circumstances in which each Committee was appointed would point to the conclusion that the Governments in power adopted such a course just to tide over the situation caused by the protests, dharnas, bandhs and agitations of the dicontented and aggressive traditional fishers spread over the whole state.

Shifting from Capture to Culture Fisheries ?

The fact that the Governments in power lacked the incentive, initiative and political will for implementing those recommendations is clear from the fact that they are projecting new 'policies' and 'measures' for "restoring the vitality and dynamism of Kerala's fisheries"[35] without proceeding to implement

35. See for example, Government of Kerala, Fisheries Development and Management Policy, April, 1993, prepared by a High Power Committee under the Chairmanship of the then Special Secretary, Fisheries, Government of Kerala in response to Government Order, G.O.(MS) No. 366/92/F dated 9.10.1992.

the conservation measures recommended by their own Committees. And the 'measures' invented by one of such 'policies' can best be gathered from the Preface of the "Fisheries Development and Management Policy" prepared by a "High Power Committee" under the Chairmanship of the then Special Secretary, Fisheries, Government of Kerala, a relevant extract of which is reproduced below:-

> "..... .
>
> 2. Nature's bounty; the skilled traditional communities involved in fishing and related activities; the population's avid appetite for fish and the nascent entrepreneurial flair in the state provided the basis for the prediction of the early 1950's that fisheries would become one of the prime industries of Kerala State.
>
> 3. Four decades later, this dream has still not been fulfilled. In fact, from being the premier fishery state of the country, we are now lagging behind other maritime regions in several respects. Over marine and inland water resources are not yielding the optimum harvests: the eco system of some of our water bodies are close to ruin: our efforts at moving from capture to culture fisheries show little sign of take off: and the socio-economic conditions and overall

quality of life of the population who earn their livelihood from the fishery remain far below that of the rest of the State's population.

4. The time has come to take stock of the situation at hand, formulate sound policy and implement effective measures to put Kerala back on its high pedestal in fisheries.

5. It is with this objective in mind that the Government now makes a policy statement and enunciates measures to put the fisheries sector of the State on a path of sustainable development and management for the future."

The cat is now out of the bag! Our fishery managers and their masters in power are apparently proceeding "to put Kerala back on its high pedestal in fisheries" by boosting their "efforts at moving from capture to culture fisheries."! It is evident that they are (knowingly or unknowingly) relegating the issues of "socio economic conditions" and "overall quality of life" of the population who earn their livelihood frm the fishery while acknowledging the fact that these two conditions of the traditional fishers "remain far below that of the rest of the State's

population" and are still attempting to move from capture to culture fisheries.

Political pressure from the powerful lobby of the mechanised fishing fleet and the anticipated agitation from their crew members against the threat of unemployment and a possible social unrest might have weighed with the Governments concerned in their inaction in the matter of implementing the recommendations of their Expert Committees. If they have the dedication, incentive and initiative to implement those recommendations, several alternatives are before them to tackle such situations like provision of alternate employments, fishing diversification, introduction of limited entry system and consolidation.[36]

Bio-economic equilibrium:-

One main reason for overcapacity is that fisheries are kept open to all comers. The danger inherent in the open access system is obvious: fishers continue to enter the fishery even when fish-yield and profits begin to fall. As fisheries decline, fishers

36, Encouraging bigger boats and smaller fleets. This can be implemented by buying back old and uneconomic units on the one hand and by providing finance and subsidies for modernising existing viable units or for purchasing new and bigger units. Diversification and consolidation can be tried together as a method of encouraging small-scale fishers to venture for deep-sea fishing.

try to get at bigger, faster boats with more advanced equipment and gear. The tendency will be to overfish, under-report the catch and even to poach. As the cycle of overfishing and overcapacity continues, the returns will fall down steeply and a stage will be reached when fishers start moving out of fishing. If this situation continues for a considerable period without any increase in the fishing effort, the fishery can recover slowly due to the consequent automatic balancing of the biological and economic factors. This is known as the "bioeconomic equilibrium"[37]

Need for managing overcapacity:-

We cannot afford to leave our fishery to undergo such a cycle for paving the way for reaching an automatic bioeconomic equilibrium. We are bound by our socio-economic objectives projected in the Constitution. The artisanal fishers, mainly inhabiting in our coastal areas, require to be recognised as a weaker section or backward class of citizens requiring state aid and support.[38] Our governments should recognise their constitutional obligation[39] to take drastic measures for managing the problem of overcapacity in the fisheries sector. This is unavoidable for sustainability of the resource as well as for sustainability of the sector.

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37. Peter Weber, supra, at p.29.
38. See: Art. 46 of the Constitution.
39. See: Arts. 38 (2), 39 (a), 41 and 43.

c) Destructive and Indiscriminate fishing

Destructive and indiscriminate methods of fishing will naturally affect the fishery wealth and their habitat. Even though they stand prohibited or restricted through legal measures, they are still on the increase. The use of dynamite for fishing, poisoning of fish and electric fishing are very common in the backwaters. The operation of stake nets and china nets during high tides (Ettam kettal) is on the increase. This will prevent the migration of the juveniles and young ones of prawns and other migratory species and even destroy them. Young ones of such species migrating to the system through the barmouths are virtually filtered out by the contiguous row of stake nets and china nets. "Despite the restrictions imposed on the proliferation of stake nets and Chinese nets, more especially at the mouth of the estuaries and backwaters, the situation has gone from bad to worse in recent years.[40] Under the existing system of traditional prawn filtration, prawns are trapped, held in vast fields and harvested. The main drawback of this practice is its adverse effects in the recruitment of prawns back to the sea. The magnitude of avoidable destruction to the juveniles and young ones makes it "a very destrive net method, more harmful than any other type of harvest fisheries."[41]

40. Balakrishnan Nair, supra, at p.43
41. Ibid, at p.47.

The fauna of the backwaters consist of marine and fresh water organisms which can adopt to waters of different and varying salinities and truely estuarine species. The majority of the backwater fauna is recruited from the sea and the fisheries "mainly depend on the ingress of different life history stages of these organisms from the sea.[42] Prawns of the Kerala coast are known to breed exclusively in the sea. The larval development is completed in 2 to 3 weeks in the sea. The early post larvae ascend into the creeks, estuaries and backwaters in large numbers since the conditions for their early life and growth are quite favourable there. During the breeding period, vast number of juveniles pass into the backwaters and contribute to the prawn fishery from the backwaters. Therefore, "prawn fishery in our backwaters is a fishery for juveniles."[43]

Mesh Regulation:-

The Central Institute of Fisheries Technology, after a study relating to mesh regulation in backwater prawn fishing gear in 1974, recommended a cod end mesh

42. Report of the Expert Committee on Stake/Chinese Net Fishery of Keala Backwaters, submitted to the Government of India, on 25.4.1991, known as the Alagarswamy Committee Report,p.7.

43. Ibid.

size of 20 - 25 mm for stake nets. The Kalawar Committee noted that it had been reduced generally to 5 or 6 mm.[44] The Alagarswamy Committee noticed that the mesh size of cod ends of the stake nets in the Korapuzha estuary was 6 - 9 mm and that of the stake nets in Cochin backwaters, 8 - 10 mm.[45] The Kalawar (1985), Balakrishnan Nair (1989) and Alagarswamy (1991) Committees have unanimously recommended fixation of the same at 20 - 25 mm and its strict implementation.

Declaration of fish sanctuaries:-

The Babu Paul Committee (1982) had recommended declaration of an area of 2 - 3 sq. miles at important bar mouths, viz. Neendakara, Cochin, Chowghat and Beypore as fish sanctuaries and prohibition of stake net and Chinese dip net fishing in that area. The Balakrishnan Nair (1989) Sanjeeva Ghosh (1987)[46] and Alagarswamy (1991) Committees reiterated it. The Kalawar, Balakrishnan Nair and Alagarswamy Committees have strongly recommended strict enforcement of the existing ban on fixed gear operation in the backwaters at high tides. These recommendation have not been implemented so far.

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44. Report of the Kalawar Committee, supra, at p. 337.
45. Report of the Alagarswamy Committee, supra, at pp 30 - 34.
46. D. Sanjeeva Ghosh, "[illegible]" - [illegible] Report submitted to the Government of Kerala on 10.11.1987.

d) Marine Pollution

Duty cast on coastal States by UNCLOS III:-

Part XII of the U.N. Convention on the Law of the Sea, 1982 deals with protection and preservation of the marine environment. Article 194 of the Convention requires the coastal states to take all measures to reduce and control pollution of the marine environment from any source. They are to use the best practical means at their disposal for this purpose. The measures so taken shall deal with all sources of pollution of the marine environment. The release of toxic, harmful or noxious substances from land-based sources, from or through the atmosphere or by dumping, pollution from vessels, pollution from installations and devices used in exploration or exploitation of the natural resources and pollution from other installations and devices operating in the marine environment are to be minimised. Measures should be taken to protect and preserve rare and fragile eco-system as well as the habitat of depleted, threatened or endangered species and other forms of marine life. Developing States should be assisted directly or through competent international organisations to promote programmes of scientific, educational, technical and other assistance for the protection and preservation of the marine environment and the prevention, reduction and control of marine

pollution.[47] Endeavour should be made to observe, measure, evaluate and analyse, by recognised scientific methods, the risks or effects of pollution of the marine environment.[48]

States are to adopt laws and regulations to prevent, reduce and control pollution of the marine environment from land-based sources, including rivers, estuaries, pipelines and out-fall structures. They should also endeavour to harmonise their policies in this connection at the appropriate regional level.[49] States shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment by dumping. Dumping within the territorial sea and the EEZ or onto the continental shelf shall not be carried out without the express prior approval of the coastal state. Coastal states may adopt laws and regulations for preventing, reducing and controlling marine pollution from foreign vessels in their territorial sea and EEZ.[50] Such laws should also prevent, reduce and control pollution of the marine environment from or through the atmosphere keeping pace with international standards.[51] The States may also take proper measures for enforcing their laws and regulations with respect to

47. Article 202.
48. Article 204.
49. Article 207.
50. Article 211.
51. Article 212.

pollution from land-based sources, sea-bed activities and by dumping.[52]

We have not so far fully absorbed the spirit of these provisions of the Convention into our national legislation. The provisions of the Water (Prevention and Control of Pollution) Act, 1974 and the Environment (Protection) Act, 1986 are not sufficient to meet the requirements of the Convention.[53]

e) Water and Environmental Pollution

The Stockholm Declaration:-

The United Nations Conference held at Stockholm in June, 1972 adopted a Declaration and an Action Programme for the Human Environment. India had actively participated in it. In fact, prevention of water pollution was under active consideration in India from the early sixties. Drawing inspiration from the Stockholm Declaration, India enacted the Water (Prevention and Control of Pollution) Act (Act 6 of 1974) in 1974. The spirit of the Declaration was

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52. Articles 213, 214 and 216.
53. S.2(j) of the Water Act, 1974 defines 'Stream' to include sea or tidal waters "to such extent or, as the case may be, to such point as the State Governemnt may, by notification in the official Gazette, specify in this behalf." The definition of 'environment' in the Environment (Protection) Act, 1986 is an inclusive one. It takes in "water, air and land and the inter-relationship which exists among and between water, air and land, and human beings, other living creatures, plants, micro-organism and property."

absorbed into our constitutional philosophy by inserting Arts. 48A[54] and 51A(g)[55] in the Constitution by the Constitution (Forty Second Amendment) Act, 1976. For implementing it in our national legislation, the Air (Prevention and Control of Pollution) Act, 1981 and the Environment (Protection) Act, 1986 were also enacted by Parliament.[56]

The U.N. Conference on Environment and Development held at Rio de Janeiro in 1992 in which India participated called upon States to develop national laws regarding liability and compensation for the victims of pollution and other environmental damages. To implement it, the National Environment Tribunal Act was enacted in 1995.

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54. Art. 48A: "The State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country."

55. Art. 51A(g): "It shall be the duty of every citizen of India ..... to protect the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures;....."

56. Article 253 and Entries 13 and 14 of the Union List in the Seventh Schedule to the Constitution confers power on Parliament to pass legislations for implementing international agreements. It is to be noted here that the Water Act,1974 was the result of the combined efforts of the Union and States from early sixties and the Stockholm Declaration of 1972 only emphasised the need for such legislation. It was passed invoking the legislative power under Art. 252, whereas the other two legislations were passed by virtue of Parliament's power under Art. 253.

The Water Act, 1974:-

The Central Government had set up a Committee for preparing a draft legislation for the prevention of water pollution[57] in 1962. Its report was circulated among the State Goernments and was also considered by the Central Council of Local Self Government in 1963. That Council recommended a central legislation dealing with measures for control of water pollution at the Central and State Levels. A draft Bill so prepared was considered by a Joint Session of the Central Council of Local Self Government and the Fifth Conference of the State Ministers of Town and Country Planning held in 1965. Later, it was considered in detail by a Committee of Ministers of Local Self-Government from the States of Bihar, Madras, Maharashtra, Rajasthan, Haryana and West Bengal. The Central Government was of the view that existing local legislations were not adequate or satisfactory and that there was an urgent need to introduce a comprehensive legislation establishing unitary agencies at the Central and State levels to deal with the prevention, abatement and control of pollution of rivers and streams, for maintaining or restoring wholesomeness of such water courses and for controlling

57. As in 1962, legislative power in respect of this subject matter was relatable to Entry17 read with Entry 6 of the 7th Schedule to the Constitution and therefore, Parliament could legislate on this subject only on the basis of resolutions passed by the legislatures of two or more States under Art. 252 requiring Parliament to intervene.

the existing and new discharges of domestic and industrial wastes. The Legislatures of the States of Gujarat, Jammu and Kashmir, Kerala, Haryana and Mysore passed resolutions requiring Parliament to legislate on the subject under Art. 252 of the Constitution. The Water (Prevention and Control of Pollution) Act 6 of 1974 was thereupon passed by Parliament "for the prevention and control of water pollution and the maintaining or restoring the wholesomeness of water, for the establishment, with a view to carrying out the purposes aforesaid, of Boards for the prevention and control of water pollution, for conferring on and assigning to such Boards powers and functions relating thereto and for matters connected therewith."[58]

The Central idea behind the Act is to restore the wholesomeness of water. It is intended to ensure that domestic and industrial effluents are not discharged into water courses without adequate treatment. The Act defines 'Pollution' to mean such contamination of water or such alteration of the physical, chemical or biological properties of water or such direct or indirect discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water as may, or is likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial industrial, agricultural or other legitimate uses, or to the life

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58. The Preamble to the Water Act, 1974.

and health of animals or plants or of acquatic organisms.[59]

Central and State level Pollution Control Boards are set up with almost similar powers and functions to carry out the purposes of the Act.[60] Joint Boards may also be set up for two or more States.[61] Any new discharges or outlets are to be made with the previous consent of the concerned Board.[62] No person shall knowingly cause or permit any poisonous, noxious or polluting matter enter into any stream or well or sewer or on land.[63] The concerned Board may apply to the concerned court seeking to restrain pollution of water in a stream or well.[64] Cognizance of offences under the Act is to be taken on the basis of a complaint made by the Board.[65] Punishment for violation of the provisions of the Act is imprisonment upto six years and fine.[66]

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59. S.2 (e)
60. Ss. 3,4,16 & 17.
61. S.13
62. S.25
63. S.24
64. S.33
65. S.49
66. See Chapter VII

The Environment (Protection) Act, 1986:-

The Environment (Protection) Act, 1986 is much wider in scope and content. It aims at protecting and improving the environment[67] and to prevent hazards to human beings, other creatures, plants and property. The Central Government is empowered to lay down standards for emission or discharge of environmental pollutants from different sources, and to plan and execute a nation-wide programme for the prevention, control and abatement of environmental pollution.[68] Wide Rule - making powers are conferred on the Central Government for implementing the provisions of the Act, especially for fixing the standards of quality of air, water or soil for various areas and purposes, the maximum allowable limits of concentration of various environmental pollutants for different areas, the procedures and safeguards for the handling of hazardous substances and the like.[69] Contravention of the provisions of the Act or the Rules made thereunder is punishable initially with imprisonment extending upto five years or with fine which may extend to one Lakh rupees or with both. In case of continuing violation,

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67. S.2(a) of the Act defines 'environment' as to include "water, air and land and the inter-relationship which exists among and between water, air and land, and human beings, other living creatures, plants, micro-organism and property."
68. S.3
69. S.6

the offender is liable to a punishment of additional fine of Rs. 5,000/- for every day during which the violation continues; if it continues beyond a period of one year after the date of first conviction, the offender is punishable with imprisonment which may extend to seven years.[70] Cognizance is to be taken on a complaint made by the Central Government directly or through authorised officers.[71] Jurisdiction of civil courts to entertain any suit or proceeding in respect of anything done in pursuance of the powers conferred by the Act is expressly barred.[72]

Coastal Zone Management:-

Simultaneously with the passing of the Environment (Protection) Act, 1986, the Central Government appointed a High Level Committee for undertaking an integrated project called "Monitoring of Indian Coastal Waters". The task of the Committee was to assess the status of coastal pollution upto 5 kms. through the Department of Ocean Development and the Ministry of Environment and Forests. During the progress of the Project, the Central Pollution Control Board organised two national workshops on the "Assessment and Control of Marine Pollution" in Calcutta in 1989 and 1990. Using the status papers prepared in these workshops and on the data collected from different executing agencies, the Central Pollution Control Board prepared a report in 1993 identifying the

70. S.15 71. S.19
72. S.22.

polluted coastal stretches of the country.

A Status Report regarding the environment of Kerala coast was prepared by the State Commitee on Science, Technology and Environment, Government of Kerala in August, 1988.[73] The Committee noted that the coastal zone of Kerala is of very special significance from the point of view of ecology. The coastal ecosystem is found to have become extremely fragile due to the severe and multifaceted problems to which it has been subjected to. The very high density of population and the consequent pressure on resources, beach erosion, wetland reclamation, pollution, silting of waterways, intrusion of salinity, irrational industrial, housing and transport developments and the lack of a Coastal Zone Management Authority have resulted in various consequences on the healthy development of this area.

Estuaries:- The estuaries and the adjoining coastal waters are one of the richest areas of fish production. Prawn filtration is carried out in about 4,300 ha. of paddy fields adjacent to estuaries in Central Kerala. The estuarine systems of almost all the rivers of Malabar Coast are vulnerable to salt water intrusion and

73. State Committee on Science, Technology and Environment, Government of Kerala, 'Environment of Kerala Coast - A Status Report and Management Plan', August, 1988.

pollution problems during the summer months (February - May) Major esturaine problems are identified as pollution due to industrial effluents, discharge from agricultural fields and community sewage, coir retting and associated problems, reclamation for development purposes, dredging and port activities, especially, pollution due to oil spill, reduction in fish and other esturaine fauna mainly because of human activities, ecological degradation due to construction of barrages, dykes, groynes etc., reduction of fresh water flow caused from construction of dams upstream and excessive removal of sand and clay from estuaries causing prblems to the regime of estuaries.

Mangroves:- Until a few centuries ago, the estuaries of our State were fringed with rich mangrove vegetation covering over 70,000 ha. This has been reduced to a few discrete stands of mangroves. In many areas, total destruction of mangroves took place during the last three or four decades. The total area presently under mangrove vegetation, in its degraded and scattered condition, is estimated to be only about 25 km.[74] It fringes the shattered estuaries, lagoons or backwaters. The occurrence of about 34 species of mangroves and mangrove associates have been reported.[75] Due to over-exploitation, the area of mangroves as well as its species composition change considerably.

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74. Ibid, p.36.
75. Ibid.

Wetlands:- The wetlands[76] of Kerala are rich in nutrient fish food and they provide ideal natural habitat for spawning and nursery grounds for fish. They are being heavily exploited for agriculture, pissiculture, reclamation for housing and industrial purposes, disposing waste materials, discharging industrial effluents and municipal wastewater, dumping dredged spoil, wood seasoning and coir retting. When fitted with dredged spoil, it gets converted as dryland, loosing its natural assimilative capacity, burdening adjacent waters with increased pollution. As more and more wetlands are lost, the aggregate impacts are loss of natural habitat for fish and loss of income for the fishers.

Reclamation Schemes:- Our string of backwaters generally run parallel to the shoreline. They originated as lagoons in which rivers kept their flow rendering estuarine characteristics to them. Therefore, they form a special intermediate - class between lagoons and estuaries. Due to seasonal fresh water inflow through rivers from upland and

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76. 'Wetland' is defined as an area where, for a part of the year at least, water stands naturally from 2.5 cm to 300 cm. It includes coastal marshes, salt marshes, mangrove swamps and mudflats: State Committee on Science, Technology and Environment, Government of Kerala; Environment of Kerala Coast; A Status Report and Management Plan, August, 1988, p.39.

inflow and outflow of water from and into the sea, our backwaters and characterised by fluctuations in salinity, rate of sedimentation and organic transport. They are considered to be depleted in size by about 21% within a period of 15 years from 1968 to 1983 due to huge sediment input.[77] Extensive reclamation schemes have also been executed in the Kayamkulam Kayal and Paravoor Kayal.[78]

Coastal Development:-

Pollution caused by the development of coastal areas for different purposes will adversely affect the living resources. Discharge of poisonous or otherwise harmful substance will directly result in fish kills. Tainting of coastal waters by oil, phenol etc. will make fish, shell-fish, sea weeds and other sea produce inedible. It will also result in accummulation in fish, shell fish, other invertebrates and sea weeds, of metals or persistent organic substances to such an extent as to render them unsuitable for human consumption. There is also possibility of contamination by pathogenic bacteria,

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77. Ibid. p.15

78. Ibid, p. 28.

viruses or other organisms carried in sewage, which are liable to be cause disease in man if seafood is eaten raw or insufficiently cooked. Increasing input of organic matter or sewage in coastal waters will tend to reduce dissolved oxygen levels which will affect the composition and abundance of phytoplankton and other organisms.

Industrial Pollution:- The water bodies in the coastal zone are polluted by industrial effluents, domestic and community sewage and waste, debris and silt, drainage from agricultural lands treated with fertilizers, pesticides, fungicides and coir retting. About 2,424 lakhs litres of waste is estimated to be discharged every day by industries engaged in manufacture and processing of rayons, aluminium, fertilizers, insecticides, rare earths, oils and chemicals in the lower reaches of Periyar alone. The major pollutants identified are suspended solids, mercury, zinc, copper, cadmium, lead, fluorides, ammonia, urea, chlorine, grease and radioactive

materials. The Travancore Titanium Products Ltd. is estimated to discharge around 100 tonnes of sulphuric acid and 50-60 tonnes of iron sulphate into the sea every day. The effluents also contain varying quantities of titanium salts. The Thanneermukkom barrier constructed across Vembanad backwaters for preventing salinity intrusion into agricultural lands of Kuttanad causes heavy discharge of fertilizers, insecticides and pesticides of different formulations.

The pollutants ultimately reach the coastal waters through the rivers and estuaries. The wastes influence the coastal fisheries and cause mass mortality of benthic organisms of commercial importance like clams, mussles and oysters. Pollution adversely affects the growth and reproduction of marine plants. Wastes containing insoluble material tend to sink to the bottom of the sea and form a carpet over the sea floor. The lighter wastes may float to the surface, while those of equal density will get suspended in the water column. They influence the nature of the bottom sediment, turbidity and transparency of the water, affecting organic production. The presence of organic materials such as sewage in the seawater results in the chemical and biochemical oxidation of these substances, causing oxygen depletion. When wastes containing ammoniacal nitrogen, nitrate and soluable and insoluable organic nitrogen compounds are released into

the sea, they are subjected to chemical and biochemical reduction or oxidation processes and they also take part in biosynthetic activity.

Discharge of poisonous and otherwise harmful substances will result in direct fish kills. Tainting by oil and phenols will make fish, shellfish, sea-weeds and other sea produce inedible. Accumulation of metals or persistent organic substances in fish, shellfish and other invertebrates and seaweeds will render them unsuitable for human consumption. Contamination of coastal waters by pathogenic bacteria, viruses or other organisms carried in sewage will cause disease in man by consuming raw or insufficiently cooked seafood. Pollution will generally alter the coastal water and shore environments rendering them unfit for commercially valuable fish and shellfish and thereby affect the very livelihood of the fishers and deprive the society of cheap and nutrient fish food.

Pollution caused by coir retting:-

Coconut husks are steeped in brackishwaters for retting. Retting of the coconut husk in saline backwater is a biochemical process. Husks put in nets are floated freely in the sheltered regions of estuaries and lower reaches of rivers until they get soaked, become heavy and gradually sink to the bottom. Often, they are weighted down by piling on their tops mud and slime scooped from

the bottom of the retting yards. Husks are also steeped in pits dug within the reaches of tidal action of the estuaries.

Retting presents a major source of pollution threatening the entire living acquatic resources of the estuarine tracts. It causes the liberation into the ambient water of products of pectinolytic activity, polyphenols, tannins, pentosans, lipids etc. and the subsequent decomposition causes a rise in temparature and turbidity. The evolution of hydrogen sulphide and depletion of dissolved oxygen in the medium are the outstanding changes caused by retting. Long years of retting have converted sizeable sections of estuarine tracts into anoxic, barren, foul smelling stagnant pools of waters. From surface to bottom, the retting zones are saturated with hydrogen sulphide.

> "World's highest recorded concentrations of hydrogen sulphide have been observed in the surface waters of the retting zones. This transformation has affected adversely the fishery resources and the environmental status of the estuaries in Kerala."[79]

The fishery in the retting zones has been severely depleted as a result of pollution.

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79. Ibid, p. 69

The Coastal Regulation Zone Notification:-

The Ministry of Environment and Forests issued a Notification[80] inviting objections against the declaration of coastal stretches and Coastal Regulation Zone (CRZ) and imposing restrictions on industries, operations and process in the CRZ. After considering the objections received, the Central Government issued a Notification dated 19.2.1991[81] known as the Coastal Regulation Zone Notification under S.3 (1) and S.3 (2) (V) of the Environment (Protection) Act, 1986 and Rule 5 (3) of the Environment (Protection) Rules, 1986. By this Notification, it declared the coastal stretches of seas, bays, estuaries, creeks, rivers and backwaters which are influenced by tidal action (in the landward side) upto 500 metres from the High Tide Line (HTL)[82] and the lands between the Low Tide Line (LTL) and the HTL as Regulation Zones. Various restrictions on the setting up and expansion of industries, operations or processes etc. in these Regulations Zones are imposed with effect from the date of that Notification.

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80. S.O. No. 944 (E) dated 15th December 1990 issued under S.3(1) and S.3(2) (V) of the Environment (Protection) Act, 1986.
81. S.O. No. 144 (E) dated 19.2.1991, published in the Gazette of India Extra-Ordinary, Part II, Section 3, Sub Section (ii).
82. HTL is defined as the line upto which the highest high tide reaches at spring times.

Anticipating that it will take time for preparation and approval of the Coastal Management Plans in contemplation, the CRZ Notification provided that till the approval of the Management Plans, development activities within CRZ shall not violate the provisions thereof. State Governments and Union Territory Administrations were required to ensure adherence of the provisions of the Notification and to monitor the enforcement of the same. There are two Annexures to the CRZ Notification. Annexure I contains the Classification of Coastal Areas and Development Regulations of general application. Annexure II contains guidelines for development of beach resorts/hotels in the designated areas of CRZ III for temporary occupation of tourists/visitors with prior approval of the Ministry of Environment and Forests.

Annexure I consists of Clause 6 (1) of the Notification relating to the classification of Coastal Regulation Zones and Clause 6 (2) laying down the norms for regulating development activities therein. The coastal stretches within 500 metres HTL of the landward side are classified under Clause 6 (1) into CRZ I, CRZ II, CRZ III and CRZ IV. Clause 6 (2) provides for norms for regulating activities in these zones. New constructions within 500 metres of the HTL are not permitted in CRZ I. Practically, no construction is allowed in this zone between LTL and the HTL. Construction and reconstructions in CRZ II are to be as per the norms prescribed for the same.

The norms for regulation of activities in CRZ III provide that the area upto 200 metres from the HTL is to be earmarked as 'No Development Zone' (NDZ). However, existing authorised structures can be repaired for use for agriculture, horticulture, gardens, pastures etc. Development of vacant plots between 200 and 500 metres of HTL in designated areas of CRZ III can be done with previous approval of the Ministry of Environment and Forests for construction of hotels/beach resorts for temporary occupation of tourists/visitors subject to the conditions and guidelines contained in Annexure II. Detailed norms for regulation of activities in CRZ IV are also provided in Clause 6 (2) of Annexure I.

Clause 3 (1) of the CRZ Notification required the coastal states and Union Territories to prepare Coastal Zone Management Plans within a period of one year identifying and classifying the CRZ areas within their respective territories in accordance with the guidelines given in Annexures I and II thereof and to obtain approval of the Central Government. Neither the Central Government nor the coastal states or Union Territories cared to take any follow-up action for complying with this direction.

Recent Judicial Trend:

The non-implementation and non enforcement of the CRZ Notification dated 19.2.1991 was brought to the notice

of the Supreme Court in Indian Council for Enviro-Legal Action Vs. Union of India[83] and S. Jagannath Vs. Union of India.[84] Both were Public Interest Litigations; the former complaining of general environmental degradation due to indiscriminate development activities in utter disregard of the Notification, and the latter emphasising that modern shrimp farms set up on the coastal stretches of seas, bays, estuaries, creeks, rivers and backwaters upto 500 metres from the HTL and the line between the LTL and the HTL are highly polluting and are detrimental to the coastal environment and marine ecology.

On the general environmental issue involved in the former case, the Supreme Court noticed that there has been a complete laxity in the implementation of the Environment (Protection) Act, 1986 and other related statutes, and observed as follows:-

> "Enactment of a law, but tolerating its infringement is worse than not enacting law at all. The continued infringement of law, over a period of time, is made possible by adoption of such means which are best known to the violators of law. Continued tolerance of such violations of law not only renders legal provisions nugatory but such tolerance by the Enforcement Authorities encourages lawlessness and adoption of means which

83. 1996 (4) JT 263
84. AIR 1997 SC 811

> cannot, or ought not to be tolerated in any civilised society. ..... It is with a view to protect and preserve the environment and save it for the future generations and to ensure good quality of life that the Parliament enacted the Anti-Pollution Laws, namely, the Water Act, Air Act and the Environment (Protection) Act, 1986..... Violation of Anti-pollution laws not only adversely affects the existing quality of life, but the non-enforcement of the legal provisions often result in ecological imbalance and degradation of environment, the adverse effect of which will have to be borne by the future generations."[85]

The Government of India had amended the CRZ Notification dated 19.2.1991 by a Notification dated 18.8.1994 relaxing some of its provisions. These amendments were sought to be set aside contending that they would adversely affect the environment and would lead to unscientific and unsustainable development and ecological destruction. The Government of India sought to justify them contending that there was a need for having sustainable development of tourism in coastal areas and that the amendments were effected after giving due consideration to all relevant issues pertaining to environment protection and balancing of the same with the requirement of developments. These amendments were

85. 1996 (4) JT 263, para 26 at pp. 269-70

subjected to judicial scrutiny; some of them were struck dwn, some others were modified and the remaining ones were upheld.

The coastal states and Union Territories were directed to submit their Management Plans before the Central Government by 30.6.1996. The Central Government was to finalise them within three months thereafter. Infringements of the Notifications were directed to be proceeded against in the concerned High Courts.

This decision of the Supreme Court brings to light the lack of initiative and drive on the part of the Central Government and the coastal states and Union Territories concerned in the matter of preparation and finalisation of Management Plans as a follow-up action to the CRZ Notification, 1991 as required by that Notification itself and in spite of repeated directions issued by the Supreme Court during the pendency of the case before it.[86]. Such indifference and inaction on the part of our Governments in the matter appears to have tempted the Supreme Court to observe as follows:-

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86. By Orders dated 12.12.1994 and 9.3.1995, the coastal states and Union Territories were directed to submit their Management Plans to the Central Government. By its Judgment dated 18.4.1996, notices were directed to be issued to the Chief Secretaries of the States of Andhra Pradesh, Gujarat, Karnataka and Kerala to explain and to show cause for, such non-compliance of these directions.

"With increasing threat to the Environment and degradation taking place in different parts of the country, it may not be possible for any single authority to effectively control the same. Environmental degradation is best protected by the people themselves. In this connection, some of the non-governmental organisations (NGOs) and other environmentalists are doing singular service. Time has perhaps come when the Government can usefully draw upon the resources of such NGOs to help and assist in the implementation of the laws relating to protection of environment."[87]

This decision further emphasises the role that Public Interest Litigation and judicial innovation can play in arresting and remedying governmental inaction in highly sensitive areas like protection of the environment and implementation of Anti-Pollution Laws.

Jagannath's Case[88] dealt with the adverse impact of modern and intensive coastal acquaculture. Examining the whole issues involved in it on the basis of available details and after analysing expert scientific opinion, the Supreme Court declared that shrimp culture industry/shrimp ponds are covered by the prohibition contained in para 2 (1) of the CRZ Notification and that no shrimp culture pond can be constructed or set up within the coastal

87. Ibid, para 41 at p. 278.
88. S.Jagannath Vs. Union of India, AIR 1997 SC 811.

regulation zone as defined in the CRZ Notification. This prohibition was declared as applicable to all seas, bays, estuaries, creeks, rivers and backwaters. Traditional and improved traditional shrimp culture practised in the coastal low-lying areas were declared to be exempt from this prohibition.[89] The Central Government was directed to constitute an authority under S.3 (3) of the Act with all the powers necessary to the ecologically fragile coastal areas and specially to deal with the situation. The authority so constituted is to implement "the precautionary principle" and "the Polluter Pays"[90] principles.

The current judicial trend in the matter of governmental inaction in implementing Anti-Pollution Laws, as evidenced by these decisions is most welcome and encouraging. As the Guardian of the Constitution, it is the right and duty of the judiciary to intervene in such situations for enforcement of the Fundamental Rights of citizens. The pioneering and innovative role played by the judiciary in this context is best depicted by the following observations of the Supreme Court in Indian Council For Enviro-Legal Vs. Union of India:-[91]

89. Ibid, para 45, at pp. 845-51, For a detailed discussion, see pages 116 - 118 supra.

90. These principles were accepted by the Supreme Court as part of the environmental laws of the land in Vellore Citizens Welfare Forum Vs. Union of India, 1996 (7) JT (SC) 375. See also: Indian Council for Enviro-Legal Action Vs. Union of India, 1996 (2) JT (SC) 196.

91. 1996 (4) JT 263.

"The legal position relating to the exercise of jurisdiction by the Courts for preventing environmental degradation and thereby, seeking to protect the fundamental rights of the citizens is now well settled by various decisions of this Court. The primary effort of the Court, while dealing with the environment-related issues, is to see that the enforcement agencies, whether it be the State or any authority, take effective steps for the enforcement of the laws. The Courts, in a way, act as the guardian of the peoples' fundamental rights, but in regard to many technical matters, the Courts may not be fully equipped. Perforce, it has to rely on outside agencies for reports from time to time. Even though it is not the function of the Court to see the day to day enforcement of the law, that being the function of the Executive, but because of the non-functioning of the enforcement agencies, the Courts, as of necessity, have had to pass orders directing the enforcement agencies to implement the law."[92]

These judicial trend and enthusiasm are hopeful for the environmentalists and the citizens alike. It should

92. Ibid, para 35 at pp. 274-75. See in this connection, Indian Council for Enviro-Legal Action Vs. Union of India, 1996 (2) JT (SC) 196; Vellore Citizens Welfare Forum Vs. Union of India, 1996 (7) JT SC 375; M.C. Mehta Vs. Union of India (1988) 1 SCC 471; C.P. Mukti Sangharsh Samithi Vs. State, AIR 1990 SC 2060; Ajay Singh Rawat Vs. Union of India 1995 (3) SCC 266.

however, be an eye-opener to the Executive and the enforcement machinery. Our national government has a constitutional obligation to implement the existing Anti-Pollution Laws and to bring up more legislations to keep them in pace with the standards fixed by the U.N. Conventions. As mentioned earlier, we should strive at protecting and preserving the marine environment in terms of Part XII of the U.N. Convention on the Law of the Sea, 1982 also. The first step in this direction is to enforce our Water Act, 1974 and the Environment (Protection) Act, 1986 ably and effectively. As a continuation of the same, we should tackle the problem of marine pollution in the territorial waters and in the areas upto our EEZ by appropriate legislation. Environmental pollution and degradation are destructive and harmful to the fishery wealth, not only in the riverine, estuarine and coastal waters, but also in the territorial waters and maritime waters in the whole of the EEZ area. Protection of the habitats and breeding grounds of fishes from pollution is one of the best measures of conservation of the fishery resources.

f) Conclusions

Policy and legislation in respect of fishing and fisheries, to be meaningful, should basically aim at conservation of the resource. The need for proper

conservation measures in respect of the fishery wealth in the territorial sea and beyond as also the 'special interest' of the coastal state "in the maintenance of the productivity of the living resources in any area of the high seas adjacent to its territorial waters" were emphasised by the Geneva Convention on Fishing and Conservation of the Living Resources of the High Seas, 1958. Our National and State Governments have been pursuing a policy of 'modernisation' and 'boosting of production' in the 1960's and 1970's. The only effort at legislating for the marine context is evidenced by appointing the Majumdar Committee by the Central Government with the main object of examining the question of delimitation of fishing zones for different gear groups. Since deep sea fishing was in its infancy, the Central and State Governments as well as the Majumdar Committee confined their attention to the areas within the territorial waters. The scheme of distribution of legislative powers in the Constitution in respect of fishing and fisheries also appears to have weighed with them in adopting such a course.

Delimitation of fishing zones within the territorial waters, by itself, is an important conservation measure as it will obviously tend to reduce the concentration of fishing units and fishing pressure on

the resources in the inshore waters. Going by the Report of the Majumdar Committee and the conduct and attitude of our Governments and fishery managers, the delimitation of fishing zones attempted through the Marine Fishing Regulation Acts is more of a measure of maintenance of law and order than management of inter-gear conflicts and less of a measure aimed at conservation of the resources in general. The fact remains that it serves to achieve all these objectives.

Much more could and should have been done simultaneously for conservation of our fishery wealth in the territorial waters and beyond that. As a developing country, India had taken a pioneering role in asserting sovereignty over the 200 mile Exclusive Economic Zone for exploring and exploiting the natural resources there. We had absorbed the concept of the EEZ and declared our sovereignty over the same by redrafting Art. 297 of the Constitution in 1976 and passing the Maritime Zones Act, 1976, whereas the concept received formal recognition among the international community only by UNCLOSS III of 1982. Still, we have not so far taken any pains to incorporate the conservation measures insisted on by the U.N. Conventions in respect of marine fisheries within our EEZ area. Deep sea fishing is attaining increasing attention and policy outlook. Our fishermen have started venturing into fishing in areas upto the outer limits of our EEZ with improved or modified versions of their

indigeneous technologies backed by state aid and support. We have a duty cast on us by the U.N. Conventions, in the light of our constitutional obligation to respect and implement the provisions of those conventions, as also by the Directive Principles of State Policy to absorb and implement those provisions in our national fisheries legislation and policy.

Conservation of the renewable fishery resources should start with identification of the species, their habitats, feeding and breeding patterns, their classification and characteristics. Fishing patterns and their impact on different species and areas require to be examined and investigated. In view of the inter-linkage of our riverine, estuarine, coastal and deep sea waters in the context of fisheries, we should formulate an integrated management plan and policy aiming at overall conservation of our entire national fishery wealth. In view of the migratory nature of several species of fishes available in our waters and in the light of the migratory nature of our fishers, the hurdle of distribution of legislative power in relation to fishing and fisheries requires to be overcome for formulating and implementing conservation measures at the national level by resort to the provisions of Arts. 252 or 253 of the Constitution, as in the case of our Anti-Pollution Laws.

Findings and recommendations of Expert Committees are there before our Central and State Governments which emphasise the problems of overfishing, overcapacity and depletion of the fishery wealth. These problems are more or less of general application in the case of other coastal states also. Our governments have not cared to implement those recommendations so far. This is obviously due to an apparent lack of political will on their part. Fishing and fisheries are looked upon as a source of earning foreign exchange. They require to be conserved properly even for their continued availability for earning foreign exchange. A shift of emphasis from 'boosting production' to maintenance of sustainability of the resource' is required as a basis for successful management of our fishery wealth.

Environmental degradation and habitat destruction can be expected to be averted, to a considerable extent, by strict enforcement of the Anti-Pollution Laws in the background of the promising judicial trend. This should be supplemented by positive conservation measures conforming to international standards.

Chapter V CONFLICT MANAGEMENT

The Problem of Inter-Gear Conflicts:-

Fishermen's ability to catch fish and counterproductive government policies have led more fishermen and fishing units into fishing even after the point of diminishing returns. There is substance in the saying: "too many fishers chasing too few fish"; however, it is not just the number of fishermen that counts, but also their capacity to fish, depending on the size of their nets, the number of their hooks, the girth of their boats and the like. Overfishing is the direct consequence of overcapacity. It takes with it destructive and wasteful fishing practices, environmental degradation and habitat destruction.

Government policies have, for the most part, promoted the overexpansion of the fishing fleet. The Government of Kerala pursued a policy of 'modernisation' in the 1960's and 1970's that favoured commercial fishery operators over traditional small-scale fishermen. The government paid for 25% of the hull and 50% of the engine for commercial fishing vessels and provided low-interest loans for the rest. This benefitted a new entrepreneurial class who entered the fisheries sector to try their fortunes. By the year 1978, the government had to reverse its fishery development policy due to protests from the small-scale fishermen. Eliminating

boat subsidies to commercial fishery operators, it started providing smalle-scale fishermen with subsidies for outboard motors, small boats and modern gear. Both the subsidies proved to be counter-productive: the former led to overfishing by commercial operators and the latter resulted in overfishing by small-scale fishermen themselves.

Fishermen go to sea for earning their livelihood. When space and resources were in abundance, there were no complaints from any quarters worth the name. However, the position changed with the introduction of mechanisation. The artisanal/traditional fishermen operating their indigenous crafts and gears in the inshore waters started facing a competition for space and resources from the mechanised sector. The former found themselves, their crafts and gear to be incompetent to compete with mechanically propelled fishing boats and their bottom and mid-water trawls. There cannot be any comparison between the two groups in terms of Catch Per Unit Effort. This naturally resulted in clash and conflict of interests in the open sea. At least by the year 1976, open and violent clashes in the open sea were being reported from different parts of the Kerala coasts. In areas like Vizhinjam and Valiyathura, occasional clashes and open conflicts between racial groups on the land and in the sea were not uncommon. However, generally speaking, open and violent clashes in the open sea can only be characterised as the ill effects of mechanisation.

The State is naturally called upon to intervene in the wake of such clashes and conflicts. Inter-gear conflicts is a situation caused by increasing pressure on the same space and resources by competing gear groups. Almost all coastal states have experienced it at one or other phase of their fisheries development strategy. Before proceeding to deal with our conflict management policy, it would therefore, be worthwhile to have a look at the experiences of some of the coastal states in the Asian region in the area of conflict management.

Conflict Management through Trawl Ban - The Indonesian Trial

In the 1970's, Indonesia[1] had to witness open and

1. Originally, Indonesian fisheries law reserved all marine fisheries to local citizens; foreigners were prohibited from fishing without special permission. By Decree 1 of 1975, fishing effort was limited through regulation of the fishing season, of the type, size and number of boats in a particular area and of the mesh size. The Decree also established an area - specific quota system. Ministerial Decree No. 607 of 1976 seeks to control trawling operations. The sea is divided into 4 zones for preventing physical conflict and social friction between the traditional gear group and the trawlers. Decree No. 609 of 1976 seeks to restrict operation of trawlers to the area for which they are licensed. Decree No. 15 of 1984 provides for management of the fisheries in the Indonesian EEZ. Decree No. 473a of 1985 deals with the determination of the Total Allowable Catch in the EEZ. Decree No. 475 of 1985 provides for issuing permits to foreigners for fishing in the EEZ. Decree No. 476 of 1985 specifies the Reporting Stations for fishing vessels in the EEZ. Decree No. 477 of 1985 is in respect of the fees leviable for foreign fishing in the EEZ. The Basic Fisheries Legislation is Law No. 9 of 1985 on Fisheries.

violent conflicts in their inshore waters between the trawlers[2] and the traditional gear groups leading to destruction of fishing units and loss of life. The conflicts started slowly in Malaca Straits in the mid 1970's and later spread to Northern Java.[3] In these areas, the trawlers confined their operations to the inshore waters. This led to an unequal competition for space, destruction of the craft and gear of traditional gill net fishers and reduction of their share of the catches. The legal measures insisting on licences for fishing operations, regulating the fishing season, demarcating areas and introducing quota system were not being effectively implemented. In the Malaca Straits, thousands of unlicensed trawlers were in operation. This further aggrevated the conflicts. By 1980, the situation became so bad that "not only were the resources impaired and fishing boats and gears sunk or burnt and houses burnt, but human lives were lost."[4]

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2. Purse seining and trawling were introduced in Indonesia by the ethnic Chinese around the late 1960's. The gill nets were operating far away from the shore and did not affect the small scale fishers.

3. These are areas with largest concentration of native fishermen as also of greatest production.

4. Chong Kee-Chai, Some experiences and Highlights of the Indonesian Trawl Ban: Bioeconomics and Socio Economics: in, The Proceedings of Indo Pacific Fishery Commission (IPFC) Darwin, Australia, 16 to 19 Feb. 1987, p.83.

A complete trawl ban was introduced by Presidential Decree No. 39 of 1980. It initially covered waters off Java and Bali and was extended gradually to other areas also. Now, trawling operations are completely banned to the west of 120 degrees E longitude. Trawling in waters to the east of 120 degree E longitude can be conducted if the vessel is equipped with a by-catch excluder device. Its apparrent objectives are:-

1. to facilitate better resource management;
2. to ensure the development of the traditional sector; and
3. to prevent open conflicts.

Simultaneously with the introduction of trawl ban, Presidential Decree No. 39 of 1980 created a credit programme for rehabilitating affected trawl workers for shifting to other types of fishing or to brackish water fish culture. This was extended for conversion of trawlers into purse-seiners, gill netters and tuna long liners.

Indonesian trawl ban has been hailed all over the world as the most innovative management measure. It is the only country where a total ban has been resorted to for defusing tension and for development of traditional fisheries. The whole world is closely watching the progress Indonesia is making in its implementation.

In the background of the poor allocation of funds for resource management and lack of incentive on the part of the enforcing agency, the total ban is a matter of great convenience for implementation: the fishermen themselves can ensure its enforcement. The country is reported to have come back to the pre-trawl ban levels of production by 1986 in the case of commercially valuable species of prawns. Total production has also recovered simultaneously. Such productivity could be achieved by gears with low efficiency[5] in all the areas where trawling is banned. Recovery of productivity and the increase of low efficiency gears in number indicate the restructuring of fishing effort resulting in the availability of viable opportunity for them. The owners of motorised boats are becoming the dominant force and the motorised group comprising of about 70% of the total fishers continue to remain the deprived class.

The trawl ban has not practically benefitted the subsistance fishermen. However, trammel net operators have turned out to be better-off when compared to other traditional gear operators. Dug out boats are the predominent fishing crafts in Indonesia. There is a decline in their numbers. This need not imply that more of subsistance fishermen are entering the motorised sector: it

5. Fishing vessels with OBMs and IBMs which have only 20% of the productivity of trawlers. During the period 1980-'86, the number of OBMs increased by 130% and that of IBMs doubled.

is likely that more and more of them are becoming dispossessed of their craft and gear and continuing in the fishing operations as wage earners.

The thrust of the credit programme was mainly on acquaculture. Provincial Governments in Indonesia are converting mangrove forests into brackish water culture ponds to grow more prawns for exports. The expansion and intensification of prawn culture has led to increased harvesting of fry and gravid females for the culture ponds.

The trawl ban brought about only a temporary increase in the supplies available to artisanal fishers. The continuing environmental abuse of estuarial food chain systems, the use of small mesh and other unauthorised gear continue to reduce the supplies available.[6]

In the final analysis, the trawl ban succeeded in resolving the physical conflicts between the competing gear groups over space ad resource. Such measures can deliver the goods in the long run only if complementary and supporting measures are adopted simultaneously for sustainability of the resource and to maintain its environment.

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6. Sebastian Mathew, Fishing Legislation and Gear Conflicts in Asian Waters: A Case Study of Selected Asian Countries, Samudra Monograph, 1990.

Conflict Management through the Zoning System - The Malaysian Experience:-

In Malaysia,[7] acute conflicts broke out in the sea simultaneously with the introduction of trawlers in the west coast in the mid 1960s. The Government postponed further licensing of trawlers and undertook a study on the economic

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7. Fishing regulations in Colonial Malaysia were aimed at conservation of the resources, characterised by restrictions on various types of fishing stakes and gradual prohibition of the most destructive types of gears. A unified system of regulation for co-ordinating and controlling fishing activities for the whole country was introduced in 1923.

   Malaysia becme independent in 1957. As per Art. 74 (1) of the Federal Constitution, Parliament may make laws with respect to any of the matters enumerated in the Federal List or in the Concurrent List. Fisheries including maritime and estuarine fishing and fisheries (excluding turtles) is a matter enumerated in Item 9 of the Federal List of the Nineth Schedule to the Federal Constitution, whereas turtles and riverine fishing are matters enumerated in item 12 of the State List.

   Conflict management was one of the important objective of the Fisheries Act, 1963. This was reiterated by the Fisheries Comprehensive Licensing Policy introduced in 1980. Fisheries Act, 1963 stands repealed by the Fisheries Act, 1985. It has been enacted by Parliament invoking Art. 76(1) of the Federal Constitution empowering Parliament to make laws with respect to any matter enumerated in the State List for the purpose of promoting uniformity of the laws of two or more states. It is a comprehensive legislation covering all aspects of capture and culture fisheries in riverine waters and internal waters as also in the maritime waters comprised in the Exclusive Economic Zone of Malaysia. Fisheries Act, 1985 as amended by the Fisheries (Amendment) Act, 1993 is the relevant legislation presently in force in Malaysia. (It is further discussed in Chapter IX below along with the (Australian) Fisheries Act, 1952 as amended by the (Australian) Fisheries (Amendment) Act No. 86 of 1980).

viability of trawling in waters beyond 12 miles from the shore and more than 20 fathom deep which is away from the traditional fishing grounds. With the objects of conserving the resources and maintaining law and order in the sea, the Government decided to licence the trawlers through co-operative trawling societies, imposing strict regulations for their operation.[8] Many fishermen resorted to practice unlicensed trawling, especially during night, leading to destruction of inshore gears like bag nets and drift nets. The enforcement machinery was weak and corrupt and the fines prescribed were low. Operation of trawlers directly clashed with the catch potential of a traditional version of the boat seine.

By early 1964, the inshore fishers formed a pressure group[9] to voice their protests and grievances before the Government and for mobilising public opinion in support of their claim for compensation for members whose gear had been destroyed by trawlers. Towards the end of 1965, an illegal trawler ran over an inshore boat destroying it and drowning the crew. The agitated inshore fishers attacked another trawler in the same area, burnt the boat and killed 8 of its crew members. In 1966, about 1,000 inshore boats rallied to the George Town Co-operative Trawling Society in Penang for burning its office, but the police managed to prevent them.

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8. Boats with a capacity of 50 tonnes and above were to be used for trawling and they were to operate beyond 12 miles from the shore.
9. The United Fishermen's Organisation of West Malaysia.

Despite these developments, the Government further relaxed the restrictions[10] on trawling and issued more licences to new co-operative trawling societies. The relaxations were intended to facilitate mobility of inshore fishers to trawling as a strategy for eliminating conflicts. However, it did not bring in the expected result since there was no simultaneous financial aid or subsidy support for the purchase of trawlers. The zoning arrangements were sought to be implemented through the co-operative trawling societies. These societies themselves encouraged the trawlers to violate the zoning system since they were more concerned with their commission on the catches of the trawlers. Indiscriminate issue of trawling licences due to political pressure and indifference of the enforcement authorities aggrevated the situation. This worsened the conflicts which became violent and bloody in the 1970's. Between 1964 and 1976, 113 incidents involving 437 trawlers and 987 inshore vessels were recorded in West Malaysia destroying 45 vessels, sinking 62 vessels and ending 34 lives!

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10. These relaxations were: 1) in the size of the boats: minimum tonnage was relaxed to include medium size trawlers (25 - 30 tonnes); and mini trawlers (upto 10 G.T.); 2) in the fishing area; the minimum 12 mile limit was relaxed to 3 miles. A zoning arrangement was introduced dividing the trawlable grounds among the trawlers according to H.P. Trawlers with engines 60 HP and above had to fish in waters beyond 12 miles; with 25 HP to 60 HP, in waters beyond 7 miles and those with less than 25 HP had to fish beyond 3 miles; and 3) The fishing time for those with 50 G.T. and below was extended from diurnal hours to 24 hours on all days except Sundays.

The Government further liberalised the licensing conditions for trawling by the Fisheries (Maritime) (Amendment) Regulations, 1974.[11] However, the maximum number of licences that could be issued was not specified. The State Governments made use of this opportunity to issue licences according to their discretion. The mini-trawler[12] fleet increased in numbers. Enforcement continued to be weak and ineffective. It is only natural that the conflicts got worsoned by the new regulations.

The Fisheries (Amendment) Regulation, 1980 sought to avert the conflicts by restructuring the zoning system, allocating fishing grounds according to fishing gear, vessel size and ownership status.[13] Simultaneously, a Fisheries Comprehensive Licensing Policy was introduced with the following objectives:-

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11. The HP specifications for all the zones were relaxed. Boats of 60 HP and below were allowed to operate in waters beyond 3 miles provided they were below 25 GT; Vessels with 60 HP to 200 HP (25 GT - 100 GT), in waters beyond 7 miles; and those with more than 200 HP (and 100 G.T), in waters beyond 12 miles. During the fishing season (Nov. - March) trawlers irrespective of size could operate at any distance from the east coast.

12. These are trawlers below 20 GT, but mostly below 10 GT.

13. Reservation of inshore waters for traditional fishers was extended from 3 to 5 miles for the "artisanal owner - operated vessels". HP specification was given up and designation of zones was made according to GT. Trawlers and purse seiners below 40 GT and operated by owners were assigned the 5-12 miles zone; those above 40 GT, wholly owned and operated by Malay fishermen, 12-30 miles zone; and those with above 70 GT under joint venture or foreign ownership, waters beyond 30 miles. The 5-12 miles zone and the 12-30 miles zone were reserved for trawlers and purse-seiners.

Mesh size of the cod end of trawl nets was extended from one inch to one and a half inches and beam trawls were strictly prohibited. Additional licences issued for trawlers were frozen.

a) Elimination of competition and conflicts between traditional and trawler fishermen in the inshore waters;

b) Prevention of over exploitation of the resources in the inshore waters; and

c) Equitable distribution of resources.

The Fisheries Act, 1985 which is presently in force in Malaysia, imposes heavy fines on poaching vessels from abroad. Similar fines are imposed on trawlers and purse-seiners encroaching into prohibited areas with equal rigour. Enforcement officers are given vast powers. One of the main objective of the Act is to protect inshore fishermen from trespassing into their fishing grounds by irresponsible fishermen. Over the territorial waters, the Act strives to maintain a peaceful balance of interest of competing fishing activities. With respect to the EEZ area, it aims at conserving and protecting the resources for the benefit of Malaysian fishermen.

The long chain of legislations has not substantially contributed to the resolution of inter-gear conflicts in Malaysia. Poor allocation of funds, lack of patrol vessels and personnel, procedural delays, political intervention and lack of co-ordination within the enforcement machinery have all been responsible for improper enforcement of the zoning

system introduced by legislation. Presently, it is not absence of machinery, but ineffective use of the enforcement machinery that is responsible for the zoning violations in the Malaysian EEZ area. The Enforcement Branch has got even air surveillance facilities now; but these are used only for detecting foreign fishing vessels poaching in these waters.

In spite of such poor enforcement, tension in the Malaysian fishery waters has considerably subsided from the 1980's. This is due to mobility of fishermen from small-scale to large-scale operations, a general decline in the fishermen population facilitated by intersecotral mobility due to growing industrialisation and also due to Government sponsored relocation programme for fishermen.[14] The fact remains that Malaysia is the first developing country to introduce the zoning system to limit fishing effort in response to indications of overfishing.[15]

Preferential right of Subsistence Fishermen Guaranteed in the new Philippine Constitution:-

Overfishing by beam trawlers and widespread use of explosives and cyanide poisoning took the Philippine

14. Under the Fifth Malaysia Plan (1986-90), over 10,000 fishermen were relocated into agriculture, manufacturing, small-scale business, acquaculture and off-shore fishing.
15. See: Sebastian Mathew, supra, note 6.

fishery[16] to the point of commercial extinction by 1950. Degradation of the coastal zone by pollution and destruction of mangrove forests and coral reefs added fuel to the fire. Almost all small fishermen are engaged in destructive fishing practices like blast fishing or dynamiting, cyanide poisoning, electric fishing and muroami fishing.[17] They do not meet with social disapproval at the local level. Possession of explosives intended for fishing in punishable with imprisonment from 12 to 25 years; if it is actually used, the punishment is from imprisonment for 25 years to life imprisonment; and if the use of explosives result in the loss of human life, the punishment would be from imprisonment for life to death. Penalty for violation of closed areas is comparatively nominal. The enforcement agencies including the Coastguard have no sufficient equipments or financial support. They are afraid of

16. Fishing legislations in Philippines date back to 1932. A distinction is made between municipal fisheries over an area of 3 nautical miles from the coastline and commercial fisheries beyond that area. By Commonwealth Act No. 4003, municipal fisheries were assigned to the Municipalities. The thrust of legislative measures was on protection of the resources from over-exploitation and prevention of destructive fishing practices. A comprehensive fisheries policy was introduced by Presidential Decree No. 704 of 1975. Fishing vessels are required to have a licence, lease or permit for fishing. Trawling is prohibited upto 4 fathoms depth zones. The Decree was amended in 1976 providing for prohibiting trawling within a distance of 7 kilometers if public interest so requires.

17. This is a practice introduced by the Japanese for capturing coral fish.

harassment and even counter charges. Violations in the municipal waters are dealt with by the concerned municipalities and they prefer to settle them amicably by making the violator pay a nominal compensation.

Conflicts between trawl gears and small-scale fishermen take place due to encroachment of the trawlers into municipal waters. The trawlers are armed and the municipal agencies and the fishermen alike are afraid of them. Within the small-scale sector itself, the prohibition against illegal fishing and use of fine mesh nets cannot be implemented since a vast majority of the fishermen are violators.

Conflicts due to encroachment of trawlers into municipal waters are decreasing over the years since they are moving out to deep waters in search of better catch. Trawling is prohibited in waters below 7 fathoms; trawlers and purse seiners above 3 GT are prohibited in waters beyond 7 kilometers from the shoreline Lack of political will on the part of the legislators, inefficiency of the enforcement machinery and lack of confidence in the judiciary are responsible for mismanagement of the Philippine fisheries.

The new Philippines Constitution of 1987 provides for protecting the rights of subsistence fishermen and for

supporting them.[18] It appears to be the only country which recognise its duty to protect the rights of the subsistance fishermen to the preferential use of the fishery resources by its Constitution. Based on it, a comprehensive legislation intended to promote distributive justice and achieve genuine national economic development with priority to subsistance fishermen and special emphasis on resource conservation is in contemplation. It aims at establishment of municipal, provincial and national level Resource Management Councils to manage communal waters within 25 fathoms from the shoreline, coastal waters beyond communal waters upto a distance of 30 nautical miles, and offshore waters. Such Zoning is gear-specific and intended to accommodate 'subsistance fishermen', 'fishworkers' and 'fishery operators'.[19] Disputes are sought to be resolved through arbitration at the municipal, provincial and national levels through the proposed Regional Management Councils. The advantage of this type of management measure is that it ensures minimum involvement of the governmental machinery.[20]

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18. Article XIII, Section 7 of the Philippines Constituion reads thus:-

"The State shall protect the rights of subsistance fishermen, especially of local communities, to the preferential use of the communal marine and fish resources, both inland and offshore. It shall provide support to such fishermen through appropriate technology and research, adequate financial, production and marketing assistance and other services. The State shall also protect, develop and conserve such resources. The protection shall extend to offshore fishing grounds of subsistance fishermen against foreign intrusion. Fishworkers shall receive a just share from their labour in the utilisation of marine and fishing resources."

19. This classification is obviously based on small, medium and large-scale operations. Subsistance fishermen own and operate their fishing units. Fishworkers own and/or operate medium scale fishing units. Large-scale fishing units are generally owned and operated by different groups.

20. See generally, Sebastian Mathew, supra, note 6.

Poor Management and Overfishing in Thai Fishery Waters:-

Inland fishing was second only to agriculture as an occupation in Thailand.[21] Access to fishery depended on the capacity to pay taxes. Due to overfishing of the inland fish resources, the marine sector gained importance. Bamboo

21. In Thailand, the earliest legislation on fisheries was the Water Duty Act of 1864 intended to manage inland waters. It classified inland waters into sanctuary areas and reserved areas. Fishing stood prohibited in sanctuary areas since they are close to Budhist monastries or places of worship. The reserved areas were designated for persons who paid duty depending on the nature of the fishing ground and the gear used. The law also prohibited fishing during the spawning season and use of toxic substances for fishing.

A comprehensive Fisheries Act was passed in 1947 classifying fisheries into: 1) Preservation Fisheries; Those near monastries or places of worship; 2) Leasable Fisheries - areas leased out in auction for a one year period with exclusive right to the designated area; 3) Reserved Fisheries - Sites licensed out on payment of a fixed fee based on the size of the gear; and 4) Public Fisheries - where fishing by the general public is permitted. The Act empowers the Minister to introduce conservation measures like mesh regulation, closed season, quota restrictions, minimum size of species and restrictions on the nature of fishing implements. It prohibited operation of stationary gear in public waters. Access to public waters is open subject to registration.

This Act was amended in 1953 and in 1985 providing enhanced fines for violations.

The Act governing the Right to Fish in Thai Fishery Waters, 1939 is the law applicable to marine fishing in Thailand. S.4 of the Act defines Thai Fishery Waters as "the Thai territorial waters or any other Waters in which Thailand exercises or may be entitled to exercise its fishing rights as such waters publicly appear to be delimited by local law or usage, by international law, by treaty or in any other way". It seeks to regulate fishing in Thai fishery waters through licensing.

Thailand declared sovereignty over its 200 mile EEZ by a Royal Proclamation of February 21, 1980.

stake traps were used in the estuaries. Troll lines, set lines, gill nets and a variety of seines were in use in the marine sector. Purse seines were introduced by the Chinese in 1925 and trawlers were introduced by the Japanese in 1930. With the introduction of otter-board trawlers from West Germany in 1960, fishing effort and investment were intensified. Thai fishing industry developed and transformed into an expert-oriented one with potentials to operate in international waters in the South China Sea and the Indian Ocean. It is the country must affected by the declaration of EEZ by the neighbouring countries. Thailand was the last country to declare its EEZ in the Southeast Asian region by a Royal Proclamation of February, 21, 1980.

Introduction of trawling did not result in any notable conflicts in northern Thailand. The conflicts, if at all, have been between big trawlers and small trawlers; and the small scale fishermen naturally support the small trawlers from the locality. Again, conflicts are avoided by operating at different times. The absence of a traditional marine fishery, avenues for employment outside fishing, development of the economy and a simultaneous development of a commercial marine fishing fleet might have been responsible for this. The situation was quite different in southern Thailand, mostly inhabited by subsistence fishermen who were the descendants of migrant Malay fishermen. Violent clashes took place in the south east coastal areas

between coastal villagers engaged in gill-netting and purse-seining and crew members of large fishing vessels in the early 1970's. Conflicts involving trawlers are mostly inter-regional, whereas inter-gear conflicts are localised and casual.

In Thailand also, trawl gear operations have been sought to be regulated, not as a conflict management measure, but for protecting the nursery and breeding grounds. Thus trawlers and powered push nets were prohibited from operating in waters upto 3 Km from the shore and within 400 m from other localised fishing gear by a Decree of 1972. However, it is rather difficult to control the expansion of fishing effort in the territorial waters due to the power and influence of the fishery operators and their crew members. In 1980, the government's move for stopping registration of trawlers and push nets for bringing down fishing effort was thwarted by the Fishermen's Association which is controlled by the aforementioned lobby. Due to resource depletion, the government decided to close some of the fishing grounds in 1983 and prohibited trawling and purse seining for two months. These restrictions had to be relaxed due to pressure from the fishermen group.

Enforcement of fishing regulations is not efficient or proper in Thailand for which the enforcement agencies have their own explanations to offer. In spite of the fact that the Government is aware of the need for conservation, the

funds expended for enforcement are quite meagre. Over-capitalisation, overfishing and poor management has virtually converted Thai fishery waters into a marine desert.[22]

Success of Japanese Conflict Management System:-

The Japanese Fisheries Law of 1949 successfully demercates coastal, offshore and distant water fisheries and prevents conflicts between the three sectors. The coastal fisheries are managed by a dual system of fishing rights and licences through the Central Fishery Adjustment Council at the national level, the Fishery Adjustment Commissions at the Perfecture level and the Fishery Co-operative Associations at the village level. Intra-village conflicts are informally resolved within the Fishery Co-operative Association of which the fishermen involved are members.[23] Inter-village conflicts within a Prefecture like violation of closed season, destructive fishing and poaching as also disputes between different gear-groups are resolved by the Sea Area Adjustment Commission. If the conflicts are inter-Prefectural, they are resolved at the national level by the United Sea Area Adjustment Commission.

22. See generally, Sebastian Mathew, supra, Note 6.
23. Inter personal conflicts are sought to be settled by employing avoidance behaviour (i.e. avoiding fishing at a spot where others are fishing) and acknowledgement of the rights of a first comer to a particular fishing spot. Every interest is represented and reflected in the decision making process. Consensus decision-making is the success of the very functioning of Japanese Fishery Co-operative Associations.

Inter-sectoral conflicts involve the interests of industry and fisheries, mainly caused by pollution and coastal reclamation. Large-scale industrialisation and fast economic growth contributed to vast reclamation of coastal areas and pollution of inshore waters. Conflicts arising out of these developments cannot be resolved by traditional means and are sought out in courts. Many Japanese fishing people have fought back against reclamation and pollution. One of the important struggles is that of the fishermen of Minamata in Kyushu. Chisso Co., a fertilizer manufacturing concern, pumped out organic mercury into the bay with its waste water. Hundreds of thousands of people who ate the fish caught from that area became sick with 'Minamata Disease' suffering paralysis and blindness and hundreds out of them died. The victims were fighting against the company for years to force it to accept the responsibility and to pay compensation. Their struggle became publicly known in 1959 when the fishermen invaded the factory smashing the equipments there and attempting to destroy the pipe that took the poison into the sea. They thereafter resorted to a long-drawn legal action. The Government sided with the company, but at last, the judiciary fixed the liability on the company and directed compensation to be paid to the victims. Minamata Bay had become a lake of poison by this time and the number of victims went on increasing. The struggle went on for years and years while the Government was trying to reduce the number of recognised victims.[24]

24. Asian Action: November-December 1978, No.16.

Again, the Government's attempt at using the Bay of Mutsu, northern Japan as the home port of its first nuclear powered vessel was successfully thwarted by the local fishermen who thought that leaked radiation would poison their shellfish beds.

Over-capitalisation, overfishing and massive environmental degradation have totally damaged the Japanese fishing grounds. Fishermen population is reduced in strength over the years. However, the success of Japanese coastal fisheries management remains a lesson for the whole world. It could be achieved with the full participation and co-operation of the fishermen themselves.[25]

Conflict Management under the KMFRA, 1980:-

The Majumdar Committee was of opinion that the tension and conflicts that prevailed in our fisheries sector due to competition for space and resources between the different gear groups were similar to those experienced by countries like Malaysia, Indonesia and Thailand.[26] As the title to that Report indicates, the task before the Committee was to examine the question of delimitation of fishing zones for different types of fishing boats. It is also to be noted that the Committee was set up by the

25. See Sebastian Mathew, supra, Note 6.
26. Report of the Committee on Delimitation of Fishing Zones for Different Types of Fishing Boats, submitted to the Government of India, known as the Majumdar Committee Report, p.4.

Central Government[27] at the request of some of the Coastal States to consider appropriate legislative measures for regulating operation of larger vessels in the coastal area which is traditionally exploited by small fishermen.[28] The proceedings of that Committee shows that the need for delimitation was felt partly for avoiding conflicts between economic interests and party with a view to conserve the resources.[29] It is "for safeguarding the interests of small fishermen, to avoid repeated conflicts between different economic interests and to ensure conservation and optimum utilisation of coastal resources" that the Committee recommended adoption of the Draft Marine Fishing Regulation Bill that was appended to its Report.[30]

After considering that Report, the Central Government made over the same to the coastal States suggesting them to pass suitable legislations on the model Bill appended to it.[31] Based on the same, the Kerala Marine Fishing Regulation Act, 1980 was passed. Most of the other coastal States have passed similar legislation.

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27. Notification No. 14-7/72-Fy (T-I) dated 24.5.1976 issued by the Ministry of Agriculture, Government of India.
28. Report of the Majumdar Committee, p.3.
29. See the proceedings of the first and third meetings of the Committee given as Annexures I and III of the Report respectively.
30. See para 4.1 of that Report at p.9 and Appendix X thereto.
31. D.O. No.F.30035/10/77-Fy (T-I) dated 29.3.1978 issued by the Ministry of Agriculture, Government of India.

Section 4 (1) of the Kerala Marine Fishing Regulation Act, 1980 empowers the Government:

to regulate, restrict or prohibit:-

1. fishing by specified classes of fishing vessels in specified areas;

2. the number of fishing vessels to be used for fishing in any specified area;

3. the catching of any species of fish in such areas and the period for the same; and

4. the use of any fishing gear in such specified areas.

Section 4 (2) of the Act enumerates the grounds on which the government may introduce such regulations, restrictions or prohibitions. They are:-

a) The need to protect the interests of different sections of persons engaged in fishing, particularly those using traditional crafts;

b) The need to conserve fish and regulate fishing on a scientific basis;

c. The need to maintain law and order in the sea; and

d. Any other matter that may be prescribed.

In exercise of the power so conferred on it, the Government issued two notifications dated 29.11.1980,[32] by one of which, fishing by mechanised vessels in territorial waters except in small specified zones are prohibited; and by the other, the use of gears like purse-seine, ring-seine, pelagic trawl and mid-water trawl was prohibited along the coastline, while fishing using motorised country crafts in parts of the prohibited area was permitted.

Another set of notifications were issued on 29.12.1980[33] declaring a 78 km length of coast from Kollangode to Edava upto 16 fathom lines in the sea and another 512 km length of coast from Paravoor to Manjeswaram upto 8 fathom line in the sea as specified area wherein all mechanised vessels were prohibited from fishing and prohibiting all mechanised vessels except motorised country crafts from fishing in the sea upto 20 fathom line and 10 fathom line in the aforesaid specified areas respectively.

The Judicial Trend:-

The validity of the Act as well as these notifications w challenged by the operators of mechanised vessels using purse seine in Babu Joseph Vs. State of Kerala[34] and other cases as imposing unreasonable restrictions on their Fundamental Right guaranteed in Art. 19 (1) (g) of the Constitution. The Kerala High Court, while upholding the validity of the Act as a reasonable

32. GO Nos. 43 and 44 dated 29.11.1980.
33. GO Nos. 156, 157,158 & 159 dtd. 29.12.1980.
34. ILR 1985 (1) Ker. 402(DB).

restriction under Article 19 (6) struck down all the six notifications mentioned above issued under S.4(2) (b) of the Act holding that;

> ".....what could still be justified, on the strength of the material on record, is only a reasonable demarcation of zone and not a complete ban on purse-seine boats and a near complete prohibition of all mechanised vessels."[35]

The Judgment concludes with a clarification as follows:-

> "This will not, we hasten to clarify, prevent the government from reexamining the whole question and exercising their powers in accordance with law. And in view of the circumstance that some demarcation of an exclusive zone for the traditional crafts was in force for quite some time, either under executive orders or under interim orders of this Court, we further direct that till a fresh decision is taken by government, mechanised fishing vessels shall be allowed to operate only beyond 10 km from the shore".[36]

This Judgment was pronounced on 27.9.1984. Subsequently, the Government issued two fresh notifications dated 30.11.1984[37] by one of which, it again specified the area along the entire coastline of the State within the territorial waters as the specified area for the purpose of S.4(1) (d) of the Act; and by the other notification, it prohibited the use of the aforesaid gears for fishing in the territorial waters along the entire coastline of the State.

35. Ibid, para 53 at pp. 452-53.
36. Ibid, para 56, at pp. 453-54
37. G.O.(P) No.136/84/PW.F&PD dt. 30.11.1984 & GO (P) No. 138/84/PW.F&PD DT. 30.11.1984.

In the Second notification, there is a declaration that the Government was convinced of the need to protect the interests of those using traditional fishing crafts in the territorial waters of the State and that there was need to preserve law and order in territorial waters.

These notifications were challenged before the Kerala High Court in Joseph Antony Vs. State of Kerala.[38] After hearing, the High Court declared these notifications as unenforceable so far as they imposed a ban on the use of purse-seine nets beyond 10 Kms from the shore as being an unreasonable restriction on the Fundamental Right guaranteed to petitioner under Article 19 (1) (g) of the Constitution. It was held that these notifications could be enforced only within the limits of 10 Kms. Accordingly, the High Court allowed the Writ Petition to the extent that the notifications operated beyond 10 Kms in the territorial waters of the State.

The State as well as the Swatantra Matsya Thozhilali Federation challenged this decision in appeal before the Supreme Court in State of Kerala Vs. Joseph Antony[39] Reversing the Judgment of the High Court, the Supreme Court observed as follows:-

> "..... The operators of purse seines are few and rich with enough resources at their command. They do not ordinarily form part of the fishermen - pupulation proper. Fishing is not their traditional

38. Judgment dt 9/4/1986 in O.P No: 253/85-Y.

39. 1994 (1) SCR 301.

source of livelihood. They have entered the fishing "industry" only as late as in 1979 and as entrepreneurs to make profits. They obviously look upon fishing as a business and not as a means of livelihood....."[40]

Upholding the notifications, it was held further as follows:-

"By monopolising the pelagic fish stock within and by indiscriminate fishing in the territorial waters they are today denying the vast masses of the poor fishermen their right to live in two different ways. The catch that should come to their share is cordoned off by the giant and closely meshed gears leaving negligible quantity for them. Secondly, the closely meshed nets kill indiscriminately the juvenile with the adult fish and their eggs as well. That is preventing breeding of the fish which is bound in course of time to lead to depletion and extinction of the fish stock. There is thus an imminent threat to the source of livelihood of the vast section of the Society. The State is enjoined under Article 46 of the Constitution in particular to protect the poor fishermen-population. As against this, the respondent operators are not prohibited from fishing within the territorial waters. They are only prohibited from using certain types of nets, viz., purse-seines, ring seines,

40. Ibid, para 15 at p. 312.

pelagic and mid-water trawls. There is, therefore, no restriction on their fundamental right under Article 19 (1) (g) to carry on their occupation, trade or business. They cannot insist on carrying on their occupation in a manner which is demonstrably harmful to others and in this case, threatens others with deprivation of their source of livelihood. Since, in the circumstances, the protection of the interests of the weaker sections of the society is warranted and enjoined upon by Article 46 of the Constitution and the protection is also in the interest of the general public, the restriction imposed by the impugned notifications on the use of the gears in question is a reasonable restriction within the meaning of Article 19 (6) of the Constitution."[41]

This decision evidences a judicial recognition of traditional fishermen as a 'weaker section of the society' and the duty of the state to promote their economic interests and to protect them from social injustice and all forms of exploitation in terms of Article 46 of the Constitution.

Opinions of Expert Committees:-

In view of the recurring nature of the problem, the State Government had appointed certain expert committees to

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41. Ibid, para 16 at pp. 312-313.

enquire into it and to suggest measures for reform. The Babu Paul Committee's Report of July, 1982 pointed out that there were 37 units of 43.5 feet length purse-seiners regularly operating from Cochin, that these boats were designed for inshore fishing and that they could fish between 5 Kms and 25 - 30 Kms only. Since these boats do not have equipments such as eco-sound raddar, storage system, wireless, cold-storage facility etc., they are not fit to operate in the offshore and deep sea and have to keep the shore in sight while operating in the sea. Relying on UNDP/FAO Pelagic Fishery Project, the Committee reported that it is the traditional fishing method which is more harmful to the stock of sardine and mackeral because "the young ones of these species move closer to the coast during the first year of their life and move out to offshore waters as and when they grow in size." Since the traditional fishing is done nearer the shore, according to the Committee, it is a "wasteful utilisation of the resources." It lauded purse seining as a more rational method of harvesting the fish resources.

It is submitted that the Babu Paul Committee did not give any importance to the fact that the traditional fishermen use nets with wide meshes which enable the small fish and young ones to escape through them. Again, about 80% of the traditional fishing boats have been motorised which enables them to go upto a distance of 20-22 Kms. from the shore. Therefore, traditional fishing is no longer confined to areas nearer the shore.

The Kalwar Committee Report of May, 1985 gives a some what different picture about this. According to it, the traditional sector in Kerala is certainly capable of putting in optimal levels of effort. In the context of the newly emerged fleet of our 2000 motorised fishing canoes with much greater fishing efficiency, the Committee opined that "there is little case for purse seine fishery for the smaller pelagics of oil sardine, mackeral and white baits in Kerala....."[42]

This Committee noted that there is a decline of catches in Goa, Maharashtra and Kerala due to overfishing. The sharp decline in Kerala was reported to be due to a combination of factors including mainly:

1. Competition for space from the mechanised trawlers until 1980;
2. Competition for resource from purse seiners since 1979; and
3. Overfishing by purse seiners in Karnataka, Kerala and Goa.

The Committee therefore recommended that the number of trawlnet boats used in Kerala should be reduced from 3500 to 1145.

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42. Report of the Expert Committee on Marine Fisheries in Kerala, known as the Kalawar Committee Report, p.309.

This recommendation was, however, not acted upon. Instead, the Government appointed the Balakrishnan Nair Committee, which submitted its Report in June, 1989. One of the recommendations of this Committee was in the following terms:-

> "In the interest of conservation of resources, it is suggested that a total ban be enforced on trawling by all types of vessels in the territorial waters of Kerala during the months of June, July and August. The impact of this measure on the conservation and optimum utilisation of the resource should be examined in detail and be subjected to close scrutiny and review in the next three years....."[43]

It is after considering these reports also that the Supreme Court upheld the Governemnt orders that were in challenge in Joseph Antony.[44]

The Monsoon Trawl Ban:

Based on the Balakrishnan Nair Committee Report, the Kerala Government issued an order dated 25.6.1990 [45] "in view of the need to preserve law and order" and the "need to avoid accidents and ensure safety of life and property of fishermen". The Explanatory Note thereto refers to a large number of complaints from the traditional fishermen

43. Report of the Expert Committee on Marine Fishery Resources Management in Kerala, known as the Balakrishnan Nair Committee Report, p.59.

44. 1994 (1) S.C.R. 301.

45. G.O.(P) No.31/90/F&PD dt. 25.6.1990.

that the vessels prohibited from conducting fishing in territorial waters were actually fishing in the prohibited area. It recites the Government's opinion that mechanised boats of less than 43 feet length are not capable of conducting bottom trawling beyond the territorial waters. The Explanatory Note further recites that the Government has decided to prescribe certain pre-requisites for trawling boats for fishing beyond territorial waters to ensure that bottom trawl fishing is not conducted in the prohibited area.

The Notification imposed certain restrictions upon the length of the boat, horse-power of the engine and the particulars of the fishing gear to be carried in boats going for bottom-trawling beyond territorial waters. The requirements prescribed, inter-alia, are:

1. The engine fitted in the boat shall have a minimum power of 160 HP and the hull shall have a length of not less than 43 feet; and

2. the boat shall have a minimum length of 500 metres wire-rope in the winch drum.

A total trawl ban in the entire coastline of the State, within the territorial waters, was imposed by another order dated 25.6. 1992.[46] It was applicable only for the monsoon period from 21st June, 1992 to the 3rd August, 1992.

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46. G.O.(P) No. 26/92/F&PD dated 25.6.1992.

The Explanatory Note stated that the ban was imposed "in the interest of conservation of fish wealth and to avoid the possible law and order problems in the coastal areas and the sea". It referred to the complaints of traditional fishermen that bottom-trawling during monsoon months is adversely affecting the conservation of fish wealth and is affecting their livelihood. The recommendations of the Expert Committee were stated as the basis for the order.

The two Government Orders were challenged by the owners and operators of mechanised trawlers in Kerala Trawlnet Boat Operators' Association Vs. State of Kerala.[47] Petitioners contended that even though their boats are of lesser length than 43 feet and are having engines with less than 160 HP, they are yet capable of engaging in bottom trawling beyond territorial waters; these Government Orders prevent them from moving out through the territorial waters for that purpose; the State Government is incompetent to insist on specifications of their boats operating beyond territorial waters and that these Government Orders put unreasonable restrictions on their Fundamental Rights guaranteed under Arts. 19 (1) (d) and 19 (1) (g) of the Constitution.

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47. 1996 (7) JT SC 375

The High Court upheld these contentions and declared the Government Order dated 25.6.1990 as void "in so far as it specifies conditions in regard to 'any fishing vessel' which is going beyond the territorial waters for the purpose of fishing in such areas." The State Government and the Kerala Swathanthra Matsya Thozhilali Federation challenged it in appeal before the Supreme Court.

Relying on the decision in Joseph Antony[48] and the expert opinions before it, the Supreme Court reversed the decision of the High Court and upheld the conclusive presumption of law and the restrictions imposed by the two Government Orders as reasonable both under Articles 19(5) and 19 (6) of the Constitution observing as follows:-

> "In the specific conditions obtaining in the Kerala State having regard to the particulars relating to the number of fishermen and the availability of the fish noticed in Joseph Antony, the restrictions imposed by the impugned orders appear to be perfectly justified. The said restrictions serve twin purposes, viz. assuring the livelihood of the traditional fishermen whose number runs into several lakhs and also to ensure that indiscriminate fishing is not indulged in by these trawl-boats within territorial waters."[49]

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48. 1994 (1) S.C.R. 301
49. Ibid, at p. 316.

The plea of innocent passage relying on the first proviso to S.5 of the Kerala Marine Fishing Regulation Act, 1980 was discarded as "merely a ruse". The argument that if they indulge in any violations, they can always be checked, caught and prosecuted was negatived holding that it is "no answer, having regard to the vast area involved" and that it is not practicable. It was further held as follows:-

> "The cost of an efective supervision would be prohibitive. It would not be in the interest of the general public. Since the reasonableness of the restriction has to be judged on the touchstone of general public interest, whether under Clause (5) or Clause (6) of Article 19 of the Constitution, the above consideration (cost and practicability) are not irrelevant. In the circumstances, the temporary ban cannot be said to be either excessive, dispropertionate or over-broad."[50]

The validity of the monsoon trawl ban thus stands judicially recognised. Gear restrictions and the monsoon trawl ban in territorial waters could be achieved due to clamour of small-scale fishermen against mechanised fishing in inshore waters. They are now recognised as effective fisheries management measures within the territorial sea. The conclusive presumption of law created by the Government

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50. Ibid, at p. 31

Order dated 25.6.1990 that boats having lessor length, horse power and fishing gear than prescribed shall be deemed to be meant for bottom trawling within the territorial waters and the specifications insisted on by that Governemnt Order for bottom trawlers operating beyond territorial waters on the basis of that presumption of law have turned out to be the most innovative management steps that we have so far adopted. Judicial recognition given to them by the Supreme Court in the Trawl-net Operators' Case is most welcome and encouraging . The reasoning of the Supreme Court for rejecting the arguments that bottom trawlers have the right of innocent passage through the territorial waters as per the first Proviso to S.5 of the Act and that violators can be prosecuted is all the more innovative. The vast area involved and the cost required for an effective supervision in the territorial waters are pointed out to make it "prohibitive", "not practicable" and not "in the interest of the general public". The relevance and usefulness of this reasoning is that it provides a practical solution to the rather difficult task of effective enforcement of management measures in the open sea.

The problem of enforcement:

This brings us to the problem of enforcement of management measures. In our State, the task of enforcement is undertaken by the Department of Fisheries. The organisational set-up, the poor financial allocations and

the limited infrastructural facilities act as constraints against effective enforcement of fisheries regulations. Enforcement is poor and ineffective in both the inland and marine sectors. Our riverine fisheries are totally left unmanaged. In the backwater fisheries, the provisions for registration and licensing are not being effectively implemented. Illicit stakenets and chinese dipnets have come to stay in large number for several years. Even in the case of licensed ones, the terms and conditions thereof are not being effectively implemented. Lack of sufficient personnel, financial constraints and lack of patrol boats are responsible for this situation to a great extent. Lack of political will on the part of the Government and absence of community participation are also responsible for this.

The Indian Fisheries Act, 1897 and the T.C. Fisheries Act, 1950 are old and outmoded. The penal provisions are not effective or sufficient in the present day context. We have not so far cared to bring about uniformity of legislation throughout the State.

In the marine context, the working of the Kerala Marine Fishing Regulation Act, 1980 could bring about gear restrictions and monsoon trawl ban in territorial waters. The only legislation applicable to deep sea fishing is the Maritime Zones of India (Regulation of Fishing by Foreign Vessels) Act, 1981. Foreign fishing itself requires to be prohibited totally in our EEZ area for exploring the fishery resources therein for our national use. Our

traditional fishermen have started venturing to offshore and deep sea fishing with improved versions of their craft and gear backed by State aid and support. The task of conflict management requires to be extended to our entire EEZ area.

The role of the Coast Guards:

The Coast Guards Act, 1978 was enacted to provide for the constitution of an Armed Force of the Union for ensuring the securi of the maritime zones of India and to protect the maritime and other national interests in such zones and for other connected matters.[51] The duties of the Coast Guard include the provision of protection to fishermen including assistance to them at sea while in distress and to take necessary measures to preserve and protect the maritime environment and to prevent and control marine pollution.[52] They are to perform their functions in close liaison with Union agencies, institutions and authorities so as to avoid duplication of effort.[53]

The Central Government may entrust the Coast Guards with functions under the Maritime Zones Act, 1976.[54] The Central Government may also entrust them with the powers and duties of Police Officer under a State Act with the concurrence of the State Government concerned.[55]

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51. See the Preamble and S.4 (1).
52. S. 14 (2) (b) & (c)
53. S. 14 (3)
54. S. 121 (1)
55. S. 121 (2)

The Majumdar Committee had consulted the Coast Guards Organisation during the course of its proceedings and preparation of its report for submitting to the Government of India. The stand taken by the representative of the Coast Guards before the Committee was that it is constituted for the safety of offshore installations and that their services" may not be available for enforcement of delimitation of fishing zone",[56] under the proposed Marine Fishing Regulation Act.

CONCLUSIONS:

Lack of farsightedness in develop policies of the Government and open access to fisheries result in overcapacity which in turn culminates in overfishing and competition for space and resource. The Kerala Government introuced mechanised fishing in our coastal waters during the 1900's and 1970's. A shift to motorisation of traditional crafts became inevitable by late 1970's due to protests from the small-scale fishermen. Both the policies resulted in overcapacity and overfishing.

Competition between competing gear groups for space and resource in the inshore waters was a direct consequence of machanisation. Traditional fishermen found themselves,

56. See the Minutes of the Second Meeting of the Committee on delimitation of fishing zones for different types of fishing boats, appended as Annexure 3 to its report at pages 20-23.

their craft and gear to be incompetent to compete with the mechanised boats and their trawls. There cannot be any comparison between the two groups in terms of Catch Per Unit Effort. Traditional fishermen expressed concern over damages caused to their craft and gear by the trawler boats; they also started complaining of resource depletion due to indiscriminate fishing by the trawlers. Tensions, clashes and conflicts in our coastal waters and become a common feature from 1976.

The clamour of traditional fishermen for delimitation of exclusive fishing zones for them and for conservation measures persuaded the coastal states to approach the Central Government for introducing suitable legislation. The Majumdar Committee was constituted by the Central Government to examine the question. That Committee recommended adoption of a draft Marine Fishing Regulation Bill appended to its report "for safeguarding the interests of small fishermen, to avoid repeated conflicts between different economic interests and to ensure conservation and optimum utilisation of coastal resources." It is based on that report that, as suggested by the Central Government, the Kerala Marine Fishing Regulation Act, 1980 was passed.

The constitutional validity of the regulatory measures as contained in S. 4 of the Kerala Marine Fishing Regulation Act, 1980 has been upheld by the Supreme Court in State of Kerala Vs. Joseph Antony. That decision

evidences a judicial recognition of traditional fishermen as a weaker section of the society and the duty of the State to promote their economic interests and to protect them from social injustice and all forms of exploitation in terms of Article 46 of the Constitution.

Gear restrictions and the monsoon trawl ban in territorial waters could be achieved due to clamour of small-scale fishermen against mechanised fishing in inshore waters. They are now recognised as effective fisheries management measures within the territorial sea. The conclusive presumption of law created by the Government Order dated 25.7.1990 that boats having lesser length, horse powerage and fishing gear then prescribed shall be deemed to be meant for bottom trawling within the territorial waters and the specifications insisted on by that Government Order for bottom trawlers operating beyond territorial waters on the basis of that presumption of law coupled with the gear restrictions and the monsoon trawl ban have turned out to be the most innovative management steps that we have so far adopted. Judicial recognition given to them by the Supreme Court in the Kerala Trawlnet Boat Operators' Association Vs. State of Kerala is most welcome and encouraging . The reasoning of the Supreme Court for rejecting the arguments that bottom trawlers have the right of innocent passage through the territorial waters as per the 1st proviso to S.5 of the Kerala Marine Fishing Regulation Act, 1980 and that violators can be prosecuted, is all the more innovative. The vast area

involved and the cost required for an effective supervision in the territorial waters are pointed out by the Supreme Court as making it 'prohibitive', 'not practicable' and not 'in the interest of the general public.' The relevance and usefulness of that reasoning is that it provides a practical solution for a rather difficult task of effective enforcement of management measures in the open sea.

Coming to the task of enforcement, the organisational set up, poor financial allocations and limited infrastructural facilities at the disposal of the Department of Fisheries act as constraints against effective enforcement of fisheries regulations. Enforcement is poor and ineffective in both the inland and marine sectors. There is a dearth of uniformity of legislations applicable to inland fisheries throughout the state. Foreign fishing requires to be totally prohibited in our EEZ area for exploring the fishery resources therein for our national use. The task of conflict management requires to be extended to the entire EEZ area. Going by the provisions of the Coast Guards Act, 1978 and the attitude of the Coast Guards Organisation as evidenced by the proceedings of the Majumdar Committee, the Coast Guards Organisation may not be of any practicable use in enforcing management measures. A restructuring of the Fisheries Department with provision of adequate funds and infrastructural facilties can be thought of as a viable solution for this problem. As pointed out in the previous

Chapter also, a comprehensive National Fisheries Legislation backed by a National Fisheries Policy applicable to the entire Indian fishery waters is the need of the times. Gear restrictions and zoning regulations will have to be extended to the EEZ area if we are to venture exploiting our natural resources there for ourselves. Fishery Guards or Central Marine Reserve Police Organisation may be set up for enforcing these management measures in the territorial waters as well as in the EEZ area. Such organisations can be set up even at the State level with power to enforce fishery regulations in the respective EEZ areas as well. Any such enforcement machinery should be provided with modern equipments and facilities like Air Survaillance facilities.

Conflict management is a very important measure of conservation of the resources. It strives at elimination of competition and conflicts between the different gear groups. It can go a long way in safeguarding the interests of small fishermen. The Indonesian Trawl Ban, the Zoning System coupled with the Fisheries Comprehensive Licensing Policy introduced by Malaysia and the Japanese conflict management system with the participation and co-operation of the fishermen themselves are indicators of the success of conflict management policies in similar contexts. Lack of political will, poor and ineffective enforcement measures and lack of vision on the part of the fishery managers coupled with non-cooperation on the part of the fishermen themselves, as in Philippines and in Thailand,

can bring in negative results even in the wake of stringent legislative measures.

It was due to the pressure exerted by the traditional fishermen that our governments in power in Kerala resorted to the appointment of Commissions after Commissions to enquire into the problems of resource management and conservation of the resources. The implementation of the unanimous recommendations of these Commissions is the need of the times. Lack of political will on the part of the Government and dearth of consciousness on the part of our fishermen in this respect will be fatal to our fishery wealth.

Chapter VI SOCIAL JUSTICE TO TRADITIONAL FISHERMEN

A. Composition of the Fisheries Sector:-

Fish is a major item of food among Indians. It provides employment and income for a considerable section of the population. A vast majority of them depend on fishing and fisheries for their livelihood. Fisheries products form an important item of export and a major earner of foreign exchange. Thus the fisheries sector plays an important role in our socio-economic set up.

Our inland fisheries can broadly be classified into fresh water fisheries and saline or backwater fisheries. About 85,000 ha of riverine waters, about 29,659 ha of reservoir areas and about 3,300 ha of ponds, lakes etc. constitute the freshwater group.[1] Our backwaters are estimated to be around 2,42,600 ha in extent. Backwater and riverine fisheries together are called conservation fisheries. The number of fishermen depending on fishing and fishery-related activities in the inland sector is estimated to be around two lakhs. The total number of actual fishermen engaged in fishing as a means of livelihood is estimated to be around 1.5 lakhs. Around 85% of the fishermen population in the inland sector depend on backwater fisheries.

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1. Government of Kerala, Department of Fisheries, 'Kerala Fisheries : an Overview', 1987, p.14.

Fixed engines like stake nets, chinese dip nets and free nets of several kinds are used in inland fishing. A licence is required for fishing and registration is required for the fixed engines. The number of registered stake nets is estimated to be around 8,834. However, it remains a fact that at least three times the number of unregistered stake nets are also put to use. Similarily, in place of around 6,000 registered chinese nets, we have got around three times the number of unregistered ones. The number of registered free nets is around 50,080. However, they are diminishing in numbers. This is partly due to the uneconomic nature of this kind of fishing and partly due to soil erosion, pollution an other factors.

Around one lakh fishermen households are concentrated in the nine coastal districts spread over the 590 km long Kerala coast. The number of active marine fishermen is estimated to be around five lakhs.[2] The artisanal/traditional fishermen in our state belong to the Hindu, Muslim and Christian communities. The fishing methods and fishing implements resorted to by them have been evolved out of necessity and experience. Without any scientific knowledge or information regarding the availability or concentration of fish in the fishing grounds and without any state aid or support, our artisanal/traditional fishermen families have been pulling on with their avocation. Fish was in plenty and it was not difficult to find out consumers. Catching, landing and

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2. See: Government of Kerala, 'Fisheries Development and Management Policy', 1993. p.9.

marketing could be done by members of the same family. Though seasonal in nature, fishing as an avocation provided employment and income for them, though only during the particular seasons. However, there was nothing to save or spare for them for the slack season. Therefore, they were used to spend lavishly during the fishing season and to starve or borrow for the remaining part of the year. So practically, Government intervention in the field of their activity was minimum.

B. Technological Innovations and their Aftermath:-

Till the 1960's, there were only very few mechanised boats in the state which were introduced in the government sector from Norway as part of F.A.O. aid. Almost the entire marine fish production was from the country crafts propelled by wind and man power. During the 1950's and 1960's, the output from the artisanal sector grew steadily as a result of the change from the cotton nets to nylon nets as also due to the greater incentive to fish due to better marketing infrastructure and enhanced local demand for fish. By 1970, the output of the artisanal fishermen was close to the Maximum Sustainable Yield in the inshore waters (0-50 m depth) estimated at 3,77,000 tonnes. The fish resource in the offshore waters (50m - 200 m depth) and the deep seas (beyond 200 m depth) was generally out of reach of the artisanal sector. Still, the productivity of the offshore waters is estimated to be only half that of

the inshore waters and that of the deep seas is only one hundredth.[3]

(i) Mechanisation phase:

With the integration of the erstwhile Princely States of Travancore and Cochin and the subsequent formation of the State of Kerala after the commencement of the Constitution, the entire position changed. The Central and State Governments identified our fishery wealth as a major source of earning foreign exchange. With this in mind, they started intervening in the fisheries sector under the guise of planning by introducing modern technology through the Indo-Norwegian Project which came into being in 1953. The attempts of the Project to introduce motors for artisanal crafts were not successful. They thereupon shifted emphasis to new designs for mechanised boats to be operated from the harbours. The necessary capital was advanced by the Government. The early 1960's saw the introduction of a few hundred gill-net boats. These boats had a limited impact on production. They were largely complementary to the artisanal fleet. Prawns suddenly found a lucrative world market. This led to the introduction of small 32' coastal trawlers capable of catching them. The high market price for prawns and the

3. Programme for Community Organisation and South Indian Federation of Fishermen Societies, Trivandrum: 'Motorisation of Fishing Units: Benefits and Burdens', 1991, p. 3.

Government's interest in promoting exports gave a further boost to trawling. Trawling was found to be very profitable and the 1970's saw a mad rush to own trawlers. A number of outside investors moved in to reap the profits.

The Government attempted to supply trawlers to the actual working fishermen. It proved to be a failure. About 1,000 trawlers distributed through co-operatives went into the hands of middlemen and outsiders, creating a new class of absentee-owners who had no long-term stake in fishing, but were after profits only.

These coastal trawlers were quite small and capable of only daily operations. The prawn resources which they sought were concentrated in the inshore waters of the depth range of 0 - 50 m. At the initial stages, the number of trawlers was limited and therefore, the impact appeared to be positive. They were better suited to tap the demersal species when compared to the artisanal units. When the number of trawlers increased, the position became quite different. During the late 1970s, the mechanised boats, and trawlers mainly, accounted for a larger share of the declining catches. The artisanal sector's catches fell down from about 4,00,000 tonnes in 1971 to 1,50,000 tonnes in 1980.[4] During the same period, the mechanised sector had improved its position steadily. Many demersal species showed a declining trend indicating overfishing by the

4. 'Kerala Fisheries: An Overview', 1987, Supra, at. p.69.

trawlers. The trawlers have also damaged the natural habitat of fish like corals and small reefs leading to depletion of fish resources in the coastal waters. By 1980, around 10,000 mechanised boats with a work force of about 50,000 and about 30,000 country crafts with a work force of about 2,00,000 were found locked in an unfair competition for fishing grounds as well as fishery resources.

(ii) The Motorisation Phase:

The traditional fishermen could no longer manage to make a living in this situation. They reacted strongly in the early 1980's by resort to unionisation for pressurising the Government for regulating fishing in the inshore waters - and motorisation - for competing more effectively with the mechanised sector and to reach distant waters in search of new fish resources.

Motorisation had been unsuccessfully tried on artisanal crafts by the Indo-Norwegian Project in 1953 and by the Indo-Belgium Project in 1968. Efforts made in the mid 1970's to introduce Outboard Motors (OBM) in Trivandrum District were resisted by the fishermen in view of the added costs it would involve, technical problems in handling it and also obviously due to the then availability of fish in the inshore waters in plenty.[5]

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5. Programme for Community Organisation, 'Small-Scale Fisheries on the South-West Coast of India - A Socio-Economic Study of the Changes Taking place After the Coming of Motorisation', 1991, p.19.

The situation changed after 1980. The growing depletion of the coastal waters, the competition with the mechanised boats, the increasing fish prices and the liberal import policies pursuaded the artisanal fishermen to resort to motorisation. This started in 1981 and by the year 1988, the number of motors increased rapidly to 15,000. About half of the country crafts were motorised and three fourths of the artisanal fishermen started working on them. In certain areas, motorisation was total and fishermen cannot imagine fishing without motors.

This was accompanied by changes in the craft and gear as well. In areas South of Quilon, 'Kattumaram' was the predominent craft. It is being replaced by the new plywood boat. In the central area from Neendakara to Fort Cochin, the 'Thanguvallam'has become bigger and the encircling net has been replaced by the ring seine. The mini-trawl net with a medium plank canoe is a technological innovation adopted by the traditional fishermen for seasonal operations as a survival strategy. In the north zone from Munhambam to Manjeswaram, the 'Kollivala' or boat seine operated from dugout canoes has been replaced by different versions of the ring seine.

(iii) Impact on Socio-Economic Structure:

The catch data from 1982 to '84 indicated that the artisanal fishery was recovering slowly.[6] During 1985-'87, there was a decline in catches. There was then a sudden upward jump in the catches in 1988 and 1989. This could be due to better rainfall, favourable natural conditions and the ban on trawling introduced during the monsoon period. Natural causes as well as increased depth of operation due to motorisation appear to have contributed to the recovery in catches. However, it could be achieved at substantially higher costs which virtually undermines the profitability of the artisanal sector.

Motorisation of fishing units has not resulted in enhancing the time spent for fishing. It has increased the physical productivity of only units using active fishing gear like the ring seine and the plank built boats using hook and lines. Motorisation has not resulted in any general shift to the deeper waters for fishing. The surviving non-motorised units are forced to concentrate in the near-shore waters creating further fishing pressure over there. The enhanced output of the motorised units has led to depressing the physical output of the non-motorised units. Bargaining power of the fishermen has decreased with increased output consequent to motorisation. The overall increase in the size of landings per craft has not led to any noticeable change in the nature of the marketing channels. The incomes of the crew on the non-motorised

6. See Supra, Note 4.

crafts have declined. Operating costs of motorised units have risen in real terms. Motorisation has resulted in a 5 to 10 fold increase in the level of investment in fishing units in real terms. It has resulted in higher levels of indebtedness among the fishermen-owners causing loss of effective control over the real ownership of the means of production. The motorised fishing units are harvesting the same resource-base of the near-shore waters more intensively. The large increase in investments to achieve the higher level of technology have not yielded the expected results either in the form of higher incomes or higher profitability to the owners.[7]

Motorisation was resorted to by the artisanal fishermen more as a survival strategy than in the pursuit of modernisation. Confronted with the powerful trawlers and purse seiners for space and resource, they opposed the trawlers on the one hand and developed their own survival strategies on the other. The political struggle of the fishermen through their unions demanding welfare measures and ban on trawling during the monsoon months had the desired effect. The government understood and acknowledged the unfair nature of the competition with trawlers and brought in legislation to reserve a certain zone (0 - 20 m) for artisanal fishermen. The Kalawar Committee enquiring

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7. 'Motorisation of Fishing Units: Benefits and Burdens', Supra, Note 3, at pp. 30-41.

into the conflict[8] recommended the scrapping of more than 50% of the trawlers. In its attempt at reorganising the small-scale sector, the Government realised that their attempts at creating Co-operatives had failed and that efforts at modernisation had resulted in unintended effects. It has now declared all fishing villages as societies through which all government funds for development are channeled. The 'Matsyafed' supervises these societies and attempts to provide new marketing channels to free the fishermen from the clutches of merchants and money-lenders.

C Fishworker's Struggle for Socio-economic Justice

In most developing countries, fishing was initially undertaken by a community/tribe/caste, often socially and culturally separate from the mainstream of the society.[9] Our State is no exception to this. Fishing in Kerala has been the traditional occupation of Hindu fishing castes like Arayans, Valans, Mukkuvans and Marakkans. With the advent of Christianity and Islam, many Hindu traditional fishworkers converted into these new religions. The Malabar coast is dominated by Mukkuvas and Mappilas (Muslims); Arayans and Valans dominate the Cochin area and Latin Catholics form the majority in Kollam and Thiruvananthapuram Districts of the State. These traditional fishworkers were unorganised and self-employed.

8. Report of the Expert Committee on Marine Fisheries in Kerala, submitted to the Government of Kerala on 19.5.1985, known as the Kalawar Committee.
9. John Kurien, Towards a New Agenda for Sustainable Small-Scale Fisheries Development, SIFFS, 1996, Executive Summary.

> "Fishworkers in Kerala, as in every other part of the country, have been at the margins of society - geographically, economically, socio-culturally and politically. The nature of their occupation which takes the men out to sea and back to the fringes of the land, thus curtailing social interaction, is one of the predominant reasons for this marginalisation."[10]

Early attempts at organising either on communal basis[11] or on political affiliation did not succeed. Several isolated efforts were made by Christian priests for ameliorating the conditions of fishworkers and also for organising agitations for their benefit.[12]

ORIGIN OF FISHWORKERS' UNIONS:-

Successive attempts at formation of fishworkers' unions at different levels in the 1960's and 1970's culminated in the organisation of district/church/area

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10. John Kurien and Thankappan Achari, 'Fisheries Development Policies and the Fishermen's Struggle in Kerala', Social Action, Vol. 38, No.1, 1988.
11. The Vala Samudaya Parirakshan Sabha founded by K.P. Karuppan in 1910 aimed at promoting upward mobility of Arayans and Valans. See: Dr. C.M. Abraham, Fishworkers' Movement in Kerala, Institute for Community Organisation and Research, Mumbai, 1995.
12. In 1947, Fr. Heronimus, a priest of the Quilon Diocese established an association called the 'Eravipuram Labour Association' seeking to free the Fishworkers from bonded labour and to provide employment opportunities for them in off-season and lean months. The Loyola Work Projects set up by Fr.Manipadam in Poovar near Thiruvananthapuram was a social service organisation for the benefit of the fishworkers. See: Dr. C.M. Abraham, Supra, p.20.

level unions.[13] In the initial stages upto the beginning of the 1960's, they were organised at the local or parish level with emphasis on charity. During the next stage, from the middle of 1960's and in the 1970's, these unions were organised at the diocesan level, under the patronage of Bishops with the objects of charity, development activities and organisation of agitations for fishworkers' welfare. The Alappuzha Union took the lead in organising agitations and the other unions followed them.

The period from 1967 to 1975 witnessed a rapid mechanisation of the fisheries sector with Government aid and support. The newly introduced trawlers started competing with traditional crafts for fishing in the inshore waters. The operation of these trawlers damaged country boats and their nets also. The traditional fishworkers were discontented over this development. The unions had to engage themselves in settling the disputes between their own members and the trawler operators.

During the emergency period of 1975-76, purse seiners were also introduced in our coastal waters with Government support. The claim was that it would tend to expand the area of fishing and that efficiency of the harvesting process would increase. Simultaneously with this, the hitherto extended state aid to traditional methods of processing was stopped and new techniques of

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13. Kollam Jilla Swathantra Matsya Thozhilali Union (1970); Alappuzha Catholic Matsya Thozhilali Union (1971); Vijayapuram Roopatha Matsya Thozhilali Union (1977); The Ernakulam Jilla Matsya Thozhilali Union (1982); Thiruvananthapuram Jilla Matsya Thozhilali Union (1979) and the Malabar Swathantra Matsya Thozhilali Union (1980).

freezing and canning were introduced.

The new craft-gear technologies and cost-benefit possibilities were quite unfavourable for the traditional fishworkers. Fisheries development through the intervention of the government was obviously divorced from Fishworkers' development. It paved the way for growing conflicts between traditional fishworkers and mechanised trawlers for space and resources in the coastal waters. "The initial growth phase quickly gave way to the crisis and catastrophe phase"[14] Once emergency was lifted, agitations errupted in Alappuzha and Kollam regions in protest against the introduction of trawling. This was a time when traditional fishworkers of Tamil Nadu and Goa were resisting trawling in their coastal waters both by militant and non-violent means. These experiences came as a new perception for fishworkers and their supporters in Kerala. Social activists and leaders of fishworkers' unions gained inspiration and enthusiasm from these developments in the neighbouring states.

The representatives of five unions met at Punnapra in May, 1977, and resolved to form a federation of the existing unions under the name Kerala Latheen Catholic Matsya Thozhilali Federation (KLCMTF). The affiliated unions had the freedom of retaining their independent status and function in their respective areas. The Alappuzha and Kollam Unions continued their agitations and the Federation and other units supported their cause.

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14. John Kurien and Thankappan Achari, Supra.

SETTING UP OF THE NATIONAL FISHWORKERS' FORUM (NFF):-

Fishworkers' problems had become a national issue by 1978. The formation of a national organisation of fishworkers was felt necessary for protecting their general interests, for solving their problems in the fishing and marketing fields and to attract the attention of the Central Government. Meetings of representatives of unions of fishworkers from all the coastal states were held at Madras in June, 1978 and in Delhi in July, 1978. Members of Parliament were appraised of the situation and a Memorandum was submitted before the Prime Minister, Sri Morarji Desai. The Prime Minister was appraised of the need to initiate legislation at the Central level for solving the problems of fishworkers.[15] A dharna was staged in front of the residence of the then Central Minister for Agriculture and Fisheries, Sri Surjit Singh Barnala. The Prime Minister and the then Janatha Party Chairman, Sri Chandrasekhar intervened and assured the leaders that necessary directions would be issued to the respective States to pass a Marine Bill and that a National Fisheries Policy would be formulated soon. The representatives of various unions of fishworkers of coastal states met at Madras and formed the National Fishworkers' Forum. Sri Mathani Saldanhe of Goa was elected as President and Sri A.J. Vijayan of Thiruvananthapuram as General Secretary of NFF.

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15. Jose J. Kaleeckkal, Samarakadha, KSMTF Publication, Thiruvananthapuram, 1988.

DEMAND FOR LEGISLATION ON MARINE FISHING:-

Under the leadership of NFF, fishworkers' unions of coastal states organised a fast before Krishi Bhavan and three morchas to Parliament in November, 1978 to bring to the notice of the Government the territorial violations for exploitation of fishery wealth by vessels of Taiwan, Norway, Philippines, Japan and Peru. NFF demanded passing of the Marine Fishing Regulation Acts for protecting marine resources and the traiditional fishworkers. It drafted a Bill and had it presented in Parliament as a Private Bill. However, it was withdrawn at the request of the Prime Minister who promised to present a Bill on the same lines.

These activities had the required effect. Members of Parliament, the Minister for Agriculture and Fisheries and the Prime Minister himself were appraised of the problems and of the need for remedying them through legislation. At the state-level also, similar attempts were made by social activists and leaders of the fishworkers' organisations.

KLCMTF continued to organise various agitations on behalf of the fishworkers. They submitted memoranda and conducted continued hunger strikes, picketings and dharnas and organised public meetings. The other unions supported them. All the different unions together forced the government to accede to their demands for ensuring the basic survival of artisanal fishworkers.

TENSION CAUSED BY MECHANISED FISHING IN INSHORE WATERS:-

The year 1978 witnessed continued tension in the sea due to conflicts between traditional fishworkers and the mechanised trawlers. Burning of boats and physical altercations were recurring. On 27.12.1978, traditional fishermen of Cochin area caught a boat that trespassed into the inshore waters. They vehemently protested and blocked the entry of mechanised boats into the sea. The police used force on them at Chalakkadavu and Maruvakkad. On 30.12.1978, Babu, a fisherman from Kattoor near Cochin was killed at Nairambalam when a mechanised boat ran over his small country craft. These two incidents brought spontaneous reaction from the traditional fishworkers of Cochin area. They demanded immediate financial aid to the victim's family and immediate action against the culprits as also a public enquiry into police excesses. A Jeep Rally was organised from Cochin to Thiruvananthapuram covering the coastal villages raising these demands. By the time the Rally reached Thiruvananthapuram, the Chief Minister accepted all those demands.

This brought about added enthusiasm and interest among the fishworkers in organising and participating in union activities. Social activists conducted education programmes, seminars and group discussions in all fishing villages. These programmes convinced the fishworkers of the need for organising themselves on the basis of their occupation irrespective of caste, colour and religion.

KLCMTF convened a meeting of its members in March, 1980 to find out ways and means of forging solidarity among traditional fishermen. The need for changing the name was felt necessary for attracting Hindu and Muslim fishworkers also within its fold. In May, 1980, this was effected by changing the name of the Union into Kerala Swathantra Matsya Thozhilali Federation (KSMTF). The secular character of the organisation was resolved to be maintained.

PASSING OF THE KERALA MARINE FISHING REGULATION ACT, 1980:

In October, 1980, KSMTF submitted a Memorandum to the Chief Minister of the then Communist led coalition Government containing 38 demands, the main one being immediate passing of a Marine Fishing Regulation Act as recommended by the Government of India. In December, 1980, KSMTF organised a Jatha from Ernakulam to Thiruvananthapuram with Fr. Thomas Kochery as its Captain for organising support for its demands. The Jatha passed through all the coastal fishworkers' villages. On the final day, it reached Thiruvananthapuram where it staged a demonstration of over 25,000 fishworkers including women with their children in their hands. This was the biggest fishworkers' march ever witnessed in the city. The Kerala Marine Fishing Regulation Act, 1980 was passed in the next session of the Kerala Legislative Assembly. This was a tactical victory of KSMTF.

STRUGGLE FOR THE MONSOON TRAWL BAN:-

Later, on 24.5.1981, the Director of Fisheries issued an order banning trawling during the monsoon months of June, July and August under the Kerala Marine Fishing Regulation Act, 1980 on the basis that it would help in augmenting fish resources. However, on 4.6.1981, it was lifted for the Neendakara region at the instance of the mechanised trawler lobby. The reason assigned was that if shrimps are not caught during the monsoon period, they would be lost completely.

This was a great blow for the fishworkers' unions. In protest, more than 60 leaders of the Thiruvananthapuram District Unit of KSMTF entered the office of the Fisheries Director and courted arrest on 12.6.1981. From 12.6.1981 to 20.6.1981, a large number of volunteers picketed the residence of the Fisheries Minister and courted arrest. However, there was no response from the Government.

KSMTF decided to strengthen the struggle. Fr. Kochery and Sri Joyichan Antony started a hunger strike in front of the Secretariat. Picketings were held in several places in Kollam and Thiruvananthapuram Districts. In Kadakkavoor and Chirayinkeezhu, thousands of fishworkers stopped trains. The Thiruvananthapuram airport was picketed. A group of 25 priests registered their protest and fasted for one day. Various fishworkers'

organisations went on a day's sympathetic strike and pledged full support for the agitation. Picketing was held in front of the Collectorate at Kollam and the Secretariat at Thiruvananthapuram.

After ten days of fast, Fr. Kochery announced a stoppage of his fast at the instance of the Action Committee for strengthening the struggle by bringing in all the different units of the KSMTF. Fr. Jose Kaleekkal started his hunger strike on 10.7.1981. Volunteers picketed government offices and put up road blocks in several places in Kollam and Thiruvananthapuram Districts. The struggle had spread over to Kozhikode region also by the middle of July, 1981. Picketing and road blocks continued and the struggle spread to more places. On 13.7.1981, the Fisheries Minister convened a meeting of the representatives of fishworkers and Mechanised Boat Owners' Association and heard the views of both. On 14.7.1981, it was agreed that a Committee would be set up to enquire into all aspects of trawling and to submit its report in three months.

THE BABU PAUL COMMITTEE:-

The Government thereupon announced the appointment of the Babu Paul Committee. Various political parties

demanded representation[16] in the Committee. Six trade union representatives,[17] one representative of Boat Owners' Association, two scientists and four government officials were included in the Committee.

The Report of the Committee was being delayed. KSMTF voiced its concern over this and decided to seek the co-operation of other unions in launching a struggle for banning trawling during the monsoon months of 1982.

The Babu Paul Committee submitted its report in July, 1982. The opinion of the Committee was divided in regard to the specific need for adopting a closed season for trawl boats as a management measure. However, the Committee unanimously recommended 13 other measures for conservation of fish resources and welfare of the fishworkers. Traditional fishworkers maintained the view that their problems could be solved to a great extent by strictly enforcing the provisions of the Kerala Marine Fishing Regulation Act, 1980 and by implementing the ban on monsoon trawling.

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16. The following trade unions affiliated to political parties or organised on religious basis had emerged by this time:-
Matsya Thozhilali Federation.
Kerala State Matsya Thozhilali Federation;
Kerala Pradesh Matsya Thozhilali Congress (S)
Kerala Pradesh Matsya Thozhilali Congress (I);
Kerala Matsya Thozhilali Federation;
Akhila Kerala Dheevara Sabha.

17. KSMTF was represented by Shri A.J. Vijayan

RENEWAL OF THE STRUGGLE:-

The report of the Babu Paul Committee did not evoke any response from the Government. Hence, KSMTF launched a massive picketing programme at the Collectorate at Kollam. In August, 1982, the Thiruvananthapuram Jilla Matsya Thozhilali Union and other unions decided to launch a Joint picketing. In December, 1982, they set up a Joint Action Council for organising agitations. In February, 1983, KSMTF chalked out a detailed plan for the Agitation - Flag Hoisting to be held in all fishing villages, Padayathra, Jeep Rally from Kannur to Thiruvananthapuram and to submit a Memorandum to the Chief Minister.

KSMTF submitted a Memorandum before the Government on 15.6.1983 raising 31 demands covering the problems of all sections of fishworkers. On that day, all fishworkers did their work wearing the Blue Badge proclaiming that the 31 demands were their 'inalienable rights'. Public meetings and Padayathras were organised in July and August, 1983 to explain to the public the issues involved in the agitation. A Jeep Rally was conducted from Kodungallur to Pozhiyoor, a coastal village south of Thiruvananthapuram. It covered all the 573 fishing villages along the route adjoining the sea, lakes and rivers. Demonstrations and Dharnas were carried out in the headquarters of coastal districts and massive Rallies were organised in Kollam, Alappuzha, Ernakulam, Kottayam and Thiruvananthapuram Districts.

As a next step, relay fasts were conducted in front of the Collectorates in coastal districts throughout the month of October, 1983. Mass picketings were held in front of the Secretariat during the whole month of December, 1983. Sri Kallada Lawrence and two others started a hunger strike in front of the Secretariat. On the starting day, thousands of fishworkers marched to Thiruvananthapuram with a torch of flame lit up from the tombs of fishworkers' martyrs. It was erected at the 'Flory Nagar' at the Secretariat gate. The hunger strike was stopped on 4.1.1984 at the intervention of the Chief Minister.

KSMTF had decided to strengthen its organisation and to prepare for a prolonged struggle in 1984. Efforts were made to organise the Muslim fishworkers. The beach dwellers of the Beach Blossam Project in Kozhikode held a protest march. The Kozhikode, Tellicherry and Kannur units joined together and formed the Malabar Swathantra Matsya Thozhilali Union (MSMTU). Dheevara and Muslim fishworkers joined that Union. The members of MSMTF started taking direct action against the mechanised boats which violated the zoning regulations.

Dheevara fishworkers of Ernakulam region started co-operating with KSMTF in undertaking domenstrations. The unions at Puthuvypu, Nayarambalam and Chellanam became active. In Alappuzha, KSMTF got active support and co-operation from the Dheevara Sabha. Leadership camps were organised; agitations and education went hand in hand.

A massive Awareness Programme was launched, through which facts and figures were suppied to the fishworkers for highlighting the scientific basis for the issues. The ground was thus prepared for launching a People's Movement in 1984.

KALAWAR COMMITTEE:-

Eventhough the Babu Paul Committee submitted its report in July, 1982, the Government did not take any step to implement even the unanimous recommendations made by that Committee for the conservation and management of fishery resources of the State till March, 1984. This naturally tempted the KSMTF to plan a protracted stir in March, 1984. As a first step, it submitted a Memorandum signed by 10,000 fishworkers before the Chief Minister containing 17 demands. The Government took the stand that the Babu Paul Committee was divided in its opinion and that therefore, its recommendations could not be implemented. Instead, it appointed the Kalawar Committee to examine the whole issues over again. KSMTF decided to go ahead with its plan of agitation and an Action Council was formed for that purpose.

THE STRUGGLE CONTINUES:-

Campaign meetings and marches were organised in fishery villages in April and May, 1984. From May 15,

1984, picketings of Collectorates and blockade on National Highways were conducted and fishworkers courted arrest in large numbers. On May 26, 1984, a 'fast unto death' was started by Sister Philomina Mary at Thiruvananthapuram and by Sister Alice at Kozhikode. Hunger strikes were held simultaneously by union leaders and fishworkers at Alappuzha, Mavelikkara, Kollam and Ernakulam. The agitation was temporarily withdrawn on June 26, 1984. At the close of that struggle that lasted for 50 days, the Government had declared the introduction of certain welfare measures for fishworkers.

Local groups of fishworkers started taking direct action against encroachment of mechanised trawlers into inshore waters. Social activists enlightened fishworkers about deleterious effect of shallow water trawling, need for scientific management and inaction on the part of the officials of the Fisheries Department. The Kalawar Committee was taking time for submitting its report. The Government did not take any positive step for banning trawling the ensuing monsoon period. KSMTF therefore decided to revive the agitation with the slogan; "Save the Fishery Resources and Save Kerala".

In March, 1985, a Pamphlet was published listing 20 demands, the main one being the monsoon trawl ban. The agitation was revived from Kozhikode with street plays depicting the sad plight of fishworkers. The propaganda tactics included emotional songs, street plays and video cassettes. A massive 'fill the jail' campaign was

undertaken at the Collectorate gate at Alappuzha with fishworkers courting arrest in large numbers.

While so, a trawler ran over a boat during night time and killed four fishworkers of Alappuzha area. The Government did not succeed in apprehending the trawler and the crew members. Sister Rose went on an indefinite fast in front of the Collectorate at Alappuzha. When the police arrested and hospitalised her, Fr. Dominic George stepped in and started the fast in her place. KSMTF exhibited posters exposing the hide and seek policy adopted by the Government. The government retorted by claiming that three committees have been appointed in four years to look into the problems of traditional fishworkers!

The Kalawar Committee submitted its report in May, 1985. It did not agree to a ban on monsoon trawling, but suggested several management and conservation measures including reduction of trawlers to 1145 and motorised craft to 2690 and maintaining all the 20,000 non-motorised crafts. The Committee was firm in its opinion that purse seines were not necessary for exploiting the pelagic resources.

Not satisfied with this, the fishworkers intensified their agitation. Sri Lal Koiparambil started a fast in front of the Collectorate at Alappuzha. Similar fasts were started by other leaders at other District Headquarters also. Large-scale demonstrations and

processions were held all over Kerala. On June 4, 1985, four fishworkers started a Long March to the Secretariat with a torch lit from the tombs of the four fishworkers killed in the encounter of April 4, 1984 at Alappuzha. All along the route, thousands of fishworkers joined the March. They staged a massive demonstration in front of the Secretariat at Thiruvananthapuram. A March was undertaken to Neendakara also demanding reduction of the number of trawlers to 1,145 as recommended by the Kalawar Committee.

A Joint Action Council consisting of representatives of various fishworkers' unions was formed on September 3, 1985 for pursuing and intensifying the agitation. Thereupon, the Chief Minister convened a meeting of their representatives on October 9, 1985. However, he did not present himself at the meeting. The agitation continued for 186 days in 1985 in different parts of Kerala.

NFF TAKES UP THE CAUSE OF FISHWORKERS:-

The National Fishworkers Forum had, by this time, decided to organise a nation-wide agitation to press for certain demands common to fishworkers throughout the country. On 16th and 17th of March, 1987, fishworkers and their supporters held fasts, rallies, and public meetings in Delhi, Raipur, Calcutta, Patna, Berampur, Puri, Madras, Thiruvananthapuram, Panaji, Bangalore, Pune, Bombay and other places. It turned out to be a nation-wide agitation

of fishworkers demanding a better standard of living for them as also protection of the environment. They condemned the callous development policies of the governments as imposing excessive and unsustainable pressure on the sea and its resources. They further demanded elimination of the multi-nationals and other industrial giants from the fisheries sector for sustainability of the resources.

In our State, the artisanal fishworkers turned militant and attacked trawlers that violated the distance regulations. Violent confrontations took place between traditional fishworkers and the trawler group. KSMTF started protests and demonstrations demanding strict implementation of the Kerala Marine Fishing Regulation Act, 1980 and for imposing the monsoon trawl ban. Fishworkers blockaded the Cochin harbour complaining of intrusion of trawlers into inshore waters. In spite of the recommendations of the Kalawar Committee, the number of mechanised boats went on increasing. Motorisation of traditional crafts was also on the increase.

BALAKRISHNAN NAIR COMMITTEE:-

In these circumstances, the State Government appointed the Balakrishnan Nair Committee in January, 1989 to study and report on the question of conservation of the resources including the need for the monsoon trawl ban. That Committee submitted its report in June, 1989. Most of

its recommendations were repetitions of the recommendations of the earlier Committees. The Committee was strongly in favour of the monsoon trawl ban.

Sri Lal Koiparambil, the then President of KSMTF, started a fast in front of the Collectorate at Alappuzha demanding imposition of the monsoon trawl ban. Blockades at Cochin and Neendakara fishing harbours were scheduled for 17th and 20th of July 1989 respectively. While so, the Government passed an order imposing the ban with effect from July 20, 1989.

BALAKRISHNAN NAIR COMMITTEE APPOINTED OVER AGAIN:-

During 1990 also, KSMTF renewed its agitation in the wake of hesitation and delay on the part of the Government in imposing the monsoon trawl ban. Picketing and demonstrations were held in different parts of the State and thousands of fishworkers courted arrest at Alappuzha, Kozhikode and other places. A group of country boats blockaded the fishing harbour at Cochin. The Mechanised Fishing Boat Owners' Association came forward to resist imposition of the trawl ban. The Government passed an order imposing the monsoon trawl ban with effect from June 25, 1990. Simultaneously, it announced provision of relief to boat workers and workers engaged in peeling sheds during the ban period. However, the ban was lifted on July 21, 1990 at the instance of the Mechanised Boat Owners'

Association. In protest, a large number of fishworkers stopped the Island Express at Kollam on July 23, 1990 with a warning to the Government that they would restore the agitation if the ban was not re-imposed. To pacify the rival groups, the Government appointed the Balakrishnan Nair Committee over again in September, 1990 to review the effect of the trawl ban.

The C.P.M. led Coalition Government was voted out in June, 1991. A few days after the formation of the new government by the Congress led U.D.F., the fishworkers started their usual agitation for imposition of the monsoon trawl ban. The Government passed an order imposing the ban for the period from 15th of July to 16th of August 1991. However, it was lifted on 10th August, 1991.

NATIONWIDE AGITATIONS LED BY NFF:-

In November, 1991, a Joint Action Committee of three organisations of fishworkers of South India with Fr. Kochery as the Convenor was constituted under the auspices of the National Fishworkers' Forum. Their aim was to pursue agitations for a monsoon trawl ban, prohibition of night trawling and prohibiting mechanised fishing within 12 Km from the shoreline.

The National Fishworkers' Forum had organised a Kanyakumari March in 1989 with the slogan: "Protect water - Protect Life". This was a turning point in the struggle

of fishworkers aimed at conservation of waters and fish resources. On May 1, 1989, about 25,000 fishworkers and their supporters gathered at Kanyakumari protesting against the proposed Koodamkulam Nuclear Plant. It created an awareness among the inhabitants of coastal States against pollution of waters. The National Fisheries Action Committee Against Joint Venture (NFACAJV) started a long and militant struggle against Joint Ventures, Chartered Fishing and test fishing by the industrial fleet involving foreign fishing vessels and crew members in the deep sea within our EEZ areas. The Central Government appointed the Murari Committee to examine the question and that Committee has recommended a stoppage of these activities. The struggle of the Action Committee continues for pressurising the Government to implement the recommendations of that Committee.

THE STRUGGLE CONTINUES:-

Fishworkers' struggle continues and it can never be stopped in the wake of rival interests of the industrial fishing fleet on the one hand and counterproductive and unfavourable government policies on the other. The fact remains that the regulatory and welfare measures so far adopted by the governments in power are the outcome of militant and persistant protests and agitations of fishworkers. The lack of political will on the part of the governments in power is clear from the fact that they are not implementing the unanimous and repeated recommendations

of their own Expert Committees for conservation of the resources. The fishworkers have organised themselves at the national level under the leadership of the National Fishworkers' Forum through which they are demanding the passing of a national legislation for conservation and optimum utilisation of the fishery wealth. There is no reason or justification on the part of the Central Government in its hesitation to stop foreign fishing of all types in our EEZ areas and in not introducing regulatory measures therein. In the light of the declaration of the Supreme Court in Joseph Antony's Case that our traditional fishermen belong to the weaker section of the society requiring protection under Article 46 of the Constitution, our national and State Governments are called upon to introduce more and more management and welfare measures with the thrust on bringing about socio-economic justice to them.

D. General Picture of Fishery Villages

There are many fishery independent factors like role of the State that have their impact in the fishing areas. Our state has chosen a model of development placing emphasis on the quality of life and has a fairly intricate social service infrastructure. This has gradually trickled down into the coastal areas.

(i) General Infrastructure:

All our fishing villages are accessible by road and most of them are serviced by public transport system. Public facilities like transport, postal services and medical facilities have improved over the years. Access to the public distribution system is total and complete. Land Reform measures have facilitated better housing although land sites are generally small. However, fishing villages remain over-crowded and unhygenic in appearance. The housing pattern is rather unorganised. A socio economic study conducted in 1988-89 in selected fishing villages[18] shows that about 70% of the fishermen households own the land they live in, 18% are living in puramboke land and some of the households have more living rights over the land belonging to the Church. Man-land ratio is extremely low in the fishing villages. Of the total number of land sites in the villages under study, 22% were distributed by the Government, while 27.5% of the sites were purchased. This means that fishermen give a high priority to ownership of land and housing. The Fishermen's Welfare Corporation had introduced a scheme of housing loan of Rs. 6,000/- payable in small instalments over 15 years. But substantial amounts had to be raised either from own savings on by local borrowings or by both.

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18. Programme for Community Organisation , 'Small Scale Fisheries On the South-West Coast of India' - A Socio-Economic Study of the Changes Taking Place After the Coming of Motorisation', 1991.

Basic amenities like water, firewood and food rations are the measuring rod for assessing the quality of life. Access to them has an impact on the lives of women. Rations through the public distribution system have been made more accessible. Firewood has become scarce and expensive. Water supply remains a problem in the fishing villages. Despite general developments in society, scarcities of basic amenities exert pressure on daily existance and women continue to shoulder it more.

In the Christian areas of the south, the family is, for the most part, nuclear. The joint family system among the Hindus is breaking up. Ownership of equipment, which was earlier in the hands of women, is now in the hands of men. This is because of the fact that institutional loans for purchase of equipment are made available to them. Among the Muslims, the families are, for the most part, still joint and patriarchal, but the indications are that such a family institution is no longer feasible or viable. Religious sanctions play an important role in maintaining social controls.

The lower number of females to males in the fishing community in Kerala is in striking contrast with the male-female ratio at the state level.

(ii) Health and Sanitation:

Greater awareness regarding health seems to be a common feature in our fishing villages in general. It is an accepted fact that general facilities have improved. This has probably resulted in improved health practices as well. The number of home births is generally low. Over 50% of the births take place in Government hospitals. Immunization is also on the increase.

The official minimum marriageable age of women is 18 years. But the practice of giving girls below 18 years of age in marriage is on the increase in the fishing villages. The younger the girls, the lower the dowry that has to be paid. Today, dowries are not demanded but are expected as a necessity to give the new family productive assets.

Openness to family planning among the fishermen is on the increase inspite of strong sanctions against it among the Christians and Muslims. Women seem to be the main sex to undergo family planning. People go in for sterilisation because it is the easiest method and also due to the fact that they are not aware of any other method.

(iii) Education:

Extensive efforts have been made in our state to make basic education facilities accessible to the vast

majority of people. Primary and upper primary schools exist in close proximity to all fishing villages. 98% of all children of school going age are admitted into schools. However, there are drop-outs at the lower primary level itself due to pressure from the family.[19] Despite increased attention given in the fishery households to educate their children, the attention they receive at the School level is extremely low. Generally speaking, basic education has gained added importance among the younger generation in the fishing community. Education has enabled mobility of labour among fishermen to get employment elsewhere, though only to a limited extent. Unemployment among educated youth is a growing problem and it compels them to resort to fishery-related activity itself.

It is to be noted here that there is no machinery to propogate education among fishermen in coastal villages. The Literacy Programme implemented by the State Government during the last few years had not so far reached these villages. There is urgent need for extending it to our coastal fishery villages.

The general life infrastructure has improved to a certain extent in the fishery villages. It is more a result of the development efforts of the State, rather than due to increase in earnings from fishing.

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19. Jessy Thomas, 'Socio-Economic Factors Influencing Educational Standards in a Marginalised Community: A Case Study on the Marine Fisherfolk of Kerala', 1989.

(iv) Ownership Pattern:-

Motorisation, as it has taken place, has been encouraged by subsidies from the State. The cost and earnings data will reveal the extent to which motorisation has been viable without state-subsidies. The changes in production that have taken place in the traditional sector have been influenced by the traditional values of the community, i.e. that all fishermen participate in the change. With the introduction of the large 'vallams' and ring seines, a shared ownership pattern ensures the majority the possibility of work and a share of the resources. This is unlike what happened with the introduction of trawl fishing and the mechanised craft earlier.

Investments for motorisation were made locally through a shared system. This kind of local fund mobilisation and system of shared ownership has enabled even many of the financially weak fishermen to participate in the process. Those who mobilise more resources are able to take bigger shares. Total investments in craft and gear have increased substantially with the participation of greater number of workers in the process. However, production, on the whole, has not increased proportionately. The increased investments have thus only contributed to helping the workers to survive in the sector. This implies also that new burdens of debt are thrust on poor fishermen in the struggle for survival with promise of better returns. This ownership pattern can

help to develop a consciousness for management in the community. Since crafts are owned by worker-fishermen, they have a greater stake in the sustainability of the resource.

"In traditional fishing villages, credit, labour and marketing relationships are often inter-locked in a way that restricts the economic freedom of the debtors and reinforce the impact of imperfections in each market."[20] The practice of advance for labour has been a common feature in traditional fishing villages for ensuring enough crew for the fishing units in the fishing seasons. In the process of modernisation, greater proletarianisation takes place making labour a surplus and requiring no credit to secure it. There simultaneously exists a surplus of underemployed and unemployed labour power and a shortage of good hands for work.

(V) Borrowing Pattern:

It is difficult to find a fishing family that has no debts. Loans taken for productive purposes are low when compared to that taken for non-productive purposes. The money-lenders (Tharakans) are still the single highest lending group even though they have fallen in importance. Borrowings from relatives, friends and merchants are also

20. Jn. Philippe Platteau, Jose Murickan and Etienne Delbar, 'Technology, Credit and Indebtedness in Marine Fishing - A Case Study of Three Villages in South India", Hindustan Publishing Corporation (India) Delhi, 1985, p. 235.

on the decrease. The old balances have been unsettled by the entry of Banks and the co-operatives. There has been no major or radical change in the borrowing patterns; and at the same time, there are many more institutions to borrow from. New co-operatives and agencies like the 'Matsyafed' have their own limitations in meeting the ever increasing needs. Banks have their own formalities and they can be approached only by fishermen with assets. The fact remains that the borrowings are a significant burden to the borrowers. Borrowings for consumption are by no means a reflection of their economic advancement.

The small-scale fisheries in Kerala still remains a labour-intensive sector. This may be due to the nature of the fishery itself which does not provide the promise of a large surplus to capital invested. For the vast majority of fishermen, motorisation and the accompanying developments have been only a means for survival. State intervention through agencies like the 'Matsyafed' has yet to go ahead for making the sector self-reliant.

E. Fisheries Co-operatives

(a) Origin of Fisheries Co-operatives:

Co-operation between people with a common interest appears to have universal applications at all times. The formalisation of co-operatives as legal entities resulted from the pressures of growing industrialisation in mid-nineteenth century Britain. Early fisheries co-operatives in Europe grew out of fishermen's trade unions in the late 19th century. They were aimed at providing credit and supplies to artisanal fishermen for relieving them of their debts and dependence upon merchants and suppliers. Such co-operatives were recognised in France and the U.K. by law in 1913-14. During the 1920's and 1930's, fishermen co-operatives began to be set up and legalised in several other countries like Norway, Denmark, Sweden, Canada and Australia.

In many of the colonially controlled countries like India, Co-operative principles were being considered as tools for development. However, fisheries co-operatives were always considered of secondary importance in comparison to agricultural co-oepratives. Artisanal fisheries were considered of secondary inmportance to more industrialised fisheries by the Fisheries Departments. However, the first initiatives for fishermen's cooperatives in Kerala started in 1917 and co-operative organisation is given an important role in fisheries development over the years.

Fishing has always been an important industry in Japan. Traditional forms of fishermen's associations in Japan can be traced back to the 19th century, when the feudal owners of coastal fishing rights encouraged fishermen to form communities for the management and control of fishery resources. These were transformed into autonomous village societies by 1867. In 1901, they were given exclusive fishing rights with encouragement to form federations. They lost their autonomy during the Second World War. However, after 1948, they were re-established under the Aquatic Co-operative Law. The Zengyoran - the National Federation of Fisheries Co-operatives is now the most powerful fisheries organisation in Japan.

Korea has a success story more or less similar to that of Japan. Fishermen's organisations emerged from 1908; however, a nationwide fishermen's organisation came into being only in 1944 with a network of primary and regional co-operatives. A Fisheries Co-operative Law was enacted in 1962 which set up the National Federation of Fisheries Co-operatives. This was followed by a progressive reorganisation of fishermen's organisations based on economic efficiency.

In the non-industrialised countries, the main impetus for fisheries co-operatives came in the late 1950's, 1960's and early 1970's. Fisheries Co-operatives were set up and used as a channel for funds intended to reach artisanal fishermen. Simultaneously with this, fisheries personnel were engaged in understanding the biology of fish and defining the Maximum Sustainable Yield (MSY).

The fishermen and their organisations were not being considered. During the 1960's, the emphasis shifted to Maximum Economic Yield (MEY) which brought in the concepts of effort and inputs. Recently, this has given way to the concept of Optimum Sustainable Yield (OSY) which considers the ecology of the fish, the economics of fishing and the sociology of fishermen.

In this changing background, in the majority of cases, the fishermen's co-operatives were doomed to failure for the main reason that the underlying social constraints were not understood or catered for. During the 1970's, disenchantment with fisheries co-operatives began to set in. They were difficult to organise. The fishermen did not want them and they almost invariably failed. However, in countries like Kenya, Ghana, Mexico, India, Indonesia, Sri Lanka and Malaysia, some fishermen's co-operatives worked as individual examples despite failures around them and some even built up federations. In most cases, the government provided the initial support for their success.

Cooperative movement represents the most coherent organisational policy for artisanal fisheries. It has the potential for giving more people greater control over their occupation and a more equal share of the benefits.

Asia has produced the most activity in fisheries co-operatives for artisanal fishermen. The examples of Japan and Korea and colonial experiences with cooperatives in the Indian subcontinent have provided an acceptance of cooperative principles even though the pathway to cooperative development in fisheries has never been easy. In Indonesia and Malaysia, there has been fairly considerable government intervention and support. Both these countries have fishermen's associations and co-operatives. The associations are far more government controlled and directed than the cooperatives. In Indonesia, the major government effort is directed towards promotion of the rural cooperatives which are more community based than occupationally based. In India and Bangladesh, there exist enormous numbers of societies with examples of both successes and failures. In India, the most successful cooperatives have been situate near urban markets like those around Bombay. In Bangladesh, many societies were formed by middlemen to gain access to fishing licences and aqua-culture tanks reserved for co-operatives. Both in India and Bangladesh, many bogus societies are reported to be in existence and therefore, the true cooperative picture cannot be obtained. About two-thirds of the Indian Primary fisheries cooperatives are said to be defunct.

In Sri Lanka, much of the local marketing of fish used to be undertaken fairly competently by the

cooperatives. In 1964, the local marketing function was taken over by the State Fish Marketing Corporation which failed where the co-operatives had succeeded.

(b) Scope for Co-operative Movement in the Fisheries Sector:

The functions of fisheries co-operatives will generally represent an attempt to solve a problem or to satisfy a need which is identified as inhibiting the development of the fishery and the well being of the fishermen.[21] Fishing as an activity consists of many different aspects and many other groups of people. Basically, fisheries activities consist of production, credit, supply and services, handling and processing, marketing and social and community services.

(i) **Production:**

The production sector usually gives the definition of membership, the most common criterion for membership being that one should be an active, full time fisherman, i.e. producer. Co-operation is possible within the production sector, at the lowest level, in the very close working relationship between crew members: if they do not co-operate, both lives and the livelihood of all are put at risk. Often, the crew share the catch with the

21. COPAC Occasional Paper No:2: 'Small Scale Fisheries Co-operatives - Some Lessons for the Future', 1984, P.4.

owner or skipper, rather than being paid a wage. Again, membership of co-operatives is often linked to boat ownership. The range of boat ownership varies from the totally co-operatively owned boats, in which the skipper and crew are employee members, through various forms of joint ownership, to the single owner who may be the skipper or who may even be a non-fishing owner. The usual role of the co-operative is to facilitate the purchase of the boat, nets and gear for the fishermen members.

Resource management is another area of the production sector in which there is much scope for co-operation. In this area, the co-operatives act as a vehicle for more voluntary control of resources and when organised well, they can also form a powerful lobby to represent the fishing industry before the government and the Fisheries Department. Government policy of restricted licensing through co-operatives will provide incentive for fishermen to join the co-operative. However, it cannot move on to more positive aspects of resource management unless the co-operative functions well and receives the support of its members.

(ii) **Credit:**

Fishermen require substantial loans with very little security for productive and non-productive purposes. But the risk element in fishing is such that it is possible to lose the whole lot within a short time.

Boats and gear depreciate rapidly and require replacement regularly. The catches and income are seasonal and variable. The whole pattern of repayment of loans is therefore liable to be irregular. Mid-term and long-term loans are required for purchase of boats, net and gear. Short-term loans are required to meet working and living expenses like marriage, festivals, funerals, house building and education.

The Co-operatives providing credit to its members will have to meet competition from the middlemen and merchants. The credit facilities extended by co-operatives need to fit the situation and it should have the flexibility to withstand pressures outside the control of its members. The principal source of funds for co-operative credit are public sector and co-operative banks, private banks and government. Governmental loans and assistance are vital for the financial success of co-operatives. However, too much and too easy credit creates a dependency and a lack of initiative in the fishermen. Government credit is often regarded as an outright gift and the loans are often not repaid.

Savings is one form of internal credit. At the organisational level, savings may accrue from the share capital of the co-operatives. At the individual level, thrift and savings can be encouraged among fishermen by organising savings clubs which can work as pre-cooperatives also.

Insurance is a service which a co-operative can offer its member as a means of reducing the risks of his work. The insurance against loss of life and livelihood is the most important, practical and useful in relation to fishermen. Life insurance will provide a continuity of income for the fisherman's family in the event of his death and accident insurance will provide some sort of compensation in case of injury. Countries like India, Japan, Korea, Pakistan, Egypt, and Mexico have introduced co-operative insurance for fishermen.

(iii) **Supply and Services:**

By providing members with good quality inputs at a fair cost, fisheries co-operatives can increase their efficiency of production and income. This is a non-competitive service which helps all members alike. It encourages efficiency and reduces wastages. Supply of fuel and ice and provision of boatyards and repair facilities for craft and engines are activities that a fishermen's co-operative can undertake for achieving fishing efficiency for its members.

(iv) **Handling and Processing:**

The co-operative can provide a variety of handling services like operation of carrier boats (to bring the catch back half way through the day), providing landing facilities with porters, boxes, scales, washing-

water and ice plants and stores as also in the maintenance of quality control. Handling is an exercise in maintaining the quality and value of the fish caught which deteriorates rapidly with time. Processing is a means of adding value to it. Several facilities can be provided in the processing sector through the co-operatives depending upon the type of fish, quantity and market.

(v) **Marketing:**

Marketing provides an important area of activity for fisheries co-operatives and it is closely linked with provision of credit. The only way in which loans can be recovered is through control of the market. Co-operatives can act as selling agents by providing the facilities and staff for auctions. Sometimes, the co-operative purchases the catch at a flat rate for the weight of the fish landed which might come to about two-thirds of its market value. The remaining one-third of the market price is kept in the co-operative funds, tobe paid to the fishermen in slack seasons or by way of loans after deducting all expenses.

(vi) **Social and Community Services:**

Once the co-operative organisation has attained a sound financial footing, it can start providing social and community services. Of course, in areas like education and training and provision of infrastructure like roads, input from government and co-operative apex

organisations may be required. Provision of housing or loans to build houses is an important way of improving the living conditions of the fisherfolk. Provision of first aid posts with pharmacy and medical services is another area for providing community service. Fishery stores can be opened for providing consumer goods supplies.

b) Development Assistance for Co-operatives:-

FAO and the World Bank are the main international development agencies concerned with fisheries co-operatives. About 57% of the World Bank fishery projects include some form of assistance to or through fishery co-operatives. FAO has been using the fishery co-operatives as a development tool. Even though the concept of the Community Fishing Centre (CFC), as the development model, is receiving more attention since 1977, the co-operatives continue to play the role of the principal participant in such Centres.

Other international agencies like the ILO, the World Food Programme and the Asian Development Bank also provide some assistance to fisheries co-operatives. ILO tends to fund projects which support the co-operative aspects of fisheries through legislation, management and training. The World Food Programme channels some of its food-aid through fisheries co-oepratives. The Asian Development Bank is assisting fisheries co-operatives by providing loans for boats and aquaculture co-operatives.

The International Co-operative Alliance (ICA) is the most active Non-Governmental Organisation (NGO) which acts as an information source and attempts to encourage national co-operative movements in the promotion of fisheries co-operatives. ICA has supported consultancy visits to fisheries co-operatives in various countries. One of its main roles is to encourage and facilitate direct assistance between co-operatives in industrialised countries and those in developing countries.

c) Some Guidelines for an Ideal Fishery Co-operative:-

Co-operatives lie in between the extremes of private and state ownership. They combine both the best and worst potential of each; the realisation of these potentials largely depends upon efficient management and firm control by the members. Before starting a fisheries co-operative, all parties - fishermen, development agencies and governments - should be very clear of their aims, objectives and expectations. Fisheries co-operatives should be started at the primary society level upwards and not from the apex downwards. Members must feel the co-operative as their own and they must be able to control it themselves. Membership criteria should be carefully defined, especially with regard to boat ownership and crew, occupation and residence. Provision of credit must take into account the

variable and seasonal nature of fishing. Credit should be flexible enough to withstand pressures outside the control of members, but not too easy to encourage irresponsibility. Fishery co-operative should be managed by honest and trusted persons who should also be good businessmen. The managerial personnel should be appointed by the members themselves and not by the government. Government support is vital to fisheries co-operatives' development, but it will have better results if such involvement is indirect. Governmental measures for controlling or for pushing various measures through the co-operatives may be detrimental. Positive action to channel funds to restrict fishing licences or for marketing of certain fish through co-operatives can usually be beneficial in encouraging membership. However, much care and caution are required in their application. Co-operation between government departments involved with fisheries co-operatives and education of government officials in the potentials and limitations of co-operatives are inevitable for the success of fisheries co-operative development.

(d) Fishermen Co-operatives in Kerala:-

Co-operative movement was introduced in the fisheries sector of the Travancore area as early as in

1917.[22] Separate societies were registered for the Arayan, Valan and Christian Fishermen. By 1933, there were about 95 co-operatives with a total membership of about 8,194 active fishermen. However, their performance from the very beginning was disappointing. The Paramu Pillai Committee[23] appointed by the Travancore Government enquired into their working and suggested several measures including the creation of multi-purpose societies, involvement of community leadership and governmental support. After the formation of the State of Kerala in 1956, the Department of Fisheries envisaged an ambitious programme of socio-economic development of fishermen through the co-operative movement. The three - tier structure contemplated by the Department consisted of credit and production societies at the Village level, secondary or district level co-operatives intended to supply fishing requisites through the primaries and to market their catches and a state level co-operative for co-ordinating the functioning of the primaries and the District Level co-operatives. A minimum of 50 members with a share capital of not less than Rs. 500/- would enable the registration of a fishermen's co-operative society. During the II Five Year Plan period, mechanisation was introduced at Neendakara, Ernakulam and Calicut under the Indo-Norwegian project. The government,

22. John Kurien, 'Fishermen's Co-operatives in Kerala: A Critique', Development of Small Scale Fisheries in the Bay of Bengal, Madras, 1980.
23. The Travancore Co-operative Enquiry Committee, which submitted its Report to the Government in 1934.

in its anxiety to encourage the co-operative sector, channelised the subsidy for mechanised boats through the fishermen's co-operatives. 20'-25' boats using Sab engines for propulsion, with gill nets and ankling were supplied to fishermen groups for harvesting the pelagic species. There was a mushroom growth of fishermen co-opertives, mostly fake and mainly consisting of members who were not active fishermen - getting registered for getting at the mechanised boats and the subsidy therefor, together with a long term loan and a managerial grant. During the III Five Year Plan, trawlers, 25' - 42' boats with 42 HP Ruston/Yanmar engines were supplied to fishermen groups through fisheries co-operatives for bottom trawling. The Fisheries Department trained them in its own taining centres. The crafts and gear were so supplied through the co-operatives without any security and on the only condition that value of 30% of the total daily catch was to be remitted to the Department, to be adjusted towards repayment. The value of the craft and gear so supplied were together treated as a loan with a subsidy of 25% from the Fisheries Department itself. The balance 75% of the loan amount alone was to be repaid as above with nominal interest thereon. There was provision for yearly review of the working of the scheme.

The management and functioning of these co-operative societies were not proper or efficient. As in other areas of the fisheries sector, there was domination of middlemen and money lenders in fishermen

co-operatives. Their entry and involvement in the co-operative sector was in their own personal financial interest. The actual fishermen, benefitted by such financial aid through co-operatives, had not invested anything in the crafts or gear used by them. They used to sell away the entire catches in the sea itself before reaching the shore. The officers of the Fisheries Department had no source for getting any details or data of the catches. The beneficiaries managed to evade payment of any amount towards the principal or interest thereon. They did not even care to attend to the repairs and maintenance of the crafts and gear used by them. Even where they effected the urgent repairs, they became indebted to the middlemen and money lenders, most of whom were owners of peeling sheds. The funds necessary for such repairs were advanced on the security of anticipated daily catches of the fishing units concerned at unconscionable rates of interest. This compelled them to sell out their catches to the owners of peeling sheds at nominal prices. Such practice compelled the concerned fishermen groups to entrust the fishing boats to such middlemen and money lenders in return for the unpaid loans and to leave the scene.

By the year 1975, there were 1,057 fishery co-operative societies in the state with a total membership of 1,09,894 and paid up share capital of Rs. 57.89 lakhs including a government contribution of

Rs. 28.2 Lakhs.[24] 487 societies were supplied with 805 mechanised boats by the Fisheries Department on hire purchase basis. These societies were in arrears to the government to the tune of Rs. 71.46 Lakhs. 353 societies were in possession of 486 boats, 487 indigenous crafts and 450 Kattumarams. Societies handling mechanised boats were mostly working on loss, whereas those handling indigenous crafts had gained profit. Only a few societies were having offices of their own. Majority among the societies did not convene meetings of the General Body or of the Managing Committee. The societies even failed to arrange for the conduct of the elections, with the result that over 60% among them were having invalid Board of Directors. Only a few societies had paid employees and the audit of accounts of most of the societies were heavily in arrears. The office-bearers and members in general were showing signs of disinterestedness in the working of the societies. The Fisheries Department was compelled to step in with recovery proceedings against fishermen co-operatives which were brought under the administration of liquidators. The revenue recovery proceedings initiated for recovery of the loan amounts were fruitless. Thus the fishermen co-operatives vanished from the scene altogether. Till then, they were under the administrative control of the Co-operative Department of

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24. See: Report of the Resuscitative Committee for Fishery Co-operatives, Constituted by the Government of Kerala as per G.O. Rt. No. 1450/75/DD dt. 27.8.1975.

the State. Later, the powers of co-operative inspectors under the Co-operative Societies Acts concerned were conferred on fisheries inspectors. However, this did not help in any way to improve the position, or in resurrecting, the fisheries co-operatives. The hands of the governmental machinery stood tied by political pressure and influence. The fishermen co-operatives organised under the auspices of the government did not benefit the actual fishermen even remotely. All such societies had gone in liquidation. They had all fallen down beyond the stage of resurrection.

The Fisheries Department had convened Regional Seminars of the fisheries co-operative societies during 1971-72 to acquaint them with the problems facing them and to get to know from them as to how the working of these societies could be improved. However, these Seminars did not bring forth any concrete suggestions as to how these societies were to be revitalised or rejuvenated. Therefore, the idea of conducting a state-wide Seminar was dropped. Instead, the government appointed a Resuscitative Committee for Fishery Co-operatives to go into their working and to suggest remedial measures in 1975.[25] That Committee studied the working of the 189 Credit Societies, 849 Production or 'Matsya Utpadaka Co-operative Societies' and 18 Marketing Societies in detail. With respect to the fisheries co-operatives in general, the Committee was of opinion that one of the main

25. See:G.O.Rt. No. 1450/75/DD dt. 27.8.1975.

reasons for their failure, as a whole, was the absence of a suitable agency to meet the credit requirement of fishermen. The credits that were advanced to the members were found to be not linked with marketing. Insincerity of the members in repayment of the loans and the delay in taking prompt action by the societies were found to have worsened the situation.

Assessing the working of the 'Matsya Utpadaka Co-operative Societies', the Committee found that the entire mechanisation scheme was mismanaged by the supply of engines that were substandard and useless in actual operation; certain engines, though tolerably good, were installed in the wrong boats and that the societies to which the boats were issued were not economically viable. Lack of confidence in the co-operatives, lack of co-operative awareness and disloyalty of members were noticed as the basic causes for the failure of the societies.

The 18 Regional Fish Marketing Co-operative Societies were organised for undertaking marketing activities in regard to the catches landed by the producer societies. The principle of linking of production with marketing could not be implemented as envisaged. Therefore, producers were not getting a good price for their catches. The net result was that the marketing societies were not having any business. The

work of the marketing societies, except two, was confined to the purchae and sale of nylon twine, spare parts etc. The marketing societies were found to have miserably failed to achieve the objects for which they were organised.

The Committee, after a survey of the existing postion of fishery co-operatives and review of their working, recommended liquidation of the existing primary co-operatives and organisation of fishermen service co-operative societies afresh at the primary level. It suggested provision of a share capital contribution at 3 times the paid up share capital and to provide managerial assistance to the primaries in the sliding scale. The existing Regional Fish Marketing Co-operative Societies were to work as branches of the state level Apex Society, to be renamed as the Fishery Co-operative Federation. The rate of interest on loans routed through Co-operative Banks was to be subsidised.

(e) **Success of Private Fishery Co-operatives under the SIFFS Umbrella:-**

In this connection, the organisation and development of more or less a parallel set up of private fisheries Co-operative Societies under the leadership of the South Indian Federation of Fishermen's Societies

(SIFFS) with its headquarters at Karamana, Thiruvananthapuram requires mention here. This movement started by 1970, when a church-sponsored rehabilitation project resettled fishermen in Marianad, a coastal village near Thiruvananthapuram. The major problem of the fishermen there was of marketing their fish catch. The marketing system prevalent there involved beach auctions controlled by merchants and middlemen. For getting out of their clutches, the fishermen set up their own marketing system by appointing their own auctioneer with the help of a group of dedicated social workers. The fishermen then managed to take over a dormant local co-operative society and started revitalising it with their concerted effort.

The 'Marianad Matsya-Utpadaka Co-operative Society' (MUCS) proved to be a great success after a few years of its functioning. This tempted those instrumental for its origin and success to set up a voluntary organisation called Programme for Community Organisation (P.C.O.) with the basic idea of organising and promoting fishermen co-operatives in other villages of Thiruvananthapuram District also. By 1980, they could set up 12 such primary co-operatives in Thiruvananthapuram District. An urge for an apex body for better organisation and effective functioning of these Co-operatives was felt and it culminated in the organisation of SIFFS in 1981.

By 1984, many fishermen co-operatives of the neightbouring Kollam and Kanyakumari Districts wanted to come under the SIFFS umbrella. All these primary co-operatives thereupon organised into federations Districtwise with the SIFFS at the apex level. The district federations co-ordinate the member co-operatives and monitor their activities. They also undertake marketing of fish and fishing requisites. Other activities of the district federations include liaison work with banks at the district level for arranging credit and monitoring the repayment schedule.

At the apex level, SIFFS concentrates on development of appropriate technologies, training and studies and documentation. It is more sector-oriented than member-oriented.[26] SIFFS and its associate organisations conduct five boat-building centres which have produced over 1,200 marine plywood boats to meet the demand for better and faster crafts to cope with the motorisation process. Research and development in craft building and propulsion is an important activity undertaken by SIFFS. It pays special attention to the promotion of technologies appropriate to the artisanal fisheries of the region. It trains fishermen in using imported engines and attempts at alternative indigenous propulsion techniques. SIFFS undertakes fishermen training and technical training for boat building and

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26. R.S. Murali, K. Padmakumar, A.C. Dhas and K. Gopakumar, 'Design and Performance of Federation Co-operatives: A Case Study of SIFFS', Centre for Management Development, Trivandrum, 1993.

outboard motor (OBM) mechanics. It has set up an outboard motor workshop for servicing of OBMS.

The organisation and development of such a private fishery co-operative set up under the initiative of PCO and SIFFS is commendable and encouraging. It is an eye-opener for the fishermen, the policy-makers and the Fisheries Department. It shows that Co-operative Movement in the fisheries sector can perform miracles if it is backed by proper initiative and drive on the part of the organisers and dedication on the part of the individual fishermen.

(f) Welfare Measures

The Fisheries Corporations and their failure:

By this time, the Government had set up the Kerala Fisheries Corporation, the Kerala Fishermen's Welfare Corporation and the Kerala Inland Fisheries Development Corporation to cater to the needs of fishermen and to improve their living conditions. The Kerala Fisheries Corporation was a public sector commercial venture concentrating on operating deep-sea fishing vessels, export of marine products and on internal marketing of fish with its own trawlers, net factory, ice and freezing plants, fishmeal and oil plants. It was mainly intended to support the industry indirectly. The

Kerala Fishermen's Welfare Corporation was intended to cater to the needs of Fishermen, both inland and marine with programmes related to welfare of fishermen such as housing, issue of craft and gear, distress relief etc. The Kerala Inland Fisheries Development Corporation was aimed at developing inland fisheries in particular, concentrating on major inland fishery projects which could be commercially developed including hatcheries, fish farms and reservoir fisheries. By early 1980's, all these three corporations proved themselves to be a failure to deliver the goods.

The Kerala Fishermen Welfare Societies Act, 1980:

After the downfall of government sponsored co-operatives as noted above, the Kerala Fishermen Welfare Societies Act, 1980 was passed as an attempt to organise fishermen societies at village levels. The Act empowers the government to organise Fisheries villages and to constitute Fishermen Welfare Societies for such villages.[27] Fishermen permanently residing in Fisheries Villages, carrying on fishing operations, who have attained the age of 18 years and are of sound mind, are deemed to be members of such societies. The Fisheries Officer concerned is required to prepare and publish a list of fishermen who are deemed to be members of the society.[28]

27. Ss. 3 & 4.
28. S.5

In many respects, its organisation, management and functioning are similar to that of a co-operative society registered under the Kerala Co-operative Societies Act, 1969. The Director of Fisheries or his nominee has got the powers of superintendence, direction and control over these village societies.

The duties and functions of Fishermen Welfare Societies include:

a) Taking measures to make available fishing implements to its members;

b) Advancing money to members for purchasing fishing implements and effecting recovery of such loans in easy instalments;

c) Providing facilities for storage, processing and marketing of marine products;

d) Providing facilities to members for repairs and maintenance of fishing implements;

e) Evolving and implementing schemes for the welfare of the residents of fisheries villages;

f) Providing for the payment of accident relief to members and their families;

g) Providing for the payment of incapacity or disability or old age benefits to members; and

h) Providing for such other welfare schemes which would improve the standard of living and ameliorate the social conditions of its members.[29]

A fund called Fisheries Village Society's Fund is formed for each society. The fund consists of the amounts received by the society by way of grants or loans received from the Government and other persons or institutions and amounts realised by it in carrying out its own functions. It is to be utilised for meeting its own administrative expenses and for repayment of loans.[30]

With the passing of this Act, the Fisheries Department reorganised the marine fishermen into 222 fishing villages. Each fishing village was deemed to be a Fishermen Welfare Society for the purpose of the Act. However, these societies were remaining practically dormant in the absence of any well-defined function. The societies and their Board of Directors were politicised. The benefits were squeezed by a few politicians and middlemen. The failure of this type of Co-operative set up started by 1980 itself. All these societies went in liquidation by 1985.

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29. S.17

30. S.25

'Matsyafed' and its activities:

It is in the background of the failure of the Fisheries Corporation8 and the dormant state of the Fishermen Welfare Societies that the Kerala State Co-operative Federation for Fisheries Development, popularly known as the 'Matsyafed' was formed as a state-level co-operative society registered under the Kerala Co-operative Societies Act, 1969. The powers of the Registrar of Co-operative Societies under that Act are conferred on the Director of Fisheries.

'Matsyafed' was conceived as a superior organisational set-up capable of superceding the existing three corporations. It is intended to provide effective support to the traditional marine sector, to chalk out programmes for the exploitation of the hitherto neglected deep-sea resources, to initiate schemes for extensive development of inland fish culture and to build up a marketing organisation for the internal and external marketing of fish.

The immediate task of the 'Matsyafed' was to activise the village level co-operatives in the marine sector and the creation of fishermen co-operatives in the inland sector in a phased manner.[31] Originally,

31. 'Kerala State Co-operative Federation for Fisheries Development Ltd., Action Programme for 1984-85', prepared by : Project Cell, Transport, Fisheries and Port Department, Government of Kerala.

'Matsyafed' was intended as an Apex Society with 5 primary societies at the District level at Thiruvananthapuram, Kollam, Ernakulam, Thrissur and Kannur. As a later development, it opened up District Offices in all the nine coastal districts. In the 5 districts of Thiruvananthapuram, Kollam, Ernakulam, Thrisssur and Kannnur, the District Offices and district level primary societies are one and the same. This development is quite curious and unintentional. The idea of setting up district level primary societies in all the coastal districts was given up. There is no rational justification for the same. The existing 5 district societies are not functioning properly. The first elections were held and the first governing bodies of these societies took charge. Thereafter, these societies were not being properly managed. General Body Meetings were not convened and elections are not held. All the five district level societies have practically become defunct.

By 1989, the National Co-operative Development Council (NCDC) insisted on reorganisation of primary co-operatives for extending credit. Thereupon, the fisheries villages were reorganised into primary co-operative societies under the supervision of the 'Matsyaed'. By now, about 600 fishery villages and village societies have been constituted under the Kerala Fishermen Welfare Societies Act, 1980. The Welfare

Societies reorganised under the 'Matsyafed' give due importance to Welfare measures. They have financing schemes also with reasonable repayment pattern. Loans are disbursed through the primary societies for purchase of fishing implements including country crafts with OBM, housing and repair of houses and basic sanitation. 'Matsyafed' has opened two Vyasa Stores each in all the coastal districts for the supply of accessories. It has opened service centres, net factories, diesel bunks and fishmeal and oil plants at several places. 'Matsyafed' offers a preference of upto 40% for members of fishermen community in appointments to its staff. It has got a good team of qualified and dedicated staff. A noteworthy achievement of the 'Matsyafed' is an Insurance Scheme sponsored by it. The premium for every member of the primaries is paid by the 'Matsyafed' itself. The scheme is implemented through the New India Insurance Company.

'Matsyafed' has got financial control over the primary societies. Administrative control is still with the Fisheries Department. The primaries are working in more or less good condition. They are showing a healthy trend in repayment of the loans advanced to them. The National Co-operative Development Corporation (NCDC) and the National Backward Class Financial Development Corporation (NBCFDC) are the main financing agencies for the 'Matsyafed'. Benefit of NBCFDC loans are available to specific fishing communities only and not to outsiders

even if they are bona fide fishermen. No such restriction is applicable to financial assistance through the NCDC. It can be availed of by any bona fide fishermen-group irrespective of their community. Again, NCDC loans are given only to fishermen-groups for acquiring fishing implements including country crafts with OBM at a subsidy of 25%. NBCFDC loans are sanctioned only in favour of individual fishermen for purchase of autorickshaw for fish distribution and for other related activities. No subsidy is available in the case of NBCFDC loans. Yet another funding agency is the Housing and Urban Development Corporation (HUDCO) which extends loans for housing, specific sanitation and the like.

So far, the activities of the 'Matsyafed' were limited to the marine sector. It is now extending its activities to the inland sector also. Around 300 inland fishermen village societies are being registered. Financing by 'Matsyafed' started by 1996-97. Working Capital is supplied as margin money for distributing loans among members for purchase of fishing implements.

The Kerala Fishermen's Welfare Fund Act, 1985:-

This enactment provides for the constitution of a Welfare Fund for the promotion of fishermen's welfare in the State. Provision is there for framing a Scheme by name the Kerala Fishermen's Welfare Fund Scheme for the establishment of the Fund.[32] It is intended for the

32. S. 3.

welfare of fishermen. The Fund consists of contributions, fees, levies and damages envisaged in the Act, grants, loans or advances made by the Central and State Governments, penalities levied under the K.M.F.R. Act, 1980, as also other amounts raised by the Welfare Fund Board constituted under the Act. It may be utilised for the following purposes:-

a) to provide distress relief to fishermen in times of natural calamities;

b) for financial assistance to fishermen who are permanently or temporarily disabled;

c) for paying loans or grants to fishermen to meet expenses in connection with marriage, disease or death of dependents or to meet their daily expenditure during lean months;

d) to provide fishermen and their families:-

(i) education, vocational training and part-time employment;

(ii) social education centres, reading rooms and libraries;

(iii) sports, games and medical facilities;

(iv) nutritious food for their children; and

(v) employment opportunities to the handicapped;

e) for paying financial assistance to fishermen who suffer loss of houses or other damages due to natural calamities; and

f) to provide old age assistance to fishermen.[33]

Other Welfare Measures

The State Government has started several programmes intended for the welfare of the fishermen population. A Coastal Health Programme sponsored by the Department of Fisheries in Co-operation with the Health Department aims at providing Health Clinics in fisheries villages throughout our coastal areas combining the Alopathic, Ayurvedic and Homoeopathic systems of medicine. A net work of Coastal Roads is attempted to be provided in fisheries villages. Attempts are made to provide drinking water and sanitation facilities in all fisheries villages. There is a programme of free electric wiring system for all fishery households under the financial assistance of the National Fishermen Housing Scheme. A free Housing Scheme is also in implementation.

For the benefit of the inland fishermen, the State Government has a scheme of providing ice plants, landing centres and community halls. The scheme has already been implemented at Vaikom, Udayamperur and in other places. Yet another programme benefitting both marine and inland fishermen called 'Cold Chain' is a

33. S.3(4)

scheme for packing chilled fish and transporting it to remote inland and hilly areas. The scheme is in the process of implementation.

A Saving - Cum - Relief Scheme has been introduced by the central Government with the object of promoting thrift and saving habit among the fisherfolk. It is implemented through the State Fisheries Department. Under the Scheme, a minimum of Rs. 45/- on an average is to be contributed by a member. The Central Government will contribute an equal amount. It will bear interest. Withdrawals are permitted to be made during slack seasons. The operational cost of the Scheme is met by the Central Government itself.

The Fish Farmers' Development Agency (FFDA) is a centrally sponsored one for fish culture in saline water as well as in fresh water. Its Scheme is implemented districtwise through a managing committee with the District Collector as the Chairman and the Deputy Director of Fisheries concerned as the Secretary. Fish Farmers interested in fish culture should submit their projects before the Managing Committee. They will act on a feasibility report prepared by the authorised officer after site inspection. If the proposal is approved, the bank loan for the project will be arranged through the FFDA. The finance will be disbursed with the approval of the Managing Committee. An evaluation of the success

of the Scheme can be made after it works for a sufficient length of time in our State.

(g) Women in Fisheries:

The role of fisherwomen in the fish economy of our State does not require any particular mention. They have been actively participating in fish-related activities like landing, net-making, drying and curing, processing and marketing. With the advent of nylon nets, freezing plants and curing plants, many of them had to find out alternate employments like tailoring and embroidery. Still, they form a considerable portion of the labour force in peeling sheds and their role in marketing of fish locally remains dominant. Within the fishermen households, the fisherwomen manage the family budgets, educate their children and add to the income of family units by finding out alternate avocations for themselves.

Considering the strength of the fishermen population and the role of women in fisheries, their present status and welfare measures benefitting them require to be mentioned here. Art. 39 of the Constitution enjoins a duty on the State to strive towards securing a right to adequate means of livelihood to all citizens, men and women. The State should also direct its policy towards securing equal pay for equal work for the citizens, both men and women. It is the duty of the State

to see that the health and strength of workers, men and women, are not abused.

The strategy for fisheries management and development adopted by the FAO World Conference on Fisheries Management and Development, 1984, stated that fisheries development programmes should recognise that women often play an important role in fishing communities and provision should be made for enhancing that role. Sustained improvements in the productivity and in the lives of fisherfolk depend upon recognition of the crucial role of women. The realisation that it is imperative to integrate women in all the phases of rural development is relatively new.

One important step in this direction was taken in 1975, when the U.N. declared the DECADE OF WOMEN. The World Conference on Agrarian Reform and Rural Development of 1979 stressed the need to recognise women's rights, to address their special problems and to develop their talents. It puts special emphasis on giving women equity in access to natural resources, production inputs, credits, education and training as well as the opportunity to earn their own income and to share decision-making in the family and community. The World Fisheries Conference, Rome, 1984 reinforced these imperatives by stressing the vital contribution women make, directly or indirectly, to fisheries, the fish economy and fishing communities.

Women net prawns from backwaters in some parts of India. They catch fresh-water fish from river banks in Mali. In Laos, they fish in canals. In Philippines, they catch fish from canoes in coastal lagoons. However, the need to spend long periods at Sea away from home in many fisheries limits the participation of women. Women make and repair nets in many fishing communities. They act as retailers, auctioneers, trash fish vendors and even as export dealers. In countries like Ghana, women dominate the fish trade and even use the money they earn to finance fishing operations.[34]

Women can bring only small amounts of fish to the market. They may have to compete with vendors acting for large operators whose big catches can depress prices. Those fish that are not consumed or sold afresh have to be processed immediately and this is normally women's work.

Over and above their contribution to fisheries activities, they can help support their families by earning extra income through wage-labour and by making goods for sale like textiles, pottery etc. Women's role in family finances usually goes well beyond the income they may provide i.e., by planning household expenditure, saving etc. They maintain the family economy by buying family's food and other household necessities.

34. Women in Fisheries (Audio-visual publication) Information Division, sponsored by the Canadian International Development Agency through the UNDP/FAO Agriculture Coordination Programme, Introduction.

Fisher-women contribute to family economy by growing crops or raising domestic animals. They are to do all the domestic tasks-taking care of children, cooking, cleaning and washing etc. so essential to family life. Fisherwomen face the same problems as other rural women throughout the developing world, but they have their special needs also.

FAO has been actively engaged in developing and implementing a wide variety of projects throughout the developing world for many years. Increasingly, these projects have included fisher-women as a component. Many such projects have been directed exclusively for meeting their specific needs and interests. "No meaningful, sustained development in Third World Fisheries and Fishing communities can occur unless more attention is paid to fisherwomen as individuals and as indispensible partners in improving family living - standard as significant contributor to fishery activities and as improved members of their communities."

In our State also, we have started paying increasing attention to fisherwomen and their welfare. Three 'Vanitha Banks' are presently functioning in our State which cater to the needs of fisher-women. Women Centres are functioning at Chellanam and Munambam with the object of organising unemployed fisherwomen. The Centre at Chellanam is conducted by Christian missioneries

with central aid. Fisherwomen are provided with opportunities for net making, embroidery, pickle-making, scientific fish culture and the like. Harijan Fisher-women Centres have been organised at Vypeen, Vallarpadom and Edavanakad.

They have been organised by the Fisheries Department of the State Government in collaboration with the Harijan Welfare Department with Central and State aid. Peeling Sheds and allied works are conducted at these centres under a Special Component Scheme.

(h) Conclusion:

The foregoing study depicts a panoramic view of the socio-economic conditions of the fishermen community in our State. It also attempts to evaluate the welfare measures implemented through legislative and administrative action. In consonance with FAO guidelines and in conformity with the socio-economic objectives underlying our constitutional philosophy, increasing attention is now being paid for the upliftment of the fishers in general through financial aids, community development programmes, village organisations, marketing support and old age, sickness and other benefits. Co-operative movement in the fisheries sector is being revitalised through the 'Matsyafed'. Increasing attention

is paid for health, sanitation, electrification, housing, transportation and other needs of our fishermen through organised fisheries villages. The nature of fishing as an avocation, the risk-factor involved, the seasonal nature of the opportunities for employment and income and other related factors still offer hurdles for the fishermen to maintain better standards of living and living conditions. Socio-economic justice can be attained for the fishermen community only through the formulation and implementation of efficient and far-sighted fisheries management policies in the years to come. The success of ateempts in this direction depends on dedication on the part of the policy makers, the administrators and the fishermen themselves.

Chapter VII: FISH FOR FOOD

Contribution of fisheries to food security

Fisheries contribute to food security in atleast three distinct areas: livelihoods; employment and income; and Nutrition. FAO has estimated that around 120 million people around the world are economically dependent on fisheries.[1] In developing countries like India, small-scale fishers are also the primary suppliers of fish, particularly for local consumption. If the growth of domestic supplies of fish fails to keep pace with the growth of demand for it, the prices will rise with unfortunate social consequences or exports will fall. Greater difficulty will, therefore, be experienced in financing import of capital goods, intermediate products and raw-materials essential for development.[2]

In India, about nine to ten million people are involved in the traditional fishery sector and they deliver an annual catch of 1.5 millin tonnes, partly with mechanised boats and partly with traditional craft. Aproximately 19,000 mechanised vessels and over a hundred thousand wooden crafts constitute the traditional sector. Our fishing effort is a very low-cost operation and 66

1. Sebastian Mathew, "What, Food Security Sans Fisheries?", Samudra, Vol. 14, March, 1996.
2. Helga Josupeit, The Economic and Social Effects of the Fishing Industry - A Comparative Study, FAO Fisheries Circular No. 314, p.2.

per cent of this uses no fuel.[3] The World Fisheries Conference held in June-July, 1984 recognised the fact that production from the small-scale sector is devoted almost entirely to domestic consumption and represents half the world supply of food fish. Small-scale fisheries provide income and employment to one of the poorest segments of society. The lot of small-scale fishermen has not improved to the extent export statistics appear to indicate. The preoccupation of the aid agencies with developing large-scale fisheries and those for high priced export variety has often led to the neglect of these less fortunate communities.

Fish as a food item:

A most important role of the fisheries sector, especially in a developing country like ours, is as a source of domestically produced food.[4] It is a nutrient; it has great medicinal value; it is also used as a raw material for various industries. Generally, fish is considered as a non-vegetarian food item. In north-eastern

3. N.P. Singh, "An Indian Strategy for the Development of Marine Resources", in: Fisheries Development; 2000 A.D. - Proceedings of an International Conference held at New Delhi, Feb 4 - 6, 1985, Ed: K.K. Triwedi, Oxford and IBM Publishing Co., 1986, pp. 115-123.

4. Fish as a food is as old as the human race itself; there are references to this in the Bible. Jesus is quoted to have told His disciples: "Bring some of the fish you have just caught" (John, 21: 10-12). "..... so they gave Him a piece of boiled fish and some honeycomb and He took it and ate in their prsenece". (Luke, 24: 41-43).

India, the Brahmin Community of West Bengal and of some parts of Orissa have prejudice against non-vegetarian food; still, they consider fish as a "Vegetable grown on water"[5]

(a) **Fish as Nutrient:**

As a nutrient, fish is a rich source of animal protein of high quality. It represents more than 40 per cent of the total supply of animal protein and more than 10 per cent of the total protein supply. Where there is high fish percentage in animal protein and a lower share of fish in total protein, there will be heavy dependence on rice or starchy roots with a consequently unfavourable calorie/Protein ratio. In such situations, fish is very important in helping to correct this imbalance; often, it is the only way to increase the supply of animal protein.[6]

Fish is a first class protein, superior to meat and equal to milk. Despite variations in varieties, all fishes carry 18 to 20 per cent protein as does mutton, but at half the price.[7] Except for the oil sardine, herring and hilsa,[8] most fish carry flesh with less than 2 percent fat. Therefore, fish is a weight - reducing

5. A.P. Dewan, Food for Health, 1991, p.115.
6. Helga Josupeit, supra, note 2.
7. K.T. Achaya, Everyday Indian Processed Foods, National Book Trust, 1984, p.112.
8. Oil Sardine has 27 percent fat in its flesh while herring has 12 percent and hilsa has 19 percent fat content in its flesh. See Ibid, at pp. 112-113.

diet. The presence of exceptionally high quantity of byssine and the level of methionine makes fish superior to meat. These are two of the essential amino acids that are not there in sufficient quantity in vegetarian foods based on cereal staples like rice and wheat. A cereal - fish combination is the ideal one since the entire protein, derived from both the sources, gets elevated to a higher quality.[9] Recent research has conclusively proved the capability of fish to energise the brain to its amino acid tyrosine which is used by human body to make the brain - stimulating chemicals.[10]

Fish may broadly be grouped into fin fish and shell fish. Fin fish refers to fish having bony skeletons, while shell fish refers to mollusks and crustaceans having shell. Fin fish are found in both sea water and freshwater, while shell fish come mostly from sea waters. Shell fish can be considered as nature's mineral depository. Both fin fish and shell fish furnish a variety of minerals like Calcium, Phospherous, Magnesium, Copper, Manganese, Zinc, Pottasium and Vitamin B. Iron content is high in sea fish, that too, in an easily absorbable form than the same in plants. Shell fish has about 30 times the level of iron content in fresh water fish. Clams are also a rich source of iron. Baigai and other shell fish are of increasing demand in China and Japan as a rejuvenator.[11]

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9. Ibid.
10. A.P. Dewan, supra, Note 2, at p.116.
11. Ibid.

From the point of view of oil concentration, fish falls under two broad categories. In one category, the oil is found in liver and in the other, the oil is disbursed throughout the flesh. The fat content of the first group varies between one per cent and five per cent and the second type has less fat than meat. The latter are good sources of Vitamins A and D.

(b) Medicinal Value of Fish:

Medicinally, oils of fish, whether fresh or sea water, carry Vitamin A (0.3 micro-gram per gram) and Vitamin D (0.2 - 0.4 mcg/gm). The liver oils of fresh water fish contain just about twice this quantity of Vitamin D. Cod and Shark Liver Oils contain large amounts of three fat-soluable vitamins. Each gram of liver-oil may carry Vitamin A, upto 150 mcg., Vitamin D, from 5 to 10 mcg.,and Vitamin E, from 1 to 2 mcg. Co d and Shark Liver Oils are extracted and used as sources of these Vitamins for babies, pregnant women and nursing mothers. Cod Liver is proved to be effective in treating arthritis and rheumatism. Omega 3 fatty acid, present in Salmon, Tuna, Trout, Herring and Mackeral helps to prevent abnormal clotting of blood. The high potassium contents in them considerably reduces high blood pressure. The 'jet black hairs' of the fish-eaters, though not conclusively proved, is considered to be due to properties peculiar to fish. Goitre, caused by a deficiency of iodine, is said to be totally absent in Japan, a sea-fish

eating country.[12] Fluorine, important for good tooth development is also at a high level in marine fish.[13]

Consumption Pattern: Worldwide, fish accounts for about 16 percent of animal protein consumption, which is more than either pork or beef, and 5.6 per cent of the total protein intake. Our current annual per capita consumption of fish is around 3 to 3.5 Kg.[14] An average resident of an industrial country consumes three times as much fish as his counterpart in the developing world. Most consumers in the industrial world primarily eat fish as a luxury item or supplement to an already balanced diet. In industrial countries like U.S.A. and France, protein consumption is twice the recommended level. There, people, on an average, could reduce or eliminate their fish consumption without significantly affecting their nutrition. Contrary to this, in low-income countries, fish is the primary source of animal protein. Consumption remains lower per person than in industrial countries. Simultaneously, low income consumers are losing access to affordable fish as supplies tighten and high-priced markets attract a growing proportion of the world fish supply.

The current trends of diminishing catches, increasing exports and rising prices have severe implications for low-income people who rely on fish as a

12. K.T. Achaya, Note 4 Supra, at p. 112.
13. Ibid, at pp.112-113.
14. N.P. Singh, supra, note 3, at p. 117.

dietory staple. Distributtion of fish is already skewed towards consumers in industrial countries where average consumption per person is three times the level in developing countries. The nutritional benefits of fisheries are closely linked to the scale of production. Small-scale fishery operations tend to sell or trade the catch locally; large scale operations mostly supply commercial markets which sell to the highest bidder. This dichotomy has created two global classes of fish consumers. The one linked with local small-scale fisheries consists of people with low incomes, for whom fish is an integral part of the diet. The class of consumers linked to the commercial markets can afford to have high quality fish at higher prices.

Fish has originally been considered as the poor person's protein because of its relatively low price when compared to meat. Over the course of the last few decades, fish prices have risen relative to beef, pork and chicken because of the rising demand in industrial countries and tightening world supply. Today, fish prices are more in line with meat prices.

Consumers in our country face a more dramatic rise in fish prices as our 'fishing industry' is linked with lucrative markets in industrial countries. In Kerala, prices for shrimp skyrocketed from around Rs.240/- per ton to around Rs. 14,120/- between 1961 and 1981 with the rise

in commercial fishing for export. Per capita consumption of fish fell from about 19 kg per person in 1971 to about 9 kg per person in 1981. Sardine and mackeral prices increased ten-fold.

> "Local consumers were no longer competing on the local market with local prices, but on the international market at international prices."[15]

Incentive to export is, of course, foreign exchange. In the last two decades, developing countries including ours have increased their share of the marine catch. In 1989, they surpassed the catch of industrial countries. But they are exporting an increasing percentage of their catch for earning foreign exchange to pay off foreign debts and import of fuel, medicine and other supplies. Exports of developing countries have increased twice as fast as those from the industrial countries. Conversely, developed countries import nearly seven times the amount that developing countries import.[16]

Increased participation in commercial markets raises prices in the domestic market; it reduces the domestic supply of fish as well. A large portion of the catch from the waters of developing countries never touches the

15. John Kurien and Thankappan Achari, "Overfishing along the Kerala Coast, Causes and Consequences", Economic and Political Weekly, Sept. 1-8, 1990.
16. Peter weber, Net Loss: Fish, Jobs and the Marine Environment, Worldwatch paper 120, 1994, p.38.

domestic market. Foreign fleets catch fish that might otherwise go to the share of the indigenous fishing fleet and reach the local markets.

Diversion and Wastages:

Approximately one-third of the marine fish catch goes to other uses - primarily as animal feed for pets, livestock and pond-raised fish.[17] If the portion of the world catch that now goes for animal feed were offered for human consumption, the transfer would increase the world food fish supply by 40 percent. Such a move would maintain today's world average supply of 13 kg per person until the year 2017 without having to increase the supply of fish from other sources.[18]

Commercial fishing is basically aimed at export: Along with the high value target species, several varieties of non-target species or by-catches get into the net and they are thrown back to the sea in dead or dying condition. These undesirable species are fit for feeding local and poor consumers.[19] The momentum in marine fisheries is moving in the wrong direction for poor consumers. Prices have risen manifold. The largest increases in

17. Ibid, at 40-41, Peru is World's number one producer of animal feed. It annually converts nearly all six million tonnes of its anchovies, jack mackerel and pilchard to 1.3 million tonnes of fish meal.
18. Ibid.
19. In Chile, despite large gains in jack mackerel production in the past decade, domestic consumption of fish has fallen by half because the fish meal market for export is more lucrative than selling to the poor people!

supply come from either low-value species and primarily for animal feed, or high-priced species such as tuna, squid and prawns. Neither of these extremes benefit the low-income consumers.

The current level of domestic demand for fish in India is around 2.25 million tonnes. The present consumption levels are governed by low availability and high prices. If fish is available at a resonable price, fish consumption will increase. By the turn of the century, our domestic consumption, linked with the growth of population, is expected to be over three million tonnes.

Scope and limitations of Aquaculture:

Because of the limits of marine fisheries, aquaculture is gaining attention as an alternative source of fish and other maritime products. Farmed fish have been the most rapidly expanding portion of the world fish supply in about the last ten years. However, its contribution to the welfare and nutrition of coastal people who have traditionally relied on marine fisheries has been minimal. Aquaculture industry has succeeded in increasing the supply of high value species like shrimp. As a rapidly growing industry, salt-water aquaculture has largely fueled exports. But it can do little to meet the needs of the people who are poised to lose as the wild

marine supply goes down. An increasing practice is to catch marine fish and use them as a feed for farmed fish. Some supliers of feed go so far as to use fine-mesh nets tomake a clean sweep. Biomass fishing, as it is called, tends to collect everything caught for feeding farmed fish, thereby reducing the supply of food fish for local people.

The environmental impact of aquaculture is now being increasingly brought to the forefront. Sudden fall in production, outbreak of disease in cultured fish as well as in wild stocks and adverse effects on agricultural land are some of the important drawbacks of aquaculture industry. Accumulation of local and metabolic wastes, uneaten feed residue, polluted water and fish biomass for a long period of time will upset the delicate ecosystems, both in freshwater fish culture and in mariculture.

Marine aquaculture is a major cause of coastal habitat destruction, which undermines marine fisheries. Mangrove forests are cut down to make artificial shrimp ponds. Coastal wetlands are essential nurseries for wild fisheries. Their destruction leads to coastal water pollution and loss of genetic diversity in wild populations. The decision of the Supreme Court in Jagannath's Case[20] dealt with the adverse impact of modern

20. S.Jagannath Vs. Union of India, AIR 1997 S.C. 811, For a discussion, See Chapter IV.

and intensive coastal aquaculture and the court has given stringent directions to the Centre and the States to regulate it.

It is a fact that aquaculture has great potential for maintaining food supplies for inland markets and for boosting export. However, the coastal communities who depend on marine fisheries for their food are not going to reap any benefits therefrom. The greatest hope for continuing to meet the needs of coastal peoples lies in the small-scale fishers who currently serve them. Therefore, rehabilitating marine fisheries and maintaining access for small-scale fishers is not only a matter of employment and community support, but also a question of nutrition for many of the world's poorest fish consumers. Therefore, if not properly managed, marine fisheries will cease to serve much of its current vital nutritional role.

Duty of the State to raise the level of nutrition:

The role of fish as a nutrient acquires added importance in the context of Article 47 of our Constitution. That Article enjoins a duty on the state to raise the level of nutrition and to improve public health. Despite this Directive, fish is becoming a scarce and high-priced food item during these days. Declining marine catches on the one hand and export-oriented approach of our Governments are

responsible for this situation. Our traditional fishermen require to be assured of a fair return for their catches. The prevailing conditions of sale are adverse and often unremunerative for them. The purchase, sale, storage and processing of fish and fish products require to be regulated. Even though a Bill was drafted on these lines as early as in 1985,[21] it could not be enacted so far. Any legislation on these lines should ensure a fair return for the producer and access to the consumer at reasonable prices in the domestic market. The deficiency in production for catering to the needs of the domestic and export markets should be made up by resort to eco-friendly fish culture.

CONCLUSIONS:

The contribution of fisheries to food Security can hardly be overemphasised. It provides employment, livelihood and nutritious food to a considerable extent. Consumption of more and more high quality food fish in developed countries is as a luxury or as supplemental to an already balanced diet. On the contrary, it is a cheap nutrient that is vital to health in developing countries. The high demand for fish in developed countries and the decline in marine fish catches the world over have boosted fish prices manifold and decreased domestic supplies drastically. No wonder, even in Kerala, local consumers are made to compete in the international market at international prices.

21. The Kerala Fish and Fish Products Markets Bill, 1985.

Commercial fishing is targeted towards the export market. In their plight to boost the export of high-value species, the commercial fishing fleet discard a substantial quantity of 'trash', uneconomic species in dead or dying condition. Though low-valued they are, these varieties would have been useful to the local and poor consumers through the domestic markets. Even these low-value species are often converted as feed for pets and cattle and the poor consumers are deprived of them as their dietary staple. If such practices are avoided, that alone can increase food fish supply to a considerable extent.

Aquaculture has potentials for filling up the gap in food fish supplies to a great extent. However, the ill-effects of aquaculture on the eco-system and the environment act as a limitation on its scope for boosting production using modern and intensive techniques. Again, aquaculture cannot rehabilitate traditional fishermen or provide food fish for the coastal communities. Like commercial fishing, aquaculture is also capital-intensive and export-oriented.

The threat to food fish security can be sought to be faced only by proper and judicious management of the marine fisheries. A target-cum-quota system aimed at ensuring adequate supply of fish in the domestic markets can be thought of. This can be supported by a price

subsidy system for protecting the interests of subsistance fishermen. The purchase, sale, storage and processing of fish and fish products require to be regulated through suitable legislation. Increasing attention of the State requires to be bestowed on the fisheries sector to see that its contributions to food security through livelihoods, employment and income and nutrition reach the traditional fishworkers and the coastal inhabitants who depend on it.

Chapter VIII: EXPORTS

Fish constitutes a major item of export, and as such, it is a booster of foreign exchange. Atleast from the II Five Year Plan onwards, our planners and administrators gave importance to the export of fish for earning more and more foreign exchange to our country. Marine products have caught the mind of the world market because of their high health attributes. The high calorific value of marine fish makes it one of the fastest moving commodity in the world market. The marine products industry was found to have much more potential if proper incentive and care is given to it. Still, it was not subject to any discipline or regulation. This resulted in an uneven and unhealthy development of the fish processing sector., affected adversely its economic operation and better growth of the industry that lead to problems connected with inadequate facilities on shores relating to freshwater, power and timely internal transport and shipping arrangements. Such problems faced by the marine products industry in India necessitated the establishment of a central agency for regulating, organising and developing it on economic lines. Such agency should have adequte authority and necessary organisations. It should directly be involved in the co-ordinated development of the industry in relation to raw material supply, processing, storage, transport and export marketing.

The Indian Institute of Foreign Trade undertook a detailed study in the matter and such study revealed the necessity for the setting up of such a central agency. After considering it, the Government of India decided to set up a statutory authority to be known as the Marine Products Export Development Authroity (MPEDA) under its control with representatives of coastal states, dealers of marine products and owners of fishing vessels and processing plants. The authority was to have adequate powers to take suitable measures for the development of the industry such as permitting exports, undertaking marketing activities, registering fishing vessels and processing plants, giving financial and other assistance and also to carry out allied activities. The Central Government was to have the power to prohibit or control the imports and exports of marine products. Thus, the Marine Products Export Development Authority Act, 1972 was passed by Parliament on 20.4.1972 containing a declaration as to expediency of control of marine expots by the Union.[1]

THE MPEDA ACT, 1972

Prior to 1972, the Marine Products Export Promotion Council (MPEPC) was looking after the promotion of export of marine products from India. It was replaced by the Marine Products Export Development Authrority constituted under the Marine Products Export Development Authority Act, 1972. The role envisaged for the MPEDA under the statute is

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comprehensive covering fisheries of all kinds, export standards, processing, marketing, extension and training in various aspects of the industry. Its functions under the Act include :

1. Registration of infrastructural facilities for sea food export trade;

2. Collection and dissemination of trade information;

3. Projection of Indian marine products in overseas markets by participation in overseas fairs and organising international seafood fairs in India;

4. Implementation of development measures vital to the industry like distribution of insultated fish boxes, putting up fish landing platforms, improvement of peeling sheds, financial assistance for modernisation of the industry such as upgradation of plate freezers, installation of Individually Quick Frozen (IQF) machinery, generator sets, ice making machineries, quality control laboratory etc.;

5. Promotion of brackish water aquaculture for production of prawn for export;

6. Promotion of deep sea fishing projects;

7. Financial support to the industry through equity participation in setting up of integrated

aquaculture projects, sea food processing units and deep sea fishing projects.

MPEDA functions under the Ministry of Commerce , Government of India. It acts as a co-ordinating agency with different Central and State Government establishments engaged in fishery production and allied activities. The development schemes of the MPEDA include export promotion of capture and culture fisheries, induction of new technology and modernisation of processing facilties and market promotion. Its Headquarters is at Cochin. It has established Field Centres in all the maritime states of Inia. It maintains Trade Promotion Offices at New Delhi, New York (U.S.A.) and Tokyo (Japan). It has regional offices at Bombay, Calcutta, Cochin, Madras and Vizag with sub regional offices in other places.

THE MARKET STRUCTURE

Till the end of 1960, the export market for Indian marine products mainly consisted of dried fish, dried shrimp, shark fins, fish mows etc. However, from 1953 onwards, frozen items entered the export market, though in negligible quantities. From 1961, the export of dried marine products started declining, while exports of processed items were making steady progress. The frozen and canned items registered a significant rise due to the devaluation of Indian currency in 1966. Markets for Indian products started spreading fast to developed countries.

Before 1960, Sri Lanka, Myanmar (former Burma), Singapore and other neighbouring states were the main markets for Indian exports. This position continued as long as our exports were dominated by dried items. The entry of frozen and canned items opened markets in affluent countries like U.S.A., France, Australia, Canada, Japan etc.

TREND IN EXPORTS:

The world market for seafood has doubled within the last decade; but India's share in it is only an insignificant two per cent. The export of marine products has grown at an alarming proportion as an important item of foreign exchange. From Rupees Four Crores in 1961-62, the foreign exchange value has grown to the tune of Rupees Three Thousand Five Hundred and Fifty three crores in 1994-95. It accounts for approximately 4.3% of the total exports from India. However, a decadal look at the export growth of Indian marine products presents a somewhat gloomy picture. In the year 1963-64, a total quantity of 19,057 metric tonnes of marine products to the value of Rs. 6.09 crores were exported. In 1973-74, it rose to 52,279 MT in quantity and Rs 89.51 crores in value. During 1983-84, it again rose to 92,187 MT in quantity and Rs. 373.02 crores in value. In 1993-94, there was a further hike of 2,43,960 MT in quantity and Rs. 2,503.62 crores in value. By 1995-96, the corresponding figures went up to 2,96,277 in terms of quantity and Rs. 3501.11 crores in terms of value. The growth rate of marine exports in terms of quantity over the years at an interval of the aforesaid ten year period was at the

rate of +70.04 during 1963-64, +34.38 during 1973-74, +18.57 during 1983-84 and +16.71 during 1993-94.

However, it has shown a decreasing trend of -3.60 during 1995-96.[2] This requires to be taken as an eye-opener. When this problem is viewed in the background of the global phenomenon of depletion of marine fishery resources, it requires a stress on the pressing need to evolve a proper export promotion strategy. The suggestions made by the MPEDA in this regard are the following:-

1. Research and product development of new products;

2. Training in new technology and inviting overseas technical experts to India;

3. Assistance for product development, packaging and marketing;

4. Subsidy for exporting marine products in consumer packs; and

5. Establishment of on-shore fish processing units with Australian aid.

A Task Force constituted to study the marine products exports in 1981 had suggested the following measures to achieve higher export targets:-

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2. Marine Products Exports Review - 1995-96, published by the MPEDA.

a) Intensive exploitation of fishery resources in new and under-exploited areas;

b) Diversification of fishing and processing activities;

c) Introduction of aquaculture on a commercial scale;

d. Ensuring quality of the products exported;

e. Modernisation of the processing and pre-processing units; and

f. Achievement of high unit value realisation.[3]

Such measures taken by the Central Government and monitored by the M.P.E.D.A are showing healthy and encouraging results also. The thrust on shrimp in the seventies expanded to Cephalopods[4] and frozen fish.[5]

PROCESSING AND ITS MODERNISATION

Processing as an industry developed with large-scale exports. The importance of processing is such that we have now a separate Ministry of Food Processing at the Centre. Processing of marine products, as defined in

3. MPEDA-An Overview, 1995, published by the MPEDA.
4. Cuttle fish, Squid and Octopus are Cephalopods.
5. Pomfret, Ribbon fish, Seer fish, Mackeral, Reef, Cod, Croakers and Snapper are normally exported in frozen form.

the MPEDA Act, 1972 [6] includes "the preservation of such products such as canning, freezing, drying, salting, smoking, peeling or filleting or any other method of processing which the authority may..... specify in this behalf."[7]

At par with the demands of the day,processing units with modern machinery and equipments for freezing and canning sprang up at important centres. The infrastructural facilities developed by the industry over the years are capable of processing over 4,140 tonnes per day through the 341 units in the country. At present, more emphasis is laid on value-added processing through Indiviually Quick Forzen (IQF) method. About 89 units having a total capacity of 50,025 tonnes IQF processing have already been established.

The sea food processing industry in other countries is undergoing rapid changes by concentrating on further value-additions especially to process sea foods in ready-to-cook and ready-to-eat convenience-packs. This would help the product not to loose its original taste. Since dietary habits in industrialised countries are changing fast, we have to gear ourselves to produce value-added products in convenience-packs by adopting latest

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6. S.3(1)
7. C.f. the definition of processing in S.2(k) of the Maritime Zones of India (Regulation of Fishing by Foreign Vessels) Act, 1981 as follows:-
" 'Processing', in relation to fishing, includes cleaning, beheading, filleting, shelling, peeling, icing, freezing, canning, salting, smoking, cooking, pickling, drying and otherwise preparing or preserving fish by any other method.

post-harvest techniques. A lot of Research and Development is required within the country on these lines. At the same time, we have to import technology to equip our industry to meet the specifications of foreign markets.[8]

EC DIRECTIVE No. 99/493 for FISH AND FISHERY PRODUCTS:

This Directive issued by the European Economic Community (EEC) in July, 1991 prescribes the health conditions for the production and placement of fishery products on the unified European market. It came into effect from 1.1.1993. This directive lays down procedures for fixing conditions for imports from third countries depending on the health situation in those countries. It stipulates that inspections may be carried out on the sport by experts from the Commission and member states to verify conditions of production, storage and despatch of fishery products to the European market. In fixing import conditions, the EC takes into account factors like the following:-

1. Legislation of the exporting country;

2. The organisation of the competent authority of the exporting country;

3. Actual health conditions during production, storage and despatch;

8. For details, See: Dr. K. Gopakumar, 'Packaging for Fresh and Processed Marine Products', Seafood Export Journal, Vol. 27, No.2, Feb., 1996.

4. Assurance which the exporting country can give on compliance with EC standards;

5. Name of the final authority which issues the health certificate;

6. Organisation of the final authority, its infrastructural facilities for inspection, labortory testing etc.;

7. The authority's legal basis which gives its powers and facilities effective verification of the implementation of the legislation in force; and

8. The list of establishments exporting fishery products which are approved by the competent authority and which meet the requirements of the E.C.

After receipt of the above information from our country, an Expert Team designated by the EC visited India in February 1995. They evaluated the capabilities and competency of the inspection system in vogue and the inspection agency in the country.[9] The outcome of their visit was reportedly positive and they have requested the Government of India to submit guarantees with regard to

9. It is the Export Inspection Agency constituted by the Export Inspection Council of India under the Export (Quality Control and Inspection) Act, 1963.

the EC Directive on the following:-

1. Quality of water intended for human consumption;
2. Level of pesticides;
3. Hygene of fishing vessels;
4. Maximum residue limit of mercury;
5. Inspection of conditions during landing and first sale;
6. Production, transport and handling of ice;
7. Procedures during and after landing; and
8. Inspection of the establishments.

On receipt of such information and list of Indian seafood processing factories having equivalency with EEC standards, the EC Commission would recognise the Export Inspection Agency of India for the issue of Health Certificates to accompanying marine products consignments to European countries. Thereafter, a team from the EC Commission would physically verify the Indian seafood processing units randomly selected from the list furnished to them. If the Indian units thus checked are found satisfactory, then only the specific import conditions could be fixed for India for the export of marine products to the European markets.

HACCP - Based Inspection

In United States, the Food and Drug Administration (USFDA) has evolved its new HACCP[10] based inspection

proposals. Thus no importer in U.S.A. without HACCP plan can import sea foods; and no exporter without HACCP plan can export to U.S.A.

HACCP can be defined as a "system which identifies specific hazards and preventive measures for their control".[11]

HACCP focuses on the prevention of hazard rather than relying on end-product testing. To each and every processor, it is necessary to determine, whether there are food safety hazards that are reasonably likely to occur for each kind of fish and fishery products processed by him and to identify the preventive measures that he can apply to control these hazards. This plan ensures food safety by a systematic study of the ingredients, the food products, the conditions of processing, handling, storage, packaging, distribution and some other use to see where the potential hazards[12] are hiding in and when and how they can be controlled with the aid of well-established system of food pack. The main hazards which shall be controlled are micro organisms, decomposition, foreign material and chemical toxins.

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11. P. Bhaskaran Nair, "Quality Systems: ISO 9000 and HACCP - an Integrated Project," Seafood Export Journal, Vol. 27, No.4, April, 1996.

12. 'Hazards' have been defined as "unacceptable contamination, growth or survival of bacteria in food that may affect food safety or quality or the unacceptable production or persistence of substances in food such as toxins, products of microbial metabolism and/or foreign material". see: M.N. Haridas, "Cooking - An Approach based on HACCP", Sea Food Export Journal, vol. 27, No. 7, July, 1996.

The HACCP systems consist of the following basic principles:-

1. Identify potential hazards associated with all stages of production using a flow diagram of the steps in the process. Assess the likelihood of occurence of the hazards, and identify preventive measures for their control;

2. Identify the Critical Control Points (CCP). Determine the points/procedures/operational steps that can be controlled to eliminate the hazards or minimise the likelihood of occurence;

3. Establish critical limits (target level and tolerance) which must be met to ensure that CCP is under control;

4. Establish a system to monitor control of the CCP by scheduled testing or observation;

5. Establish the corrective action to be taken when monitoring indicates that a particular CCP is moving out of control;

6. Establish procedures for verification which includes supplementary tests and procedures to confirm that the HACCP system is working effectively;

7. Establish documentation concerning all procedure and records appropriate to these principles and their application.[13]

HACCP system has by now been adopted by U.S.A., Canada, Australia, U.K. and the European Union.[14]

QUALITY IMPROVEMENT MEASURES:

To cope with such emerging trends in foreign countries, the MPEDA has evolved the following quality improvement methods:-

1. Installation of mini-laboratories in sea food processing units;

2. Training of Indian Quality Control Technologists in overseas labs;

3. Special research project on quality problems;

4. Monitoring of seafood quality in landing and pre-processing centres;

5. Integrated development programme for seafood quality and extention services;

6. Grant-in-aid for the establishment of primary processing units; and

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13. P. Bhaskaran Nair, supra, note11.
14. EC Directive No.93/43/EEC of 14 June, 1993.

7. Grant-in-aid for procurement of stainless steel utensils in the primary processing units.[15]

In view of the growing stiff competition from other seafood exporting countries in the international markets, all countries pay adequate stress and enough thrust on market services and market promotion. With this aim and objective, MPEDA has drawn up the following guidelines for market promotion:-

a) Overseas market survey;
b) Data Collection and maintenance of data bank;
c) Assistance for market development;
d) Publicity through media, literature and films;
e) Sponsoring of sales teams/delegations;
f) Invitation of overseas experts for export promotion visits to India;
g) Organising buyer-seller meets in overseas markets;
h) Setting up of cost study cell;
i) Air Freight subsidy for live marine products;
j) Participation in Overseas Trade Fairs and Exhibitions; and
k) Exhibition and Trade Fairs within India.[16]

The MPEDA, in association with the trade, has been organising Sea Food Trade Fairs every alternative years. Over the years, these biennial Fairs have achieved remarkable results. The last Indian Sea Food Trade Fair was held in Bombay in 1996.

CONCLUSION

It is most unpleasant and disheartening to note that the current export policies of our Governments are unscientific and immature. The one and only consideration of our Governments and fishery managers seems to be amassing foreign exchange. If this is left unchecked, in due course, it will lead to further depletion of our already depleting marine fisheries. The importance given to foreign exchange is not given to conservation of the resources. What is required in this context is the need to evolve a balanced export policy. Our Governments should give due consideration for maintaining an optimum with respect to the volume of labour, the number of exploitable species and the level of exploitable quantity. Steps shoud be taken to tap the so far unexploited and underexploited areas and species in the Indian EEZ. The licenses granted to foreign fishing vessels should not be renewed and no new licences should be issued. Involvement of foreign fishing vessels for tapping our resources require immediate stoppage altogether. Our indigenous fishing fleet require to be modernised and diversified with state aid and support for tapping the entire resources in our EEZ area.

Aquaculture should be promoted for filling the gaps in our capture fisheries for the export market. However, modern and intensive aquaculture practices should be avoided for minimising the ill-effects and disadvantages of such practices.

Export promotion and fisheries development are unavoidable for earning foreign exchange for meeting our trade balances. Irrational export practices hitherto followed by our seafood exporters have invited stringent quality control standards that are now being insisted on by our foreign buyers. There is the Export Inspection Agency to assure the maintenance of proper standards for our exports. However, their institutional set up and the callous attitude of our seafood exporters make that machinery most ineffective and insufficient. Even otherwise, maintenance of quality should be the primary concern of the exporter. Unless and until the urge for maintenance of high quality for the exported products springs up from the exporters themselves, further stringent regulations and conditions can be expected from our foreign buyers. Our exporters and our Governments who support them require to be told that it is not the quantity of the exports alone that counts in boosting export earnings, but its quality as well.

Chapter IX: CO-OPERATIVE FEDERALISM AND NATIONAL LEGISLATION IN THE FISHERIES SECTOR.

Legislative competence in respect of 'Fishing and Fisheries'

Legislative power in respect of fishing and fisheries in India is distributed between the Union and the States. 'Fishing and Fisheries beyond territorial waters' is arrayed as Entry 57 of the Union List in the 7th Schedule to the Constitution, while 'Fisheries' is included as Entry 21 of the State List.[1] The legislative competence of the State of Madras (now renamed as the State of Tamil Nadu) to enact the Madras Estates (Abolition and Conversion into Ryotwari) Act, 1948 based on the provisions of Article 297 of the Constitution and on the aforesaid distribution of legislative power with respect to fishing and fisheries was the subject matter of challenge in the Chank Fisheries Cases.[2] discussed in Chapter II. Though the Madras High Court upheld the legislation as valid, its reasons thereof are not correct or sustainable.[3]

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1. There was a corresponding division of powers in Entry 23 of the Federal List and Entry 24 of the Provincial List in the Government of India Act, 1935.
2. AMSSVM & Co. Vs. The State of Madras, 1953 (2) MLJ 587 and P.S.A. Susai & Another Vs. The Director of Fisheries, Madras and another (1965) 2 MLJ 35.
3. See the discussion at pp. 44-45 supra.

Legislative Competence in the context of Article 297:-

It is to be noted at the very outset that Article 297 only 'vests' in the Union, 'things of value' underlying the territorial waters. That Article appears to have been intended to deal with property rights in respect of land, minerals and other things of value underlying the ocean. Such vesting of proprietory rights in the Union by itself will not confer legislative power on it in respect of the territorial sea.[4] In the Chank Fisheries Case,[5] it was held that the territorial waters adjoining a littoral State could be regarded as part of the territory of the State, at least with reference to rights of fishery. During debates in the Constituent Assembly on Draft Article 271 A (which was subsequently adopted as Article 297),[6] members had sought for clarification about rights of the maritime states to catch fish, collect 'Chanks' etc. Dr. Ambedkar assured them that the Entry relating to 'fisheries' in the State List was sufficient to protect those rights. To a pointed question from the late Mr. Pattom A. Thanu Pillai representing erstwhile State of Travncore, Dr. Ambedkar replied as follows:-

4. In A.G. for Canada Vs. A.G. for Ontario (1898) A.C. 700, Lord Herschell made a distinction between proprietory rights and legislative distribution.
5. AMSSVM & Co. Vs. The State of Madras, 1953 (2) MLJ 587.
6. C.A.D., Vol. 8 pp. 887 - 893.

> "..... fisheries would continue to be a provincial subject even within the territorial waters of India."[7]

SOVEREIGNTY IN THE FEDERAL CONTEXT:

Section 3 of the Maritime Zones Act, 1976 declares that the "Sovereignty of India" extends to its territorial waters. 'Sovereignty' of India does not mean sovereignty of the Union or exclusive legislative power of Parliament. Sovereignty of India includes sovereignty of the Constituent units also since India is a Union of States. The position of sovereignty in relation to federal states is depicted by Oppenheim as follows:-[8]

> "As a Federal State is considered itself a state side by side with its single member-states, the fact is apparent that the different territories of the single member-states are at the same time collectively the territory of the Federal State. That is the consequence of the fact that sovereignty is divided between a Federal State and its member States."

FISHERY RIGHTS OF MEMBER-STATES IN THE FEDERAL CONTEXT:-

(a) The U.S. Experience:-

The Fishery rights of member states had to be

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7. Ibid.
8. Oppenheim, International Law, 6th Edn., Vol. 1, p.459.

resolved in the federal context of the United States and Australia as well. The general trend has been to uphold the right of the member-states to regulate fishing and fisheries in the territorial waters, even when the waters and the bed underneath are understood to be the property of the federation subject of course, to the powers granted to the federation for other purposes. In Manchester Vs. Massachusetts..[9] the U.S. Supreme Court held that the extent of the territorial jurisdiction of the State of Massachusetts over the sea adjacent to its coast would be that of an independent nation. It was also clarified that except so far as any right of control over this territory had been granted to the United States, the control remained with the State, which could regulate fishing within those waters, in the absence of regulations made by the United States.

The question of ownership of the land and minerals comprised within a three-mile belt of the coast of the State of California was involved in U.S. Vs. California[10]. The claim of California was that it had been asserting rights in respect of oil deposits in the area even before the nation was formed. This assertion was found to be not supported by history and right regarding mineral deposits under the sea-coast was found to be a concept that had developed in international law much later. The Supreme Court found that it was the nation, and not the States

9. 139 US 240.
10. 332 US 19.

individually or collectively, which had been asserting those rights in the interest of national security and commerce. It was accordingly held that the sea belt belonged to the United States. However, Justice Frankfurter expressed a dissent as follows:-

> "Of course, the United States has 'paramount rights' in the sea belt of California - the rights that are implied by the power to regulate inter-state and foreign commerce, the power of condemnation, the treaty making power, the war power ..... Rights of ownership are here asserted - and rights of ownership are something else. Ownership implies acquisition in the various ways in which land is acquired. ..... When and how did the United States acquire this land ? ..... To declare that the Government has 'national dominion' is merely a way of saying that vis-a-vis all other nations, the Government is the sovereign. If that is what the court's decree means, it needs no pronouncement by this Court to confer or declare such sovereignty....."[11]

Ownership rights themselves are not sufficient for the Federal or Union Government to deny legislative powers to the States in respect of matters assigned to them by the Constitution. This question came up for consideration

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11. Ibid, at p.34

before the U.S. Supreme Court in Toomer Vs. Witsell.[12] Relying on U.S. Vs.California,[13] It was contended that the State of South Carolina had no power to legislate in regard to shrimp fishery in its coastal waters. Rejecting this contention, it was held that South Carolina had the power to regulate fisheries in the area and that the California[14] decision was not intended to deny such rights to the littoral states.

b) The Australian Position:

In Australia, as in India, the power to legislate on "fisheries in Australian waters beyond territorial limits" is with the Commonwealth Parliament.[15] There, the federal scheme had allowed the States to retain the control of fisheries within their territorial limits while the Federal Parliament was assigned jurisdiction over fisheries in Australian waters beyond the territorial limit. The meaning of the expression 'territorial limit' was frequently in dispute and the extent of these limits was the question involved in Bonzer V. La Macchia.[16] Barwick C.J. took the view that the colonies were never at any stage international personae nor sovereign and proceeded to hold as follows:-

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12. 334 US 385.
13. 332 US 19.
14. Ibid.
15. 5.51 (X) of the Commonwealth of Australia Constitution Act, 1900.
16. 122 CLR 177.

> "Of course, the colonies were competent to make laws which operated extra - territorially - that is to say, beyond their land margins and in and on the high seas, not limited to the three - mile belt of the territorial sea. But this legislative power of the colony was derived, in my opinion, from the plenary nature of the power to make laws for the peace, order and good government of the territory assigned to the colony.[17]

Kitto, J. took the view that the very conferment of fisheries power on Parliament restricted to an area beyond the territorial limits implied a historical and legal recognition of the rights of the colonies, even at the time of the federation, to exercise fishery powers within those limits. Windeyar, J., while agreeing with the view of Barwick, C.J. that the colonies had no sovereignty over the territorial waters, justified their claim for legislative power in respect of fisheries based on territorial nexus.

The Australian Parliament passed the Seas and Submerged Lands Act, 1973 based on the 1958 Convention on the Territorial Sea. Section 6 thereof contained a declaration that sovereignty in respect of the territorial sea is vested in, and exercisable by, the Crown in right of the Commonwealth.[18] The validity of this provision was in challenge in New South Wales Vs. Commonwealth.[19] While

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17. Ibid,at p. 191.
18. C.f.(Indian) Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act, 1976, S.3.
19. (1976) 50 ALJ 218 = 135 CLR 443 (1975) (known as the Seas and Submerged Lands Case)

upholding its validity, the majority judgment took the view that territorial waters were not within the boundaries of the colonies at the time of formation of the federation, and it was competent for Parliament to declare that sovereignty over those waters vested in the Commonwealth. Barwick, C.J., who led the majority, was of the view that rights over territorial waters were traceable solely to international law, that the States in Australia were never International persons and that consequently, the legislative powers of the States in respect of the area could rest only on the nexus theory. Gibbs, J., on the other hand, took a broad approach that the existence of a federation as a state and the exercise of its functions as a national government could not enable it to alter, at will, the distribution of powers made by the Constitution and observed thus:-

> "However, for the purpose of the Municipal law of Australia, there exists that division of sovereign authority which is characteristic of, if not essential to, a Federal Constitution. All the powers of government are distributed between the Commonwealth and the states. The Convention on the Territorial Sea and the Contiguous Zone deals with sovereignty only for the purposes of international law. It recognises that a coastal state is, for the purposes of international law, sovereign of the territorial sea as it is of its land territory and

> internal waters, but it is not concerned with the way in which the Municipal law of any coastal state distributes its sovereignty or with the question where, according to the constitution and laws of any state, the powers of government are reposed. The Convention recognises that the sovereignty of Australia extends to its territorial sea; it says nothing as to whether that sovereignty is vested solely in the Commonwealth or is divided between the Commonwealth and the States."[20]

The reasoning of the majority decision in the above case is that by virtue of S.6 of the Seas and Submerged Lands Act, 1973, sovereignty over the territorial sea vested in the Commonwealth.

Based on this, it was contended in Pearce Vs. Florence[21] that the Fisheries Act of the State of Western Australia had become inoperative after the passing of the Seas and Submerged Lands Act, 1973 by the Commonwealth Parliament. A court of six judges unanimously rejected this contention even though the reasoning varied from judge to judge. One view was that the Commonwealth Act was only declaratory in nature and that the state legislation was not in conflict with its provisions. Gibbs, J. took the view that no question of inconsistency could arise at

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20. Ibid, at pp. 242-43.
21. (1976) 50 ALJ 670.

all between the Fisheries Act of the State of Western Australia and the Fisheries Act of the Commonwealth, as the two operated in different areas.

RECONCILING ART. 297 AND THE SCHEME OF DISTRIBUTION OF LEGISLATIVE POWER IN RESPECT OF FISHING AND FISHERIES:

It follows from the above discussion that Article 297 of our Constitution was not intended to create any new territory. That Article provides for 'vesting' of 'things of value' underlying the ocean in our maritime zones including territorial waters. Such vesting of proprietory rights has nothing to do with conferment of legislative power. In view of Article 297, it would not be open for our coastal states to claim any title to, or rights on, the territorial sea merely on the ground that they had originally been enjoying those rights. However, our coastal states would continue to enjoy some of the benefits of the territorial sea, as allotted to them by the Union. All rights including surface rights and mineral and soil rights in the territorial sea belong to the Union. Thus, Article 297 can be said to form the basis for Entry 57 of List I of the Seventh Schedule to the Constitution conferring upon Parliament competence to legislate on 'fishing and fisheries beyond territorial waters' and Entry 21 of List II conferring legislative competence on State legislatures in respect of 'fisheries'.

The Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act, 1976 is in the nature of an 'Umbrella legislation' concerning the extent of India's maritime zones, to be followed by specific legislations dealing with the regulation, exploration and exploitation of particular resources in those zones. If the territorial waters are to be treated as 'territory' for the purpose of international law irrespective of Article 297 of the Constitution and the Maritime Zones Act, 1976, the maritime States like Kerala, Tamil Nadu and Karnataka could exercise jurisdiction over it in respect of matters enumerated in List II of the Seventh Schedule to the Constitution applying the theory of divided sovereignty in our federal set up. Even if territorial waters are to be treated as territory only for the purpose of international law, state laws operating in the area could still be saved by applying the principle of territorial nexus.

Does 'Fisheries' include 'Fishing' ?

The Tamil Nadu Marine Fishing Regulation Act, 198 was in challenge before the Supreme Court in Writ Petition No. 9762/1983 based on the wordings of the relevant legislative entries in the Union List and the State List of the 7th Schedule to the Constituion. The argument was that while Entry 57 of the Union List refers to 'fishing' and 'fisheries' beyond territorial waters, Entry 21 of the State List refers to 'fisheries' only, suggesting thereby

that the two subjects are different. Since the state legislation in challenge dealt with regulation of 'fishing', it was challenged as lacking in legislative competence. Rejecting this contention, the Supreme Court held as follows:-

> "..... by the doctrine of pith and substance, the legislation would squarely fall under Entry 21 of the State List, and not under Entry 57 of Union List, because the expression 'beyond territorial waters' qualifies both fishing and fisheries. It may also be mentioned that the regulatory measure operates in respect of those who start from the shore and move to certain distances within the territorial waters."[22]

It is to be noted here that Entry 21 of the State List is not made subject to any Entry in the Union List. There is also no scope for any conflict of jurisdictions, because Entry 57 of the Union List operates in areas beyond territorial waters. Therefore, the scope of the expression 'fisheries' in Entry 21 of the State List is to be understood by construing that expression in its natural sense. Going by the dictionary meaning, 'fisheries' includes both fishing and the place where fish is found or grown.[23] Legislative practice is to use the expressions

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22. Judgment dated 4.4.1983 in W.P. No.9762/83. See also: Babu Joseph Vs. State of Kerala, ILR 1984(1) Ker. 402(DB).

23. The New Shorter Oxford English Dictionary, 1993, Vol.1 ; Webster's Third New International Dictionary, Vol. 1; Black's Law Dictionary.

'fishing' and 'fisheries' inter-changeably.[24] Judicial decisions also tend towards the same direction.

'FISHING' AND 'FISHERIES' IN THE CANADIAN CONTEXT:

Section 91 (12) of the British North America Act, 1867[25] confers exclusive power on Canadian Parliament to legislate in respect of "Sea Coast and inland fisheries".[26] The power to legislate on "property and civil rights in the Province" is conferred on the Provinces by S. 92 (13). In A.G. for Canada Vs. A.G. for Ontario,[27] the Privy Council held that in view of S. 91 (12), the exclusive power to legislate on fisheries should be found in the Dominion Parliament and not in the provinces, though proprietory

24. See S.6, Indian Fisheries Act, 1897; T.C. Fisheries Act, S.4; Kerala Marine Fishing Regulation Act, 1980, S.4 Section 4 (1) of the Australian Fisheries Act, 1952 defines 'fishing' and 'Australian Fishing Zone'. Section 2 of the Malaysian Fisheries Act defines 'fishing' as meaning 'any one or more stocks of fish which can be treated as a unit for the purposes of their conservation, management and development and includes fishing for any such stocks, and aquaculture". Article 1 (1) of Indonesian Law No. 9 of 1985 on Fisheries defines 'fisheries' as "any activity the purpose of which is to exploit or make use of fishery resources".

25. Subsequently renamed as the Constitution Act, 1867.

26. C.f. Entry 57 of the Union List of the 7th Schedule to the Constitution of India and S. 51(x) of the Commonwealth of Australia Constitution Act, 1900, discussed at pp. 360-364, supra.

27. 1898 AC 700.

rights in relation to fisheries would remain a subject for legislation by the provinces in view of S. 91 (13). Parliament's power to legislate in respect of 'fisheries' was held to include the power to prescribe times of fishing and the instruments to be used for the purpose, and also the power to introduce licensing of fishing. 'Fisheries' was held to be wide enough to include 'fishing' even if there was the danger of such legislations encroaching upon a provincial subject under S. 92.

In A.G. for Canada Vs. A.G. for British Columbia[28], one of the questions was whether a legislation on 'fisheries' could extend to the licensing of fish cannery or canning establishments, so as to include within the scope of the expression all operations for converting fish caught into some form of marketable commodity. While answering this question in the negative, the Privy Council held that all operations involving 'fishing' or the catching of fish would be so covered. While recognising wide powers under the head 'fisheries', the court refused to permit encroachment into regions clearly outside its scope. This is clear from their Lordships' observations as follows:-

> "It may be, though on this point their Lordships express no opinion, that effective fishery legislation requires that the Minister should have

28. 1930 AC 111.

power for the purpose of enforcing regulations against the taking out of unfit fish or against the taking of fish out of season, to inspect all fish canning or fish curing establishments and require them to make appropriate returns. Even if this were so, the necessity for applying to such establishments any such licensing system as is embodied in the Sections in question does not follow."[29]

'FISHING' AND 'FISHERIES' IN THE AUSTRALIAN CONTEXT:

An argument that control on fisheries was different from control of fishing in the context of S. 51 (X) of the Commonwealth of Australia Constitution Act, 1900 empowering the Commonwealth Parliament to legislate on 'Fisheries in Australian Waters beyond territorial limits' was raised in Bonser Vs. La Macchia.[30] Rejecting this contention, Barwick, C.J. observed thus:-

"The last submission of the defendant was that to legislate to control fishing was not to make a law with respect to fisheries. The point needs no discussion for, in my opinion, it completely lacks substance. The most direct way to protect a fishery is to regulate how and to what extent waters may be fished."[31]

29. Ibid, at p.123,
30. 122 CLR 177 (1944)
31. Ibid, at 191-192.

Windeyer, J. Observed:

> "In law a fishery means, and since the Middle Ages ..... it has meant, the right or liberty of the public or a particular person, of fishing in specified waters. When that is understood, it is apparent that the constitutional power is to make laws defining rights of fishing in Australian waters. It follows that the power enables the Parliament to prescribe conditions for the exercise of the right or liberty. I can see no basis at all for the suggestion that provisions prescribing the size of the fish that may lawfully be taken, or nets that may lawfully be used are not laws with respect to fisheries. Such laws have for centuries past been a common feature of the statute law of England governing fisheries."[32]

OFFSHORE CONSTITUTIONAL SETTLEMENT: THE AUSTRALIAN INNOVATION:-

As noted above, the power to legislate in respect of fisheries beyond the territorial limits is conferred on the Commonwealth Parliament in Australia.[33] What we sought to achieve by Art. 297 of the Constitution and the Maritime Zones Act, 1976 could be achieved there by the Seas and Submerged Lands Act, 1973 and the decision of the Australian High Court in New South Wales Vs.

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32. Ibid, at p. 201
33. S.51 (X) of the Commonwealth of Australia Constitution Act, 1900. C.f. Entry 57 of List 1 of the 7th Schedule to the Indian Constitution; S.91(12) of the (Canandian) Constitution Act 1867.

Commonwealth,[34] which came to be known as the Seas and Submerged Lands Case. Immediately after that decision, negotiations took place between the Commonwealth and the States which resulted in an Offshore Constitutional Settlement.

State legislations with respect to fisheries had traditionally controlled fisheries within three nautical miles of the coast. Beyond that territorial sea, the Commonwealth had undoubted legislative power under the express grant by S. 51 (X) of the Constitution with respect to fisheries in Australian waters beyond territorial limits and that power was paramount. The Offshore Constitutional Settlement was designed largely to return to the States the jurisdiction and proprietory rights and title which they had previosly believed themselves to have over and in the territorial sea and underlying seabed. This was effected by the Coastal Waters (State Powers) Act, 1980 and the Coastal Waters (State Title) Act, 1980, both passed by the Commonwealth Parliament.

In relation to fisheries, the Offshore Constitutional Settlement (OCS) envisaged the making of arrangements for particular commercial fisheries to be regulated under Commonwealth or state law, if necessary, by one of a number of Joint Authorities to be established by legislation. The management of such fisheries was to be without regard to the three-mile limit. This was achieved

34. 135 CLR 443 (1975)

by amending the Fisheries Act, 1952 by the Fisheries (Amendment) Act, 1980. This Amendment introduced a new Part IVA in the Fisheries Act, 1952 titled 'Co-operation with States and Northern Territory in Management of Fisheries.'

(AUSTRALIAN) FISHERIES ACT, 1952 AS AMENDED:

Section 12 D of the amended Fisheries Act, 1952 divides Australian Fisheries into: 1) South Eastern Fisheries abutting the coastal states of New South Wales, Victoria, South Australia and Tasmania; 2) Northern Australian Fisheries in respect of Queensland and the Northern Territory; 3) Northern Territory Fisheries in respect of the Northern Territory alone; and 4) Western Australian Fisheries in respect of Western Australia. Joint Authorities consisting of the Commonwealth Minister and Ministers of the concerned States are established for them. The Commonwealth is empowered to make an arrangement with a State or States for the establishment of a Joint Authority for the management of a particular fishery in waters adjacent to that State or those States or of any of those States. Such arrangement with one State may be for the management of the fishery either in accordance with the law of the Commonwealth or with the law of that State. If such arrangement is with two or more States, it should be for management of the fishery in accordance with the law of the Commonwealth.[35] Where the law of the Commonwealth is specified, the Joint Authority has the functions of keeping

35. S. 12 H

constantly under consideration the condition of the fishery, formulating policies and plans for the good management of the fishery and co-operating and consulting with other authorities (including Joint Authorities) in matters of common concern.[36]

The State of South Australia entered into an arrangement with the Commonwealth on 1.11.1988 for the management of its rock lobster fishery in accordance with the law of South Australia. The area of this arrangement extended some 200 nautical miles seaward from the coast of South Australia. It included a wadge-shaped area of more than 2,000 sq. Km. lying on the Victorian side of the line of equidistance drawn from the intersection of the South Australian-Victorian border with the coastline. This arrangement was upheld by the Australian High Court as permissive under S.51 (XXXVIII) of the Constitution in Port Macdonwell Professional Fishermen's Association Inc. Vs. South Australia.[37]

That provision of the Commonwealth of Australia Constitution Act, 1900 empowers the Commonwealth Parliament to make laws with respect to the exercise within the Commonwealth, at the request, or with the concurrence of, the Parliaments of all the States, directly concerned of any power "Which can, at the commencement of this Constitution, be exercised only by the Parliament of the United Kingdom".

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36. Ibid
37. 168 CLR 340 (1990)

ITS RELEVANCE IN THE INDIAN CONTEXT:!

Turning to India, our EEZ area is estimated to cover about 2.02 million sq. Km., of which 0.86 million lie in the west coast and around the Lakshadweep Archipelago, in the Arabian sea; 0.56 million along the east coast, in the Bay of Bengal, and 0.60 million around the Andaman and Nicobar Archipelago, in the Bay of Bengal and Andaman Sea.[38] Setting apart the Lakshadweep and Andaman areas, our marine fishing areas can conveniently be divided into four zones: 1) The North Western Zone abutting the States of Gujarat and Maharashtra; 2) The South Western Zone touching Goa, Karnataka and Kerala; 3) South Eastern Zone comprising the coasts of Tamil Nadu, Pondicherry, Andhra Pradesh and Southern Orissa; and 4) the North Eastern Zone touching northern Orissa and West Bengal. The four zones display different kinds of waves, depths and fish varieties. At times, great variations in the ecological make-up of the coastal sea are found within a few kilometres. Different kinds of craft and gear are therefore necessary to tackle each type of harvest.[39]

38. M. Giudicelli, Study on Deep Sea Fisheries Development in India, FAO, Rome, April, 1992, p.1 and Annexure 1.

39. Frontline, November 18, 1994.

AN ARGUMENT FOR CO-OPERATIVE FEDERALISM AND NATIONAL LEGISLATION:

Legislation in respect of the renewable fishery resources should be aimed at preserving the resource as well as protecting and maintaining the environment in which they live and reproduce themselves. Classification of fisheries into capture and culture fisheries or into inland and marine fisheries or between inshore, offshore, deep sea or distant water fisheries or between fresh water and brackishwater fisheries can be of great use in identifying the species, their feeding and breeding habits and their habitats as also to select the seasons, areas and the method of cultivating and catching them. If the peculiarities of the fisheries in the South Western Zone of India are of any indication, fisheries and fishing in inland water bodies, territorial seas and the deep seas upto our EEZ areas are closely inter-connected and inter-dependent. Therefore, any legislation or management policy in respect of fishing and fisheries should cut the barriers of distribution of legislative power between the Union and the States well within our federal constitutional framework. The suggestion here is that the Union and the States - or at least those States interested and concerned among them - should find out ways and means to bring in a

National Legislation[40] covering the entire fishery wealth and fishing activity in our whole inland water bodies, territorial seas as well as EEZ areas. Such legislation should be flexible and adaptable to regional or local needs and circumstances. This is advocated for the effectiveness of the legislative measures and for enabling formulation and implementation of national management policies. The fact that this could be achieved in the federal context of the Australian and Malaysian Constitutions is a strong indication in its favour.

It is to be noted here that Art. 252 of our Constitution empowers Parliament to legislate for two or more States by consent and provides for adoption of such legislation by any other state. "There are many subjects in the State List, e.g., public health, agriculture, forests, and fisheries, which would require common legislation for two or more states. So, this Article makes it possible for Parliament to make such laws relating to state subjects, as regards such States whose Legislatures empower Parliament in this behalf by resolutions."[41] Even after passing of an Act by Parliament under this Article, it is

40. It is submitted that by virtue of Articles 51 (c) and 253, Parliament is competent and duty bound to pass such a national legislation. However, it is always better to have a co-operative approach between centre and the states in all possible fields.

41. D.D. Basu, Shorter Constitution of India, 12th Ed., Prentice Hall of India (P) Ltd., New Delhi, 1996, p. 803.

open to any of the other States to adopt the same for such State by merely passing a resolution to that effect in its legislature.

For paving the way for taking steps in this direction, provision is there in Article 263. Under this Article, the President of India may, by order, establish an Inter-State Council for investigating and discussing subjects in which the Union and one or more of the States have a common interest and for making recommendations for the better co-ordination of Policy and action with respect to any subject. The President may also define the nature of the duties to be performed by, and the organisation and procedure of, such Council.

It is here that the Australian Innovation of 'Offshore Constitutional Settlement' of 1980 and the consequent insertion of Part IVA in the (Australian) Fisheries Act, 1952 dividing Australian Fisheries into four zones and providing for setting up of Joint Authorities for each of them consisting of representatives of the Commonwealth and the concerned states for their management becomes relevant. The (Australian) Fisheries Act, 1952 as amended by the Fisheries (Amendment) Act, 1980 and the (Malaysian) Fisheries Act, 1985 as amended by the Fisheries (Amendment) Act, 1993 can be taken as the model and basis for drafting a comprehensive national fisheries legislation for us.

The Australian Model:

The (Australian) Fisheries Act, 1952 as amended is made applicable to the 'Australian Fishing Zone' covering the entire 200 nautical mile Australian EEZ area.[42] The Act is to supplement the provisions of State laws on the subject, except in the case of fisheries in proclaimed waters and fisheries for the management of which joint authorities are constituted under Part IVA thereof.[43] Any marine or tidal waters may be declared as proclaimed waters and any of such proclaimed waters may be declared as 'excepted waters' for the purposes of the Act.[44] The Minister is empowered to prohibit and regulate fishing in such proclaimed waters or in any area thereof.[45] The Minister concerned is empowered to administer the provisions of the Act having regard to the objectives of :-

42. S.4(1) defines Australian fishing zone as "(a) the waters adjacent to Australia and having as their inner limits the baselines by reference to which the territorial limits of Australia are defined for the purposes of international law and as their outer limits lines seaward from those inner limits every point on each of which is distant 200 nautical miles from the point on one of those baselines that is nearest to the first-mentioned point; and (b) the waters adjacent to each external territory and having as their inner limits the baselines by reference to which the territorial limits of that Territory are defined for the purposes of international law and as their outer limits lines seaward from those inner limits every point on each of which is distant 200 nautical miles from the point on one of those baselines that is nearest to the first-mentioned point, but does not include (c) waters that are not proclaimed waters; (d) waters that are excepted waters; or (e) waters that are described in an agreement in force between Australia and another country as waters that are not to be taken, for the purposes of this Act, to be within the Australian fishing zone.

43. S. 5A 44. Ss. 7 and 7 A

45. S. 8

(a) Ensuring, through proper conservation and management measures, that the living resources of the Australian Fishing zone are not endangered by over-exploitation; and

(b) Achieving the optimum utilisation of the living resources of the Australian fishing zone.[46]

Part IV A of the Act deals with co-operation with States in management of fisheries. Four Joint Authorities are established for the purpose of the Act as follows:-

1. The South Eastern Fisheries Joint Authority, consisting of the Commonwealth Minister and the concerned Ministers of the States of New South Wales, Victoria, South Australia and Tasmania;

2. The North Australian Fisheries Joint Authority, consisting of the Commonwealth Minister and the concerned Ministers of Queensland and the Northern Territory;

3. The Northern Territory Fisheries Joint Authority, consisting of the Commonwealth Minister and concerned Minister of the Northern territory; and

4. The Western Australian Fisheries Joint Authority, consisting of the Commonwealth Minister and concerned Minister of Western Australia.[47] The Commonwealth may make arrangements with one or more States for the establishment

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46. S. 5B 47. S. 12 D

of a Joint Authority for the management of fisheries in particular areas adjoining such State or States. Where such arrangement is with only one State, the fishery may be agreed to be managed either in accordance with the law of the Commonwealth or that of the State concerned. Where such arrangement is made with two or more States, the agreement should be for management of the fishery in accordance with the law of the Commonwealth.[48]

The arrangements contemplated by the aforesaid provisions are very much flexible and determinable at the will of the Commonwealth or the State or States concerned. It provides for co-operation between the Commonwealth and the coastal states in the matter of effective management of fisheries according to their peculiarities and according to the exigencies of their conservation and management. It provides for adjustments and adaptations according to the needs of the situation. It enables effective co-ordination of management measures, and at the same time, safeguards the interests of coastal states in their fisheries. The Australian Offshore Constitutional Settlement cuts the barriers caused by distribution of legislative powers under the federal constitutional framework and adopts a viable method of co-operation between the Commonwealth and the States in the matter of fisheries management. Under this arrangement, the Commonwealth as well as the States have the opportunity to participate in the management of fisheries within the entire Australian fishing zone

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48. S. 12 H

extending upto the 200 mile Australian EEZ area. The Commonwealth gets a pivotal and pioneering role in the management of deep sea as well as coastal fisheries. The Offshore Constitutional Settlement implemented through Part IV A of the (Australian) Fisheries Act, 1952 is really an innovation in the Australian Federal Constitutional set up for healthy co-operation between the Commonwealth and the States for co-ordinating management measures in the fisheries sector.

THE (MALAYSIAN) FISHERIES ACT, 1985:

In Malaysia, "fisheries including maritime and estuarine fishing and fisheries (excluding turtles)" is a matter enumerated in Item 9 of the Federal List of the 9th Schedule to the Federal Constitution, whereas "turtles and riverine fishing" are matters enumerated in Item 12 of the State List. The Malaysian Parliament repealed the Fisheries Act, 1963 and enacted the Fisheries Act, 1985 invoking Article 76 (1) of the Federal Constitution that empowers Parliament to make laws with respect to any matter enumerated in the State List for the purpose of promoting uniformity of the laws of two or more States. It is a comprehensive legislation in all aspects of capture and culture fisheries in riverine waters and internal waters as also in the maritime waters comprised in the exclusive economic zone of Malaysia. The Fisheries Act, 1985 as amended by the Fisheries (Amendment) Act, 1993 is the relevant legislation presently in force in Malaysia.

The Fisheries Act, 1985 is applicable to 'Malaysian Fisheries Waters.[49] The provisions relating to turtles and riverine fishing, as contained in the Act are to come into operation in the States when the concerned State Legislature passes a law adopting them.[50]

The Minister in charge of fisheries is responsible for all matters relating to fisheries including the conservation, management and development of maritime and estuarine fishing and fisheries in Malaysian fisheries waters. The administrative machinery include the Director General of Fisheries and his subordinates.[51]

The Director General of Fisheries is to prepare and keep under continual review fisheries plans based on the best scientific information available and designed to ensure optimum utilisation of fishery resources, consistant with sound conservation and management measures and with the avoidance of overfishing and in accordance with the overall national policies, development plans and programmes. All developments within the fisheries industry are to conform generally with the management and conservation policies described in the fisheries plan.[52]

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49. S.2 of the Act defines Malaysian Fisheries Waters as "Maritime waters under the jurisdiction of Malaysia over which exclusive fishing rights or fisheries management rights are claimed by law and includes the internal waters of Malaysia, the territorial sea of Malaysia and the maritime waters comprised in the exclusive economic zone of Malaysia.
50. S.1
51. S. 3.
52. S. 6

Fishing effort is attempted to be regulated through the systems of licensing and permits. They are to conform with the fisheries plan.[53] In granting permits to foreign fishing vessels for fishing in Malaysian Fisheries waters, the Director General is to consider the needs of Malaysian fishermen and the provisions of fisheries plans.[54]

The Director General may promote the development and rational management of Inland fisheries in consultation with the State Authority concerned.[55] The State Authority may make rules specifically or generally for the proper conservation, development, management and regulation of turtles and inland fisheries.[56] The Director General may promote the development of aquaculture in Malaysia in consultation with the State Authority concerned whereever required.[57] Imports into, or exports out of, Malaysia of fish can be had only on the basis of a permit issued by the Director General and upon such conditions concerning the State of cleanliness and measures to avoid the spread of communicable fish diseases as he may prescribe.[58]

The Minister may establish any area in Malaysian fisheries waters as a Marine Park or Marine Reserve for affording special protection to the aquatic flora and fauna of such area, to protect, preserve and manage the natural breeding grounds and habitat of aquatic life with

53. See Ss. 7, 8, 9 (4), 13 (6) and 18 (1) (a).
54. S. 18 (1) (a)
55. S. 37.
56. S. 38
57. S. 39
58. S. 40.

particular regard to species of rare or endangered flora and fauna and for such other matters.[59] The Director General has got wide powers for regulating fishing in such Marine Parks and Marine Reserves. Wide powers are conferred on the enforcement machinery for implementing the provisions of the Act.[60]

NEED FOR DRAFTING A NATIONAL LEGISLATION

In the foregoing Chapters, we have discussed the various aspects and areas relating to our fisheries requiring legislation. As pointed out earlier, there is a close linkage between our inland, estuarine, coastal and marine fisheries. This is not a feature peculiar to the fisheries of Kerala alone. Such linkage of fisheries of other maritime States also require to be examined and considered for chalking out proper regulatory and conservation measures for the sustainable development of our fishery wealth. As citizens, our fishermen have got a Fundamental Right to move out to any part of our EEZ area for pursuing their livelihood. Such mobility of fishermen and the migratory nature of the fishery wealth available in our maritime zones point to the need for a national legislation covering all aspects of fishing and fisheries. Our coastal states have particular interests of their own with respect to fishing and fisheries in water bodies within their territories or in the adjoining areas; many of

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59. S. 41
60. Ss. 46 to 56.

them may have common interest also in such areas. Our national government is required to lead and guide them by framing national policies and national plans for the conservation, management and optimum utilisation of our fishery wealth. For this, the passing of a national legislation incorporating the basic objectives and policies is essential. Article 51 (c) of the Constitution obliges our national government to invoke Article 253 thereof for passing such a legislation for giving effect to the Law of the Sea Conventions that insist on specific conservation measures to be adopted by coastal states.

Apart from this, the coastal states, or such of them as are interested may get resolutions passed by their legislatures requiring parliament to enact such a legislation under Article 252 of the Constitution. In fact, the legislatures of the States like Kerala, Karnataka, Rajasthan and West Bengal passed resolutions under Article 252 (1) of the Constitution requiring Parliament to enact for the prevention and control of water pollution and accordingly, the Parliament enacted the Water (Prevention and Control of Pollution) Act, 1974 invoking Art. 252.

The initiative for such national legislation should spring from the coastal states themselves. The Centre can also take the initiative invoking Article 263 of the Constitution by raising this issue through the Inter-State Council.

CONCLUSION

A vast section of the population is engaged in fishing and fishery-related activities. The traditional fishermen mainly inhabiting the coastal areas are recognised as a weaker section of the society requiring social and economic upliftment. The importance of fisheries as a generator of employment, as an important source of food and livelihood and as an earner of foreign exchange stands long recognised. The future of our fisheries and that of those depending on them is in danger. It can be saved only by proper management measures and policies. A national legislation covering all aspects and areas of fishing and fisheries is the only solution . The ways and means are before us. We have to recognise our responsibility for bringing about such a national legislation.

Chapter X CONCLUSIONS AND SUGGESTIONS

Need for an Integrated National Legislation:

The modern tendency in national legislations is to integrate legal proivisions relating to EEZ fisheries into the general fisheries legislation. There is a strong need for the same in the Indian context also in view of the migratory nature of the species available as also in view of the migratory habit of fishermen inhabiting our coastal waters abutting different states. Such integrated national legislation gains importance in view of the apparent link between our inland and marine waters and also in view of the feeding and breeding habits of different species of fish found in our fishable waters.

After the commencement of the Constitution, tremendous developments have taken place in our inland and marine fisheries. Reservoir fisheries and scientific aquaculture are recent developments in the inland sector. In the marine context also, there is a considerable expansion of our fisheries from inshore to offshore waters and from there to the deep seas upto the 200 mile limit of our EEZ. Remarkable changes have taken place in the craft - gear combinations, fishing fleet and fishing effort as well. The competition for space and resource that were confined to the territorial waters are consequently spreading into the off-shore waters and deep seas also.

Dearth of Regulatory Measures:

With the expansion of our inland and marine fisheries as above, we are faced with further problems of conservation and management. The Indian Fisheries Act, 1897, and the T.C. Fisheries Act,1950, modelled mainly on the same, have become obsolete and insufficient; they are unsuited to manage our riverine and reservoir fisheries and they do not contain provisions for regulating scientific aquaculture. A unified legislation applicable to the whole State of Kerala could not be enacted so far. Even the provisions of these existing legislations are not being effectively implemented. The task of fisheries management in the inland sector cannot be left to the local bodies concerned. They have no experience or expertise in managing them and they are more interested in increasing their revenue. Our Fisheries Department has neither the incentive nor the infrastructure for properly and effectively implementing the provisions of the existing legislations. The compliance mechanism provided in the Indian Fisheries Act, 1897 and the T.C. Fisheries Act, 1950 is out-moded, ineffective and highly insufficient.

Coming to the marine context, tensions and conflicts in the territorial waters brought about by state-aided mechanisation process and the continued struggle of fishworkers for regulatory measures tempted the coastal states to approach the centre for passing a suitable

legislation for resolving them by delimitation of fishing zones for different types of fishing crafts. In the light of the scheme of distribution of legislative powers in respect of fisheries, the Majumdar Committee appointed by the Centre recommended passing of legislations on the model of the draft Bill apended to its report. That opportunity could have been utilised for passing a comprehensive national legislation covering conservation and regulatory measures relating to our EEZ fisheries and integrating them with a general fisheries legislation. Instead, the Kerala Marine Fishing Regulation Act, 1980 and its parallel legislations were passed by the coastal states for managing the situation.

Expansion of the Fisheries Sector:

These enactments are confined in their applicability to fishing within the territorial waters. At the time of their enactment, fishing operations were practically confined to the territorial waters. However, it is to be remembered that even at that time, we had a duty cast on us by Article 51 (c) of the Constitution to respect the provisions of the U.N. Conventions on the Law of the Sea, 1958 and the Law of the Sea Conventions 1973-1982 and that Parliament had the power to legislate on State subjects to implement the provisions of such international conventions by virtue of Article 253. That apart, since the coastal States had approached the Centre requesting for enacting

suitable legislation, the provisions of Article 252 of the Constitution could have been invoked for bringing about a comprehensive national legislation covering all aspects of fishing and fisheries in the entire Indian fisheries waters. The fact that the problems then being faced by the marine fisheries sector were confined to areas within the territorial waters might have been responsible for this omission. It is to be remembered in this context that India had always been strongly pleading for a 200 mile fishery zone for the coastal States and that we redrafted Article 297 and enacted the Maritime Zones Act in 1976, long before the coming into force of the U.N. Convention on the Law of the Sea, 1982.

It is to be noted here that in spite of declaration of our sovereignty over a 200 mile EEZ as early as in 1976 as above, we have not so far made any general law relating to fishing and fisheries beyond territorial waters. The policy support given by the centre for deep sea fishing and the initial success of the deep sea fishing fleet on the east coast tempted the small-scale sector to venture into shrimping in the same fishing grounds, resulting in overfishing by both together. Due to the nature of the development policies, over-investment and overfishing, deep sea fishing by native fishing fleet turned out to be a failure; they attempted to diversify their operations to the south-west coast. Here again, because of initial good results, more trawlers entered the scene. Intensive trawling depleted the stock. Insufficient knowledge of the

deep water resources, hesitation of the deep sea fishing fleet for risking new fisheries ventures in the wake of financial problems and limitations of the skippers contributed to their failure. A rehabilitation package offered by the Government in 1991, which was further liberalised in 1992, could not revive them.

Foreign Fishing:

Chartered fishing was introduced by the Central Government during 1977-78 to establish the abundance and distribution of fishery resources in Indian EEZ, for transfer of technology and for related purposes. Realising the need to regulate activities of foreign fishing vessels in our EEZ area, the Maritime Zones of India (Regulation of Fishing by Foreign Fishing Vessels) Act, 1981 was enacted . The Charter Policy was modified in 1986 and in 1989. However, Chartered fishing vessel operations in the Indian EEZ are reported to have made little positive impact on the DSF sector. The information provided by the operators of these foreign fishing vessels could not be fully trusted. Again, chartered fishing has not resulted in any bio-economic analysis which could have been used for evolving national development policies or for compiling techno-commercial information for future guidance in deep sea fishing.

By the Deep Sea Fishing Policy of 1991, the Central Government introduced Joint Ventures, Leasing of foreign fishing vessels, test fishing by engaging foreign fishing vessels and 100% Export Oriented Units. This is obviously directed more towards a wider utilisation of the export potentials of the DSF sector than to its development or diversification. Joint Ventures are generally lucrative combinations of financiers and merchants and they often fail to create independent and genuine national fisheries enterprises. The leasing system may result in introducing boats that are too big, powerful, costly or old into the country and which are ~~too big, powerful, costly or old into the country and which are~~ not the most appropriate for the local conditions. The foreign collaborators undertaking test fishing basically aim at seeking quick and highly lucrative results; they may not be interested in utilising the correct technology for determining the commercial potential of the resources in the Indian EEZ. Given the right support, the Indian entrepreneurs may be able to identify development opportunities where their foreign partners could find nothing positive for their own interest.

Recommendations of the Murari Committee:

In the wake of the strong and persistent agitations launched by the National Fishworkers' Forum and other fishworkers' organisations for withdrawing the Deep Sea Fishing Policy of 1991 and introduction of Deep Sea Fishing

Regulations, the Government of India appointed the Murari Committee to review and report on its Deep Sea Fishing Policy of 1991. In its report submitted to the Government in February, 1996, that Committee has recommended the cancellation of all permits issued for fishing by joint venture, charter, lease and test fishing immediately. It has also recommended demarcation of different depth zones for traditional crafts, mechanised boats and deep sea vessels in the areas upto the EEZ as a strategy for fishing diversification and viable operation of the native fishing fleet. The Committee noted that conflicts over space and resource have erupted in the Deep Sea Fishing grounds and that complaints of poaching by foreign and Indian vessels have been common. It has recommended that Parliament should pass Deep Sea Fishing Regulations after consulting the fishing community for conserving the fishery resources and for reducing conflicts in the seas. It has further recommended setting up a Fishery Authority of India to function in the manner in which such authorities set up in other countries function and to be responsible for formulation of policies as well as their implementation.

Going by the provisions of Articles 61 and 62 of the U.N. Convention on the Law of the Sea, 1982, foreign fishing need be permitted in our EEZ area only if there is any surplus left after meeting our national requirements. We have got a legal and constitutional obligation to equip our fishermen to explore the fishery wealth in our EEZ area for providing employment opportunities and a decent livelihood

for them since they collectively form a weaker section of the society. Going by the Giudicelli and Murari Committee Reports, our fishing fleet need only be diversified, supported and encouraged to tap the fishery wealth of our EEZ areas. Our fishermen from Tamil Nadu, Gujarat, Karnataka and West Bengal have proven themselves to be capable of venturing to Deep Sea Fishing. Foreign fishing is reported not to have helped us in improving our technology or in identifying our untapped fishery wealth.

Excepting conflict management, no other conservation measures, worthy of mention, could be achieved by the Marine Fishing Regulation Acts. From the points of view of conservation of the fishery wealth, their habits and environment, much more regulatory measures covering and integrating our inland and marine fisheries require to be adopted. We are bound to have a National Fisheries Plan and Policy with viable and suitable regional variations and adjustments. Steps for conservation and management should be chalked out at the local level, basically involving the fishermen themselves. There should be effective co-ordination of such measures at the regional and national levels.

Conservation Measures:

Any fisheries legislation and management policy should aim at conservation of the fishery wealth, management of

inter-gear conflicts, support to the fishworkers, provision of fish for food in the domestic front and also at export of fish to foreign markets for earning foreign exchange. Conservation of the renewable fishery resources should start with identification of the species, their habitats, feeding and breeding patterns, their classification and characteristics. Fishing patterns and their impact on different species and areas require to be examined and investigated. In view of the inter linkage of our riverine, estuarine, coastal and deep sea waters in the context of fisheries, we should formulate an integrated management plan and policy aiming at overall conservation of our entire national fishery wealth. Findings and recommendations of Expert Committees are there before our Central and State Governments which emphasise the problems of overfishing, overcapacity and depletion of the fishery wealth. These problems are more or less of general application in the case of other coastal States also. Our Governments in power have not cared to implement most of the recommendations of these Expert Committees so far. This is due to an apparent lack of political will on their part. Fishing and fisheries are looked upon as a source of earning foreign exchange. They require to be conserved properly even for their continued availability for export. A shift of emphasis from 'boosting production' to maintenance of sustainability of the resource is required to be adopted as the basis for successful management of our fishery wealth. Enviornmental degradation and habitat destruction can be expected to be averted, to a considerable extent, by strict enforcement of

the Anti-Pollution Laws in the background of the promising judicial trend. This should be supplemented by positive conservation measures conforming to international standards.

Conflict Management:

Lack of farsightedness in the development policies of the Government and open access to fisheries result in overcapacity which in turn culminates in overfishing and competition for space and resource. The mechanisation policy adopted by the Government of Kerala in the 1960's and 1970's as also the subsequent shift to motorisation of traditional crafts by late 1970's resulted in overcapacity and overfishing. Competition between competing gear groups for space and resource in the inshore waters was a direct consequence of motorisation. The clamour of traditional fishermen for delimitation of exclusive fishing zones for them and for other conservation measures pursuaded the coastal states to approach the Central Goverment for introducing suitable legislation. The Majumdar Committee constituted by the Central Government for examining the question recommended the adoption of a draft Marine Fishing Regulation Bill appended to its report "for safeguarding the interests of small fishermen, to avoid repeated conflicts between different economic interests and to ensure conservation and optimum utilisation of coastal resources." It is based on that Report, and as suggested by the Central Government, that the Kerala Marine Fishing Regulation Act, 1980 was passed.

The Judicial Trend:

The decision of the Supreme Court in Joseph Antony upholds the regulatory measures provided by S.4 of the KMFRA, 1980. That decision evidences a judicial recognition of traditional fishermen as a weaker section of the society, emphasises the duty of the State to promote their economic interests and to protect them from social injustice and all forms of exploitation in terms of Article 46 of the Constitution.

Gear restrictions and the monsoon trawl ban in territorial waters could be achieved due to the clamour of small-scale fishermen against mechanised fishing in inshore waters. They are now recognised as effective fisheries management measures within the territorial sea. The conclusive presumption of law created by the Government Order dated 25.7.1990 (that boats having lesser length, horse powerage and fishing gear than that prescribed shall be deemed to be meant for bottom trawling within the territorial waters) and the specifications insisted on by that Government Order for bottom trawlers operating beyond territorial waters on the basis of that presumption of law, coupled with the gear restrictions and the monsoon trawl ban have turned out to be the most innovative fisheries management measures that we have so far adopted. Judicial recognition given to them by the Supreme Court in the Trawlnet Operators' Case is most welcome and encouraging. The reasoning of the Supreme Court for rejecting the

arguments that bottom trawlers have the right of innocent passage through the territorial waters as per the 1st Proviso to S.5 of the Kerala Marine Fishing Regulation Act, 1980 and that violators can be prosecuted, is all the more innovative. The vast area involved and the cost required for an effective supervision in the territorial waters are pointed out by the Court as making it 'prohibitive', 'not practicable' and 'not in the interest of the general public'. The relevance and usefulness of that reasoning is that it provides a practical solution for a rather difficult task of effective enforcement of management measures in the open sea.

Enforcement of Regulatory Measures:

Coming to the task of enforcement, the organisational set up, poor financial allocations and limited infrastructural facilities at the disposal of the Department of Fisheries act as constraints against effective enforcement of fisheries regulations. Enforcement is poor and ineffective in both inland and marine sectors. There is a dearth of uniformity of legislations applicable to inland fisheries throughout the State. Foreign Fishing requires to be totally prohibited in our EEZ area for exploring the fishery resources therein for our national use.

The task of conflict management requires to be extended to the entire EEZ area as recommended by the Murari

Committee also. Going by the provisions of the Coast Guards Act, 1978 and the attitude of the Coast Guards Organisation as evidenced by the proceedings of the Majumdar Committee, the Coast Guards Organisation may not be of any practical use in enforcing management measures. A restructuring of the Fisheries Department with provision of adequate funds and infrastructural facilities can be thought of as a viable solution for this problem. A comprehensive National Fisheries Legislation backed by a National Fisheries Policy applicable to the entire Indian fishery waters is the need of the times.

Gear restrictions and zoning regulations will have to be extended to the EEz area if we are to venture exploiting our fishery resources there for ourselves. Fishery Guards or Central Marine Reserve Police Organisation may be set up for enforcing these management measures in the territorial waters as well as in the EEZ area. Such organisations can be set up even at the State level with power to enforce fishery regulations in the respective EEZ area as well. Any such enforcement machinery should be provided with modern equipments and facilities like Air Surveillance Mechanism.

Conflict management is, by itself, a very important measure of conservation of the resources. It strives at elimination of competition and conflicts between the different gear groups. It can go a long way in safeguarding the interests of small fishermen. The Indoneasian Trawl

Ban, the zoning system of Malaysia and the Japanese conflict management system with the participation and co-operation of the fishermen themselves are indicators of the success of conflict management policies in those contexts. Lack of political will, poor and ineffective enforcement measures and lack of vision on the part of the fishermen themselves, as in Philippines and Thailand can bring in negative results even in the wake of stringent legislative measures.

It was due to the pressure exerted by our traditional fishermen that our Governments in power in Kerala resorted to the appointment of Commissions after Commissions to enquire into the problems of resource management and conservation of the resources. The implementation of the recommendations of these Commissions is the need of the times. Lack of political will on the part of the Government and dearth of consciousness on the part of our fishermen in this respect will be fatal to the fishery wealth; they will be detrimental to the interests of our fishermen also.

Technological Innovations and their Consequences:

The fisheries sector plays an important role in our socio-economic set up. It provides employment and income for a considerable section of the population. A vast majority of them depend on fishing and fisheries for their livelihood. Without any scientific knowledge or information regarding the availability or concentration of fish in the

fishing grounds and without any state aid or support, they have been pulling on with their avocation. Till the 1960's, there were only very few mechanised boats in our State. Almost the entire marine fish production was from the country crafts propelled by wind and manpower. The productivity of the offshore waters is estimated to be only half that of the inshore waters and that of the deep seas is only one hundredth. The Government's interest in promoting exports encouraged trawling in inshore waters and a number of outside investors moved in to reap the profits. When the number of trawlers increased, the artisanal sectors' catches fell down. Many demersal species showed a declining trend indicting overfishing by the trawlers. The trawlers have also damaged the natural habitat of fish like coral reefs leading to depletion of fish resources in coastal waters. By 1980, a large number of mechanised boats and country crafts were found locked in an unfair competition for fishing grounds as well as fishery resources.

The traditional fishermen resorted to unionisation for pressurising the Government for regulating fishing in the inshore waters and to motorisation for effectively competing with the mechanised sector and to reach distant waters in search of new fishing grounds. By the year 1988, about half of the country crafts were motorised and about three-fourth of the artisanal fishermen started working on them. This was accompanied by changes in the Crafts and gear as well. However, motorisation did not result in enhancing the time spent for fishing or in any general shift to the deeper

waters for fishing. Bargaining power of artisanal fishermen decreased with increased output consequent to motorisation. It has resulted in higher levels of indebtedness among the fihermen-owners causing loss of effective control over the means of production. Motorisation was resorted to by the artisanal fishermen more as a survival strategy than in the pursuit of modernisation. The new craft-gear technologies and cost-benefit possibilities were quite unfavourable for the traditional fishworkers. Fisheries development through the intervention of the Government was divorced from fishworkers' development.

Fishworkers' struggle for Socio-economic Justice:

The continued struggle of fishworkers for Socio-economic justice under the leadership of their unions backed by their leaders and the support and encouragement given to them by social activists requires special mention here. The resistance offered to trawling by traditional fishworkers in the neighbouring States of Tamil Nadu and Goa by both militant and non-violent means came as a new perception for them. Formation of the National Fishworkers' Forum in 1978 and fishworkers' struggle at the natioal level brought a new dimension to the issue. The intervention of the Centre by appointing the Majumdar Committee and the passing of the Marine Fishing Regulation Acts by the coastal States including Kerala around 1980 could only add to the confidence and enthusiasm of the

fishworkers. Their clamour for implementing the monsoon trawl ban was being attempted to be averted by our Governments in power by appointing Commissions after Commissions; and by now, it appears to have been recognised as a fisheries management strategy, at least in principle. It requires to be mentioned here that the regulatory and welfare measures so far introduced in our fisheries sector are mainly due to the demands and agitations of fishworkers and their organisations. Fishworkers' struggle continues: it can never be stopped in the wake of rival interests of the industrial fishing fleet on the one hand and counter-productive and unfavourable government policies on the other.

Socio-economic conditions of fishworkers:

Living conditions and standard of living in the fishery villages do not give a rosy picture. Improvements in the quality of life are far from satisfactory. General infrastructure has increased to a certain extent in the fishery villages; but it is more the result of the development efforts of the State rather than due to increase in earnings from fishing. Fisherwomen are still unable to enjoy the status and role expected of them in the society and the family. Modernisation has resulted in a shared ownership-pattern which ensures the majority the chances for work and a share of the income. Total investments in craft and gear have increased substantially

with the participation of greater number of workers in the process. However, increased investments have only contributed to helping the workers to survive in the sector. It is difficult to find a fishing family that has no debts. There has been no major change in the borrowing patterns. Borrowings remain a significant burden to the borrowers. For the vast majority of fishermen, motorisation and the accompanying developments have been only a means for survival. State intervention and support requires to be continued for making the sector more self-reliant.

The Working of Fisheries Co-operatives:

Co-operative movement represents the most coherent organisational policy for artisanal fisheries. It has the potential for giving more people greater control over their occupation and a more equal share of the benefits. Production, Credit, Supply and Services, Handling and Processing, Marketing and Social and Community Services are some of the important areas in which fishery co-operatives can contribute to the development of the fishery as well as the well-being of the fishermen. Before starting a fisheries co-operative, all parties - fishermen, development agencies and governments-should be very clear about their aims, objectives and expectations. Fisheries co-operatives should be started at the primary society level upwards and not from the apex downwards. Membership criteria should be clearly defined, especially with regard to boat ownership

and crew, occupation and residence. Credit should be flexible enough to withstand pressures outside the control of members, but not too easy to encourage irresponsibility. Management must be by honest and trusted persons who should also be good businessmen. Government support will have better results if such involvement is indirect.

State-sponsored fisheries co-operatives in Kerala have always been a failure. Most of them have been fake societies with undesirable memberships and invalid Board of Directors with no concern for the stability or viability of their co-operatives. They did not benefit the actual fishermen even remotely. Almost all of them went into liquidation. The Government's attempts revitalising them did not succeed. The success of the recent attempts of the Government at reorganising the Village Societies under the supervision of the 'Matsyafed' is yet to be seen. This trend of Government-sponsored co-operative movement in the State is in contrast with the success story of the organisation and development of a parallel set up of private co-operatives under the leadership of the SIFFS and the support of voluntary organisations like the PCO.

Welfare Measures sponsored by the Government:

The three fisheries corporations set up by the Government for the welfare of fishermen and development of fisheries failed to deliver the goods. The fishermen welfare societies attempted to be organised at the village

level under the Kerala Fishermen Welfare Societies Act, 1980 went in liquidation by 1985. The 'Matsyafed' is now attempting to activise these societies and to provide effective support to the inland and marine fisheries superceding the three corporations. Almost all welfare measures are now routed by the 'Matsyafed' through the village societies.

Threat to Food Fish Security:

Around 120 million people around the world are economically dependent on fisheries. In developing countries like India, small-scale fishers are also the primary suppliers of fish, particularly for local consumption. A most important role of the fisheries sector is as a source of domestically produced food. Fish, as a food item, is a nutrient and it has great medicinal value. Most consumers in the industrial world primarily eat fish as a luxury item or supplement to an already balanced diet. Contrary to this, in low-income countries like ours, fish is the primary source of animal protein. Consumption remains low per person than in industrial countries. Simultaneously, low-income consumers are losing access to affordable fish as supplies tighten and high-priced markets attract a growing propotion of the fish supplies. Consumers in our country face a dramatic rise in fish prices as our 'fishing industry' is linked with lucrative markets in industrial countries. Increased participation in commercial markets

raises prices in the domestic market and reduces the domestic supply of fish; local consumers are made to compete in the international market at international prices. The momentum in marine fisheries is moving in the wrong direction for poor consumers. Prices have risen manifold; the largest increases in supply come from either low-value species and primarily for animal feed or high-priced species like prawns and tuna. Neither of them benefit the low-income consumers. The present consumption levels are governed by low availability and high prices.

In their plight to boost the export of high-value species, the commercial fishing fleet discard a substantial quantity of uneconomic species in dead or dying condition. Though low-valued they are, these varieties would have been useful to the local and poor consumers through the domestic markets. Even such low-value species are often converted as feed for pets and cattle and the poor consumers are deprived of them as their dietary staple. Such practices require to be prohibited for increasing food fish supply to a considerable extent.

Aquaculture has potentials for filling up the gap in food fish supplies to a great extent. However, like commercial fishing, aquaculture also is capital-intensive and export-oriented; its ill-effects on the eco-system and the environment act as a limitation on its scope for boosting production using modern and intensive techniques. Again, aquaculture cannot rehabilitate traditional fishermen

or provide food fish for the local communities.

The threat to food fish security can be sought to be faced only by proper and judicious management of the fisheries. A target-cum-quota system aimed at ensuring adequate supply of fish in the domestic market can be thought of. This can be supported by a price subsidy system for protecting the interests of subsistence fishermen. The purchase, sale, storage and processing of fish and fishery products require to be regulated by suitable legislation. Increasing attention of the State requires to be bestowed on the fisheries sector to see that its contributions to food security through livelihoods, employment, income and nutrition reach the traditional fishworkers and the local consumers who depend on it.

Exports:

The current export policies of our Governments are quite unscientific and immature. If the export orientation is not left unchecked, it will lead to further depletion of our already depleting fishery wealth. A balanced export policy requires to be evolved. Due consideration should be given for maintaining an optimum with respect to the volume of labour, the types of exploitable species and the level of exploitable quantity. Steps should be taken to tap the so far unexploited and underexploited areas and species in the Indian EEZ. Involvement of foreign fishing vessels for

tapping our resources requires to be stopped altogether immediately. Our indigenous fishing fleet require to be modernised and diversified with State aid and support for tapping the entire resources in our EEZ area. Aquaculture should be promoted for filling up the gaps in our capture fisheries for the export market. However, modern and intensive aquaculture practices are to be avoided for minimising their ill-effects and disadvantages.

Export promotion and fisheries development are unavoidable for earning foreign exchange for meeting our trade balances. Irrational export practices hitherto resorted to by some of our seafood exporters have invited stringent quality standards that are recently insisted on by our foreign buyers. The institutional set up of our Export Inspection Agency and the callous attitude of some of our exporters make our quality control machinery ineffective and inefficient. However, maintenance of quality should be the primary concern of the exporter for which he may seek for co-operation from the Export Inspection Agency. Unless and until the urge for maintenance of high quality for the exported products springs up from the exporters themselves, further stringent regulations and conditions can be expected from the foreign buyers. Our exporters and our Governments who support them should realise the fact that it is not the quantity of the exports alone that counts in boosting export earnings, but their quality as well.

Plea for a National Legislation:

The North Western, South Western, South Eastern and North Eastern zones of Indian marine fishing areas display different kinds of waves, depths and fish varieties. Fish migrations, freedom of movement of our fishworkers throughout our marine fishing areas, the prevalence of inter-gear conflicts in our offshore and deep sea waters as revealed by the Murari Committee Report and our need and obligation for conservation and optimum utilisation of the fishery resources in our EEZ areas make out a strong ground for evolving national policies and plans for a unified and integrated management of our entire fishery wealth. Such a course could be adopted in Australia and Malaysia within a more or less similar federal constitutional framework as that of ours. Articles 51(c), 252, 253 and 263 of our Constitution provide the basis and means for adopting such a course by passing a national legislation. In the present-day context of our fisheries sector, the Marine Fishing Regulation Acts in force in the coastal States are quite insufficient for managing it. Fishing and fisheries within and beyond our territorial waters require to be managed on the basis of a national policy and plan. It should have flexibility and viability for adjustments in respect of different areas and species. Co-operation between the Centre and the States is required for coordinating them. The Australian and Malaysian models can be made use of for passing a national fisheries legislation, the provisions of which should provide sufficient leeways for evolving and

implementing fisheries management policies and plans at the local and regional levels in conformity with the broad national policies and plans to be framed by the Centre. Autonomy of States should be attempted to be maintained to the extent possible with the help and co-operation of the Centre. Regional co-operation of the coastal states inter se and with the Centre should be attempted to be achieved under the leadership of the Centre in matters of regional concern. At the national level, a fisheries management policy and plan should be framed in conformity with the national economic policies and plans as also keeping pace with the local and regional needs and priorities. Any such policy, plan and legislation should strive to achieve sustainability of the resources as well as support to the subsistence sector.

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