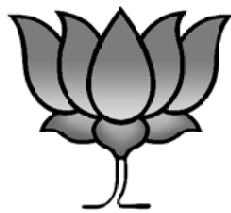


NATIONAL POLICY  
ON  
FISHING & FISHERMEN



BHARATIYA JANATA PARTY



## FOREWORD

It gives me immense pleasure to present this policy document of the BJP on fishing and fishermen.

Millions of our people depend on fishing for their livelihood. This sector contributes significantly to national economy and has still tremendous potential that needs to be realized. The Document sets forth our understanding of the subject in line with Party's core beliefs, basic commitments, and underlines our priority agenda which is the firm resolve to improve the economic conditions of every section of our society. India is witnessing a rapid growth in its economy inspite of gross mismanagement by the incumbent government. In order to make this growth and progress inclusive it is imperative to have a focused attention on each sector of the economy and all sections of the population.

Fishermen cell of the BJP under the proficient guidance of Sh. Muralidhar Rao and Shri Prakash Malgave have worked very hard with the concerned people including grassroot leaders of the fishermen's community and experts to bring out a well studied policy document. I congratulate them for this remarkable work and am confident that this will prove to be a very helpful tool for the policy makers desirous of improving the conditions of fisherfolks and make fishing a vibrant contributor to the nation's economy.

**Nitin Gadkari**  
National President  
Bharatiya Janata Party



## INTRODUCTION

Fishery has been one of the most ancient but important source of livelihood for a large population. Fishing has been a traditional occupation for millennia, supporting a plethora of communities, both along the sea coast and inland. The sector contributes significantly to employment and is a big foreign exchange earner. After agriculture and weaving, fishing is the largest sector in terms of livelihood generation. However, traditional fishermen are under pressure from large scale unregulated industrialization, export-oriented, mechanized fishing and aquaculture.

The fisheries sector holds enormous potential in a country, surrounded by three seas: the Arabian Sea, Indian Ocean and Bay of Bengal and blessed with a number of perennial rivers arising from the Himalayan range and hilly plateaus and vast water bodies. In keeping with the diversity of resources, the fisheries sector is divided into three segments: marine, inland and brackish water, each requiring different modes of management. The sector faces multiple challenges with the result that today around 90% of fishermen are below the poverty line. Environmental factors such as exhaustion of water resources, contamination of the ecosystem and extinction of various marine and freshwater species have impacted sharply on the livelihood of the traditional fishing communities. Lack of credit facilities, gaps in policy-making, poor implementation of aid schemes and near-absence of education and health facilities have compounded their problems.

Recognizing the nutritional, economic, social, environmental and cultural importance of this sector, there is an urgent need for a comprehensive fisheries policy that addresses, first and foremost, the needs and sensibilities of the fishing communities and recognizes their intimate organic link with the fishing environment. Traditional fishermen have been the victims of not only the neglect; rather policies designed by the governments in the name of the development of fisheries have actually been working against the fishing communities in general. Faced with deprivations of many kinds, including income disparities; poverty hunger and malnutrition; ad-hocism and gaps in policy especially related to depletion of fishery resources; inadequate education and health infrastructure; rising sea level; destruction of mangroves; pollution; inadequate provisions for disaster management; encroachment on territorial waters; overfishing and un sustainability; land acquisition along the coast, existence of traditional fisheries communities under severe threat. The absence of an integrated approach by different departments of government has contributed to the distress of the fishing communities.

The traditional skills and knowledge of this vast population is presently, under utilized to exploit the marine wealth of our 8118 km long coast line. Today, India stands at 27<sup>th</sup> rank in value and 23<sup>rd</sup> in volume in fish exports. This sector has immense potential in terms of wealth creation, employment generation and food security as well. Unfortunately, such a vast resource has been neglected by the central government. Even a cursory glance at the fishermen in coastal villages reveals that they are in very pathetic condition besieged by object poverty, with 90 percent our traditional fishermen living below poverty line. With almost no support from banking system, our fishermen have to depend on depend on the age-old tools for processing and marketing. The technological development, which has taken place in our country, has not reached our traditional fishermen. The large scale industrialization which has been allowed in recent years in coastal areas without having any strict regulatory regime has devastating impact on the marine live stock, on the health of fishermen and their livelihood. At places wherever SEZ's and large scale industries have come up the fishing villages have lost access the sea. This in turn is forcing the fishermen to migrate to other places. The fishing villages are totally deprived of the basic infrastructure such as potable water, connecting roads, street electrification and sanitation. Womenfolk are subjected to humiliation and hardships of these inadequacies. Health infrastructure is either absent or non-functional. The central government has circulated a draft on Coastal Regulatory Zone Act which requires a thorough discussion involving the fishermen.

Not at all different is the situation of our fishermen engaged in inland fishing. Similar to that of the marine scenario, there is no clear policy on fresh water fishing at both central and state levels. Inland fishing employs the majority of Indian fisherfolk. High level industrialization has resulted in pollution of our inland fishing areas in a very large scale. This further has led to the destruction of breeding grounds of riverine fishing areas. Despite of a large population involved in fishing in these areas, there are not even the basic infrastructure and credit facilities available. The existing policies have maintained a 'closed eye' approach so as to back industrial purposes.

Present document is a humble effort to highlight present situation of Indian fisheries and the problems faced by our fishing community. I believe that this document will help improving the understanding of the policy makers and other relevant persons and institutions and help working for a policy framework for the development of fisheries in general and welfare of fishing communities in particular.

**P. Muralidhar Rao**  
National Secretary  
Bharatiya Janata Party

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## BJP EFFORTS TO EVOLVE A NATIONAL POLICY

The BJP has constituted a Fishermen cell and asked National Secretary Shri. P Muralidhar Rao to evolve a comprehensive policy document.

To this end, three national conferences were organised. The first was for the East Coast fishermen at Visakhapatnam (A.P.); the second at Mangalore (Karnataka) for West Coast fishermen, the third for inland fishermen in Varanasi (U.P.). Thereafter a series of state level conventions were held, beginning with Hoshangabad (M.P.), then in Darbhanga (Bihar) and Jamshedpur (Jharkhand).

It was decided that a comprehensive national policy needed to be evolved, to provide a road map for policy makers working towards the growth of the fisheries sector and the uplift of fishing communities.

### BACKGROUND

- The preparation of the policy began with one conference each in Vishakhapatnam and Mangalore, where representatives of the fishery sector and fisherman from both the East and West Coasts of India met. A third conference in Benares followed these two, involving fishermen of the fresh water areas.
- Approximately 1000 people attended each of these conferences and the focus was on the issues and problems confronting fisherman and the fishing sector.
- The policy team met with many policy experts, cooperatives, political functionaries and then prepared a rough draft of the proposed policy. This was then circulated among experts to incorporate their views and suggestions and finally a draft policy was prepared for consideration by the PFAG of the party.

### HIGHLIGHTS

- There is no national policy for fisheries and fishermen.
- From a political perspective, this sector is very important since fishermen constitute a huge segment of the population, after the agriculture and the weaving sectors.
- Approximately 80% of the fishermen are Hindus except Kerala and Tamil Nadu where the majority of them are Christians.
- The fishing community has by and large been an isolated and silent community, with a large segment of them belonging to the Scheduled Tribes.
- The fishing community is a highly neglected community even-though they contribute significantly to the country's food chain.
- They are mostly a concentrated population and not scattered. 80% of them do not have pucca houses.
- Majority of them do not have title deeds of the land where they have been residing for generations.
- Except Pondicherry where loans for five boats were dispersed, formal banking and loan facilities do not reach out to more than 85% of them.
- It's a tough and high cost job where women are mostly active in marketing and processing while men are active on the seas and net building and repair.
- This community does not have access to any infrastructure support such as drying areas or cold storage facilities.
- Even the cooperative sector is not active in this sector.
- The trawler business is dominated by people outside this community and the impact of over fishing and deep sea fishing is affecting the livelihood of many of them due to massive reduction in fish harvesting.
- The development of SEZs, ports and power projects on the coastline are all adversely impacting fishermen and the fisheries sector. In Nellore district of Andhra Pradesh alone, about 50 power projects are coming up near the coast where the coal and ash will impact the sector and livelihood of fishermen.

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- The general feedback is that there has been a reduction in harvesting between 40% and 70% depending on the areas. This in turn is adversely threatening the livelihood of thousands of persons and families in numerous fishing villages.
- Despite their significant numbers and political importance, they have not featured on the agenda of any political party of the country so far.
- A national policy for this sector is not only long overdue for their benefit but is also important from the perspective of national security with respect to the coastal areas.
- Very few states like Karnataka and Bihar have enacted policies for their benefit such as giving them primacy in settling issues related to lakes.

### **PRINCIPLES, OBJECTIVES & TARGETTED POPULATION**

Equitable development is the stated objective of our political economy. No section of the vast Indian population should be deprived of the benefits of economic development. Post-liberalization, structural adjustments impacted adversely on the unorganised sector. The economic uplift of weaker sections must therefore be the leitmotif of any policy initiative. The same applies to the fisheries sector.

#### ***Objective:***

- To promote development and management of fisheries and aquaculture from the perspective of nutritional security and the creation of employment opportunities in an ecologically sound, economically viable and socio-culturally compatible manner.
- To improve the standard of living of fishing community in a sustainable and equitable manner.
- To conserve and manage fisheries resources and marine biodiversity for sustainable utilization.
- To preserve, protect, renovate and repair the existing water bodies and create new ones as community assets in order to encourage inland fishing.
- To create wider social awareness about the importance of fisheries and aquaculture and promote consumption of fish as a wholesome food.

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### **CURRENT STATUS OF THE FISHERIES SECTOR**

An estimated two crore denizens of 3,300 coastal villages and port towns along an 8,118 km coastline depend on fishing for their livelihood and nutritional security. After agriculture and handlooms, this sector absorbs the maximum labour.

The Maximum Sustainable Yields (MSYs) from fishing are estimated at 3.9 million tonnes to 4.2 million tonnes, half of which is within a depth of 50 meters. It is in this zone that traditional fishermen ply their craft. The present average fish catch is 2.81 million tonnes against the potential of 4.2 million tonnes. Approximately 2,08,000 traditional crafts, 55,000 motorized crafts, 1,250 mechanized boats and 100 deep-sea fishing vessels operate in our marine waters.

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### **EXISTING WELFARE PROGRAMMES FOR FISHING COMMUNITIES**

A plethora of programmes exists to empower fishing communities, focused on delivery of education, health, housing, potable water, communication and access to information, etc.

National Scheme for Welfare of Fishermen: The centrally sponsored programme has broadly three components.

- (1) Development of model fishing villages – provision of basic civic amenities, such as housing, drinking water and construction of community halls. Every 20 homes is entitled to a tubewell, at ₹ 30,000 per unit. Every 75 houses are entitled to a community hall at ₹ 1,75,000 per unit. For construction of homes, ₹ 40,000 per unit is allowed.
- (2) Technology - Centrally sponsored scheme on strengthening of database and information networking for fisheries with the objective of (i) improving database of inland and marine fisheries and catch of fish by adopting a standardized methodology of data collection through sample survey for estimation of inland fisheries; and (ii) improving information technology systems in the States/Union Territories as well as national level fishery institutes so that data collection and their analysis can be done efficiently and effectively. This involves catch assessment surveys on marine and inland fisheries, development of geographical information system, census of inland and marine fisheries. The budget outlay for the scheme was ₹ 45 crore.

- (3) Other schemes like the development of Marine Fisheries; Motorisation of traditional crafts & Reimbursement of Central Excise duty on HSD Oil; Development of Freshwater Aquaculture; Integrated Coastal Aquaculture; National Welfare of Fishermen; Fishing Harbour Facilities at Major and Minor ports; and Fisheries Training and Extension, are already being implemented.

The Government of India carried out a Marine Fisheries Census in 2005, as well as an impact evaluation study of the National Scheme of Welfare of Fishermen. The study was conducted by the National Bank for Agriculture and Rural Development Consultancy Services (NABCONS) Pvt. Ltd and suggested modifications in the guidelines.

The National Fisheries Development Board (NFDB) was set up in September, 2006 at Hyderabad to realize the untapped potential of the fisheries sector, with a budget of ₹ 30 crore.

The National Federation of Fishermen's Co-operative Ltd. (FISHCOPFED) is a national level Co-operative Federation established under the Multi-State Co-operative Societies Act, 2002 which operates under the administrative control of the Ministry of Agriculture, Government of India. The objective of the FISHCOPFED is to facilitate, coordinate and promote fishing industry in the country through co-operative action. During the last three years an amount of ₹ 4.37 Crore have been released to FISHCOPFED.

#### **DEPRIVATION OF FISHERMEN**

1. *Income Disparities:* There is a wide disparity in income in different areas of the fisheries sector. The annual per capita catch of fisherfolk in the mechanized sector is 3,701 kg, while that for the motorized sector is 1,320 kg against 408 kg for the non-mechanized sector. This results in marginalization of the indigenous sector.
2. *Poverty and Malnutrition:* The Food and Agricultural Organization (FAO) observe in a 2001 report that "In purely income terms, small-scale fishers may often compare favourably with small-scale farmers or agricultural labourers. But in terms of educational, health and nutritional status, participation in political decision-making, and vulnerability, small-scale fishers and fishing communities often appear to rank lowest in society."

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The incidence of poverty in the marine fisheries sector is highest among the backward sectors in the country. Fisher families living below the poverty line are estimated at 60 %, far above the national average of 26%. This is attributed to a variety of reasons like the seasonal nature of employment, intra and inter sectoral disparities and over-exploitation of marine resources, leading to lower per capita production, earnings and disguised unemployment.

Welfare measures intended to alleviate poverty are sometimes erroneously drafted. For instance, BPL fisherfolk are entitled to subsidized diesel for their boats; but cannot afford the capital investment needed for mechanized or motorized operations.

3. *Gaps in Policy:* Despite the plethora of welfare measures in place, at the macro-level policy initiatives have tended to favour big business at the cost of traditional fishermen.

The inland fisheries sector in particular requires unified state-level policies, as opposed to the adhoc leasing of water bodies, as well as organized marketing. Adhocism has affected inland fisheries in most states. Riverine fisheries have suffered because breeding grounds are not protected. High levels of water pollution and building of dams interfere with migration and breeding of fish. Reservoir fisheries are not regulated and stocking is often not undertaken. Smaller village-level water bodies such as ponds and lakes are even worse off, due to siltation, weeds, deforestation and encroachment. Environmental factors have also led to decline in availability of natural fish food.

Given its importance and the fact that it employs 4 per cent of the workforce, gross capital formation in this sector is inexplicably low, at 0.5 per cent. In terms of budget allocation, the share of fisheries is down to 0.72 per cent in 2010-11.

The promotion of deep sea fishing has been criticized as one of the causes of overfishing and pauperization of the traditional fisherfolk, The Deep Sea Fishing Policy of 1991 was withdrawn in response to widespread criticism but replaced with one whereby the government continued to promote deep sea fishing through financial allocations. The resultant depletion of deep-sea fish has become a matter of international concern, both because of its impact on fish diversity and on traditional fishermen.

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The Deep Sea Conservation Coalition observes: “Scientific literature refers to deep-sea fisheries as ‘serial depletion’ of fisheries. A 2009 report by the Royal Society of Britain concluded that deep-sea fisheries in the Northeast Atlantic are depleting deep-sea fish well below the depths at which the fishing takes place. The IUCN Shark Specialist Group classifies the three main species of deep-sea sharks in the Northeast Atlantic as endangered. In the South Pacific, New Zealand reports 137 species of fish caught in the deep-sea fisheries on the high seas; the status of these species and the impact of the fishing on these species is unknown.”

The International Council for the Exploration of the Seas, the scientific advisory body to the European Union, observed: “Deep-water species, are typically slow growing, long lived, late maturing and have low fecundity which are particularly vulnerable to overexploitation. This applies to both the target and non-target species. A large proportion of deep-water trawl catches (upwards of 50%) can consist of unpalatable species and juveniles, which are usually discarded which depletes the whole fish community biomass.”

Not only are deep-sea fisheries for the most part unsustainable, but the economics of deep-sea fisheries are questionable given the low productivity of deep-sea fish stocks. According to a 2009 FAO report, the global catch in high seas bottom fisheries in 2006 was approximately 250,000 tonnes, representing 0.3% of the marine catch worldwide. The value of the high seas bottom catch in 2006 was estimated at approximately 450 million US dollars, a small fraction of the overall value of approximately 75 billion US dollars of marine catch worldwide. A 2007 study by the University of British Columbia concluded that many deep-sea bottom trawl fisheries on the high seas in recent years would not have been economically viable without state subsidies.

In the light of the above, a review of India’s stand on deep-sea fishing is called for. The Twelfth Five Year Plan seeks to promote deep-sea fishing, while the report of the working group on Development and Management of Fisheries and Aquaculture sets targets for “harnessing” Deep Sea fisheries resources.

The Letter of Permit (LoP) scheme has numerous loopholes and facilitates non-reporting or under-reporting of catch and value, trans-shipment of catch in the high-seas, failure to file bills to the Indian Customs listing

the quantity of catch being taken out according to exiting Indian EEZ and violations of the Maritime Zones of India Act.

It undermines fisheries management in 3 significant ways: (a) Addition of industrial vessels under the LoP scheme increases fishing capacity in the Indian EEZ, in a context where there is not enough knowledge about the status of the targeted stocks or what could be considered sustainable yields. This can result in over fishing further out in the EEZ and undermine the future of the Indian fishing industry. (b) The LoP has not added value in terms of local employment, income and food security or through supporting sustainable livelihoods. At the same time, it has triggered deterioration of fish population and marine ecosystems. (c) Besides, it makes it hard to determine the actual volumes of fishing in the Indian EEZ

4. *Education and Health Infrastructure:* Delivery of services to fisherfolk has been poor, as infrastructure in terms of roads and power has been slow to reach the coastal villages. Literacy is low and malnutrition is endemic.
5. *Rising Sea Level:* Apart from the displacement of coastal population, fish distribution and production have been affected, possibly due to changes in plankton activity. Climate change is expected to impact coastal cropland and biodiversity, as the entire ocean ecosystem adapts to rising temperature and atmospheric carbon dioxide.
6. *Destruction of Mangroves:* These mini-ecosystems function as a buffer against the ocean and provide a spawning ground for economically important fish and crustaceans. They also stabilize the bottom sediments, control the local mean water level and the direction of flow. The demand for land and fuel has resulted in mangroves being destroyed with consequent siltation in the near shore region. The absence of the protective cover of mangrove is particularly felt during cyclones.
7. *Pollution:* Domestic sewage and industrial effluents have had a negative impact on marine produce. Large scale industrialization and thermal power plants on the coast have decimated livestock in the vicinity. For instance, in Nellore district of Andhra Pradesh, 22 power plants have sprouted along a 50-km coastline, burning 3,17,000 tons of coal every day. Around 2,000 tonnes of sulphur are released into the atmosphere, in violation of CRZ norms. A similar situation obtains along the Puri-



Cuttack coastline of Odisha. Livelihood of fishermen suffers with the diminishing of fish stock – in some cases, as high as 70 per cent. The consequent economic distress has resulted in large scale migration.

8. *Disaster Management:* Fisheries are highly prone to natural calamities, in terms of cyclones, floods or landslides. Advance warning systems and timely rescue, relief and rehabilitation are necessary safeguards, as well as bio-shields in the form of mangrove plantations along the coasts. Comprehensive insurance schemes and compensation mechanisms are required to provide greater resilience to the sector.
9. *Encroachment on Territorial Waters:* In the absence of sophisticated navigation systems, it is not unusual for fishing vessels to stray into the territorial waters of maritime neighbours, with unfortunate consequences.
10. *Overfishing and Sustainability:* The stated policy of state governments is to end subsidies that contribute to overfishing, in line with WTO rules, but in actual fact continue to subsidize “small” vessels. Small-scale fleets are major competitors in international trade and substantially responsible for overfishing.
11. *Land Acquisition Along the Coast:* Development of SEZ’s, ports, power stations and other industrial installations along the coast has resulted in large scale displacement of fishermen, with many documented cases of inadequate or no compensation. In recent times, industrialization of the coast has gathered momentum and fishing communities have suffered in the absence of properly implemented resettlement and rehabilitation programmes. Alienation from their traditional means of livelihood and homes has created social unrest.

The absence of an integrated approach by different departments of government has contributed to the distress of the fishing communities.

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## BJP RESOLUTIONS

### BJP NATIONAL CONVENTION ON INLAND FISHERMEN - VARANASI (27th & 28th August, 2011, Varanasi, UP)

- There should be a clear Freshwater Fishing Policy in each state.
- Government should encourage regeneration of plankton and aquatic vegetation which should be the utmost priority along with food and habitat
- Government should encourage research for sustainable fishery and controlling fish diseases.
- Government should ensure that cooperatives would be made more functional and strong market links and effective organizational structure would be established.
- Government should ensure that fishes, sand, agricultural produce like Makhana and Singhada should categorically be endorsed as a right of fishermen.
- Government should come out with a stringent law for pollution control and make sure that violation of the law should not be tolerated and highly penalized.
- Government should ensure that seed production units would be established near every perennial fresh water sources.
- Government should show more interest in fishing activity and should come out with strong protection measures which are essential for conservation of local species of fish.
- Government should make all possible efforts to document the traditional knowledge and wisdom of fishermen community and make sure that knowledge would be utilised for the development of fishery and the community.

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**BJP NATIONAL CONVENTION OF FISHERMEN OF EAST COAST -  
VISHAKAPATNAM**

*(7th & 8th December 2010, Vishakapatnam, AP)*

***Charter of Demands:***

- Credit facilities to fishermen from nationalized banks on par with agriculture. Creation of rescue mechanism to bail out those caught in debt trap.
- Insurance cover for all those involved in sea fishing.
- Special efforts to transfer modern innovations and technological developments in harvesting, processing and marketing to fishing community.
- Creation of infrastructure such as parking bays, jetties, fish landing facilities, drying platforms, cold storage, distribution centers and road connectivity.
- Guaranteeing unhindered access to the sea for those engaged in fishing.
- Any land acquisition in fishing villages must have to be in consonance with the development plan of fishermen. In compelling situations, the fishermen should have their due share in the long term benefits accruing from such projects.
- Coast guard should also provide cover to the fishermen harvesting in the sea.
- Protecting the fishermen interests whenever government of India enters into international trade agreements.
- Stringent measures to prevent industrial effluence from being dumped into the sea.
- Government of India should effectively protect the fishermen of Tamil Nadu coast who are adversely affected by the intrusions and harassment from the Sri Lankan side.

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**BJP NATIONAL CONVENTION OF WEST COAST - MANGALORE**

*(29th & 30th April, 2011, Mangalore, Karnataka)*

***Resolutions:***

- Evolving of 'National Fishing Policy' by incorporating the traditional rights of fishermen at the national level is an urgent need. As we have national agriculture policy, textile policy and tribal rights Act etc. to

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safeguard the interests of respective sectors, a policy for protection and promotion of fishermen rights is also needed.

- Taking the long coast line, rivers, tanks, ponds and lakes available for fish cultivation and the huge population dependent on this traditional occupation into consideration, it is very reasonable to demand that governments both at the Centre and State, create a separate Ministry to look after the matters related to this important employment intensive sector. It becomes all the more important when we have agriculture which is burdened with so many divergent aspects to handle.
- Implement Murari Committee recommendations which were approved by the Union Cabinet on 27th September 1997.
- Establish the Joint Working Mechanism to monitor, negotiate about the custody of fishermen, confiscation of their boats with the government of Pakistan and also to devise the way out for the same.
- Concession on Electricity should be given to the cold storages and ice factories used by fishermen. These are very important inputs in the fishing trade and should be treated on par with the inputs of agriculture.
- Uniform ban prohibiting fishing by mechanized boats for 90 days in all coasts from May to August should be strictly implemented.
- Loans with 4% interest rate should be given to the fishermen as it is given to farmers in various states.
- The outstanding loans should be waived of as it is done in case of farmers and weavers because many fishermen are caught in the debt trap.
- Under Matsya Ashraya Scheme the finance grant should be increased to ₹ 1 lakh from present ₹ 60,000/-.
- Insurance cover should be provided with the active support of state and central government because fishing is a high risk profession.
- Establishing the upgraded marketing facilities like marketing yards should be undertaken. Similarly, construction of new fishing harbours to be taken up on war footing in order to accommodate the growing needs of Indian Fishermen.
- In case of Land Acquisition in fishing villages, fishermen should be properly compensated and the comprehensive rehabilitation package has to be worked out by incorporating their inalienable right of fishing.
- Industrial waste and pollutants should be properly treated before letting

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into seas and it is essential to enact a national act incorporating the stringent provision of punishment to check the pollution without any further delay and the same should be implemented strictly.

- Coast guard should provide security to fishermen while harvesting sea especially to the fishermen belonging to Gujarat, Maharashtra and Tamil Nadu.
- Government should protect the interest of fishermen while entering into an agreement with international trade organizations.
- Free provision of DAT (Distress Alert Transmitter) and VTM (Vessel Tracking and Management System) to all Fishermen boats.
- Government should issue identity cards to all fishermen.
- Both Central and State Governments should initiate steps to establish additional fisheries training institutes.
- Fishermen development rebate on H.S.D. Oil (Diesel) which is increased to ₹ 3/- from ₹ 1.50/- However, the conditions of limiting it to BPL families and also 500 lts per boat – per month are actually working against the fishermen interests on the ground. Therefore, we demand that both these conditions be withdrawn immediately. There is also urgent need to cancel the Road Surface Tax cess of ₹ 1.50/- per ltr as fishing boats do not use any roads.
- Government should provide the land for housing purpose free of cost.

### ***Recommendations of the Review Committee on Deep Sea Fishing Policy***

- All permits issued for fishing by joint venture/charter/lease/test fishing should immediately be cancelled, subject to legal processes as may be required.
- No renewal, extension or new licences/permits be issued in future for fishing to joint venture/charter/least/test fishing vessels.
- All licences/permits for fishing may be made public documents and copy thereof made available for inspection in the office of the registered authority.
- The areas already being exploited or which may be exploited in the medium term by fishermen operating traditional craft or mechanised vessels below 20 m size should not be permitted for exploitation by any

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vessels above 20 m length except currently operated Indian vessels which may operate in the current area for only 3 years subject to recommendations 1 & 7.

- Since the Indian mechanised boats below 20 m size have the capacity to fish in depths upto about 70-90 m; on the West Coast, the distance from the shore represented by 150 m depth line should be out of bounds for all vessels of more than 20 m length except vessels mentioned at para 4. Where the 150 m depth zone is less than 100 nautical miles from the shore, the distance upto 100 nautical miles should be reserved for Indian vessels less than 20 m length. On the East Coast, starting from Kanyakumari, Indian vessels below 20 m size would have exclusive access upto 100 m depth or 50 nautical miles from the shore whichever is farther except relaxation in Para 4. The depth zone would also be defined by coordinates indicating distance from the shore. Distance will be determined by National Hydrographic Office/Coast Guard/Fishery Survey of India.
- In regard to Andaman & Nicobar and the Lakshadweep groups of islands, a distance of 50 nautical miles from the shore would be reserved exclusively for Indian vessels below 20 m length with proviso at para 4. Further, if so, required, the limit would be defined taking into account the need to keep waters between islands reserved exclusively for Indian vessels, even if some portions fall beyond the limit of 50 nautical miles.
- In the area open to the vessels above 20 m length, resource specific vessels for tuna and tuna like fishes, squids and cuttle fish, deep sea fin- fishes in mid-water or pelagic regions and oceanic tuna may be allowed for exploitation by tuna long lining, tuna purse seining, squid jigging and mid- water trawling, provided these are defacto Indian owned registered vessels. The Indian owners should account for at least 51% debt as well as equity.
- The fleet size for different fishing grounds may be fixed taking into account of the maximum sustainable yield and the need for conservation of resources.
- In order to conserve fishery resources in our waters, to protect fishermen and to reduce conflicts in the sea, deep sea fishing regulations should be enacted by the Parliament after consulting the fishing community.

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- For preventing conflicts between the traditional, small mechanised, larger deep sea vessels strict vigilance to be exercised by the Coast Guard. To attain this objective the Coast Guard should be strengthened, expanded, upgraded technically with the State-of-the-art system of navigation, surveillance and weaponry and properly tasked to prevent poaching by foreign vessels and observance of zone restriction by indigenous vessels. In case Coast Guard is not able to perform the task then by some other agency State or Central, would be identified to ensure that those vessels excluded from specific areas do not violate prohibitions.
- The Government should take active steps as well as make finances available for upgradation of technological skills and equipment used by the traditional fishermen, for mechanised boats and the Indian deep sea fishing fleet so that each can effectively fish in the areas reserved for it by law or usage. Duty concessions and concessional finance should be made available for both navigational as well as fishing equipment aimed at competence upgradation to the State-of-the-art level to all the three categories with priority to the traditional sector.
- Traditional and small mechanised sector should be assisted by adequate regular supply of fuel and by providing HSD and kerosene and by providing subsidy taking into account the benefits given to deep sea fishing vessels.
- 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.
- The Fishery Survey of India should also be technically upgraded by induction of the modern technology and equipment so that it can identify and map the location of all types of fish, study impact of different technologies and ecological changes. There should be proper coordination and cooperation between the National Remote Sensing Agencies and the Fishery Survey of India for this purpose.
- The Government should give priority to the creation of the infrastructure needed for preventing wastage of fishery resources which is occurring through throwing away by-catch. This may be achieved by providing

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a chain of cold storages, ice factories, fish processing facilities, fish meal and feed manufacturing for value addition to the products of fishermen and their cooperatives.

- Infrastructure facilities such as fishing harbours for the existing and modern upgraded craft among East and West Coasts as well as in island groups of Lakshadweep and Andaman & Nicobar Islands may be created on priority basis.
- Fishermen/fisherwomen and their cooperatives may be provided with financial assistance for up gradation and acquisition of larger vessels for marketing and other related activities.
- The Government should give priority to training fishermen/fisherwomen in handling new equipment, larger vessels and new fishing techniques besides fish handling and processing aspects.
- Government should take effective steps to tackle the menace of pollutants/effluents/sewage let out by industries which affects marine life adversely.
- Government should take a decision on the recommendations of the Committee within a period of six months.
- The deep sea fishing policy should be revised periodically, say every 35 years.

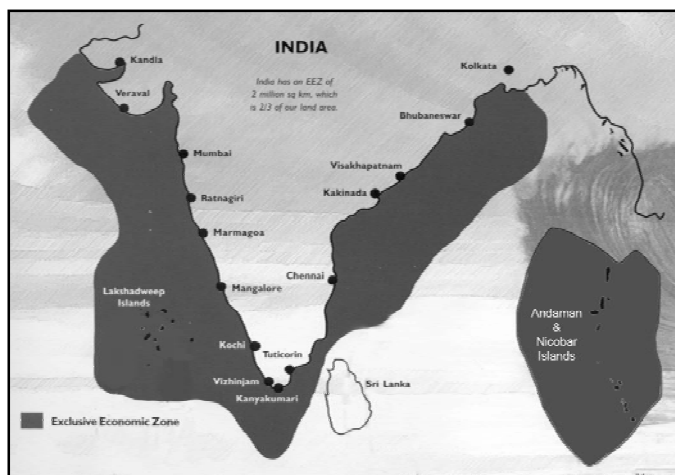


# 3

## FISHERIES & FISHERMEN: INDIAN SCENARIO

### GEOGRAPHY OF THE INDIAN COAST

India shares its international coastal borders with Pakistan in the West and Bangladesh in the East. It is separated from Sri Lanka by a narrow channel connected by the Palk Strait and Gulf of Mannar. The coastline measures 8118 km with Exclusive Economic Zones (EEZ) of 2.02 million sq km and an additional continental shelf measuring 1.5 million sq km. Freshwater resources measure some 1.95 lakh km.



EEZ AREA	-	2.02 million Km <sup>2</sup>
WEST COAST	-	0.86 million Km <sup>2</sup> (42.5%)
EAST COAST	-	0.56 million Km <sup>2</sup> (27.79%)
ANDAMAN & NICOBAR	-	0.60 million Km <sup>2</sup> (29.54%)

## National Policy on Fishing & Fishermen

The East Coast covers four States and two Union Territories (West Bengal, Odisha, Andhra Pradesh, Tamil Nadu, Puducherry and Andaman & Nicobar Islands) and the West Coast covers five states and two Union Territories (Gujarat, Daman & Diu, Maharashtra, Goa, Karnataka, Kerala, and Lakshadweep). The former comprises 57.5 per cent and 0.56 million km while the latter comprises 42.5 per cent and 1.5 million km of the total coastal length.

### FISHING COMMUNITIES

The coastline is dotted with around 3,300 marine fishing villages, comprising 7,56,212 households and some 5 million fishermen. Of these, 25.7 per cent (8,89,528) are active and the majority of these - 7,17,999 are full-time fishermen. Overall, 46.8 per cent of the fisher folk are engaged in fishing and fishing-related activities. Among men, the major fishery-related occupations are labour (39.2%), net mending (28.6%) and marketing (14%). The major women's occupations are marketing (41.8%), labour (18.4%) and curing/ processing (18%). Women dominate fish marketing (73.6%), while men have the major share of net-repair and net making (nearly 80%) and labour (69.5%).

### CASTE NOMENCLATURE

Fishing communities are categorized differently in different states, for the most part as backward classes but in some areas as schedule castes or scheduled tribes.

The state-wise list is as follows:

Andhra Pradesh	-	Vadabaliyas, Jalaris, Angikula kshatriya, Bestha, besthar, Gangaputra, Gangavar, Goondla, Koracha, Nayyala, Pattapa, Pali, Vaddi, Jalkshatriya and Vanyekula Kshatriya (Yannekapu, Vanne Reddi, Palli Kapau and Palli Reddi)
Assam	-	Bhoi, Mallah, Jhalo Malo, Jhalo, Malo, Malakar, Namsudra, Kaibarta, Patni and Kotal
Bihar	-	Banpar, Bind, Chaen, Dhimar, Dheemar, Dhivar, Dhewar, Godia, Gond, Gorhi, Gariya, Guria, Raj Gond, Kewat Keot, Kharwar Khairwar Kherwar, Khagi, Kaibarta, Kahar, Kolha, Manhji, Manjhi Majhwar, Nishad, Soraihia, Tiyyar, Tyar, Tiar and Mallah

## National Policy on Fishing & Fishermen

Delhi	-	Dhimar, Dheemar, Dhinwar, Dhewar, Kewat, Keot, Nishad, Godia, Gond, Raj Gond, Kahar, Jhimar, Jhinwar, Jhiwar, Jhir, Jheer, Mallah, Turah, Turaha, Tureha and Turaiha
Goa	-	Nayaka
Gujarat	-	Bhoi, Dhinwar Bhoi Gadhar Bhoi Khadi Bhoi, Khase Bhoi, Zinga Bhoi Pardeshi, Bhoi, Raj Bhoi, Dhiwar, DheemarDhimar, Dhivar, Dhevra, Gond, Raj Gond, Koli, Mahadev Koli, Malhar Koli, Donger Koli, Kolcha, Kolga, Tokre Koli, Kirat, Keer, Kewat, Kevat, Kahar, Dhuria Kahar Gondia Kahar, Khairwar, Mallah, Malhar, Machhendra, Machhawa, Nishad, Tindel, Palewar and Macchiaras, Kharvas and Kolis
Haryana	-	Dhimar, Jhimar, KaharDheemar Jhinwar, MallahDhivar Jhiwar and JhirDhewar Jheer
Himachal Pradesh	-	Dhimar, Jhimar, KaharDheemar Jhinwar, MallahDhivar Jhiwar and JhirDhewar Jheer
Jammu & Kashmir	-	Dhimar, Jhimar, KaharDheemar Jhinwar, MallahDhivar Jhiwar and JhirDhewar Jheer
Kerala	-	Dhevara (Arya, Vala, Mukkuva, Mukaya, Bhoi,Mulaya, AravathiMale Araya), Meenugara Manigara and Mogera, Mukkuvar, Anjootty, Dheevera, and Pooislan
Karnataka	-	Ambiga, Mukkuvena, Bestha, Besthar Mukkuvare, Bunde Besthar Mukayar, Bharika, Barikar, Marakula, Bhoyi, bhovi, Bovi, Mogera, Bheesmakula, Melanta, Gangaputra, Meddera, Gangakula, Machida,, Gange Makkalu Machimar, aurimatha Machala, Gangarassur Machava, Goni Kara, Gond, Raj Gond, Mudiraja, Gangamathu, Nayka, Harikanthra Naykara, Jalagera Nayaka, Kabber, Kabbera, Neeraganti, Korach, Nalekera, Koli, Parivara, Parevar, Kahr, Sunagara, Kabbaliga, Sephaliga, Kharvi, Soothkula, Meenugara, Manigara, Thoreya, Mogaveera, Vanyekula Kshatriya (vannekapu, Vannereddi, Palli Reddi), Siviyar and Siviar Mogaveeras
Madhya Pradesh	-	Dhimar, Dheemar, Dhivar, Dhewar, Dewar, Bhoi (Jhinga), Godia, Gond, Gariya, Guria, Raj Gond, Kewat, Kevat, Kharwar, Khairwar Kherwar, Keer, Kahar,

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		Mallah, Manhji, Majhi, Majhwar, Nishad, Raikwar, Turha, Turah, Turaha, Tureha, Turaiha, Tiyar, Tyar and Tiar
Maharashtra	-	Bhoi, Dhinwar Bhoi Gadhar Bhoi KhadiBhoi, Khase Bhoi, Zinga Bhoi, Pardeshi Bhoi, Raj Bhoi., Dhiwar, Dheemar, Dhimar, Dhivar, Kolis Daivar, Koli Dhor, Mahadev Koli, Malhar Koli, Donger Koli, Koleha Kolcha, Kolga, Tokre Koli, Kahar, Dhuria Kahar, Godia Kahar, GondKahar, Kirat, Keer, Kewat, Kevat, Kharwar, Khairwar, Machhendra, Machhawa, Manzi, Gond, Raj Gond, Tindel, Palewar, Manzi, Malhar and Nishad
Manipur	-	Namsudra and Patni
Meghalaya	-	Jhalo- Malo, Jhalo, Malo, Kaibartta, Jaliya, Namsudra, Patni and Bhoi
Mizoram	-	Jhalo- Malo, Jhalo, Malo, Kaibartta, Jaliya, Namsudra, Patni and Bhoi
Odisha	-	Dewar, Dhewar, Dhivar, Bhoi. Bhovi, Gond, Gondo, Jalia, Jaliya, Jhalo- Malo, Mala, Zala, Kaibartta, Kaibarta Jalia, Keuta, Kewata, Keute, Kevt, Namdas, Namsudra, Kharwar, Khairwar Khirwar, Tiyar, Tiar, Tior, Koli, Malhar.
Punjab	-	Dhewar, Jhimar Jhinwar, Jhiwar, Jhir, Jheer, Kahar Mallah, Jalaris, Vadabalijas, Khandayats and Rajbhansis
Rajasthan	-	Dhimar, Dheemar, Dhivar, Bhoi, Gond, Godia, Gariya, Guria, Raj Gond, Kahar, Kashyap, Kewat, Keot, Jhimar Jhinwar, Jhiwar, Jhir, Jheer, Keer, Mallah, Manhji, Majhi, Majhwar, Mehra, Riakwar, Koli, Dhor, Tokre Koli, Kolcha and Kolgha
Tripura	-	Jalkaibatta, Kahar, Keot, Namsudra and Patni
Tamil Nadu	-	Bostha, Bosthar, Narikanthra, Kharvi, Kebber, Kabbera, Meenugara, Manigara, Mukkavar Mukkuvar Mukayar, Parivara, Paravar, Meanevar (Partharaja, Kulam, Pattanavar, Sembadavar), Siviya and Siviya
Uttar Pradesh	-	Dhimar, Dheemar, Dhinwar, Dhewar, Kashyap, Kharwar, Khairwar Khirwar, Godia, Gond, Gariya, Guria, Raj Gond, Mallah, Bind, Manhji, Majhi, Majhwar, Jhimar Jhinwar, Jhir, Jheer Jhiwar,

## National Policy on Fishing & Fishermen

West Bengal	-	Nishad, Kahar, Riakwar, Kewat, Keot, Turah, Turaha, Tureha and Turaiha Bind, Baidi, Chaia, Chain, Berchain, Duley, Dewar, Dhewar, Dhiver, Gond, G o n d o , Gurrhi, Gonti, Jhalo- Malo, Malo, Kaibarta, Jaliya Kaibarta, Kotal, Keuta, Keweta, Keuta, Kevt, Kewet, Keyot, Keot, Kadma, KolaKharwar, Khirwar, Khairwar, Mallah, Meta, Namdas, Namsudra, Patni, Tiya, Tiar, Tior and Sardia, Kaibartas
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### RELIGION

Hindus constitute 74.1 per cent of fisher folk families, Christians 16.6 per cent and Muslims 9.2 per cent. Christians dominate in Kerala (42.4%), followed by Hindus (30.7%) and Muslims (26.9%). Christians are also significant in Goa (37.3%) and Tamil Nadu (34.6%).

### ROLE OF WOMEN

Women play a critical role in the fisheries sector, including pre and post-harvest activities. They liaise with institutions and agencies, work in seafood processing plants and supplement family income through ancillary work in times of erratic returns. In many parts of the country, it is mainly women who are engaged in inland fishing and aquaculture.

1. *Income:* The average annual income of a fisherwoman varies according to location and occupation. In Kerala, for example, a woman engaged in sorting of fish will earn ₹ 8,232 per annum. For peeling, she will earn ₹ 9720, for value addition ₹ 18,000 and for curing ₹ 23,328. A fish vendor will typically earn ₹ 59,760 per annum.
2. *Nutritional status & health:* In southern India, studies have shown a deficiency of Vitamin C, Vitamin B2 and iron among women of fishing communities. The number of women found to be anaemic – 69.2 per cent – is higher than the national average. Their nutritional intake was found to be lower than the recommended dietary allowances. Common clinical symptoms observed were angular stomatitis, cheilosis, bleeding gums, dryness of skin, headache, backache, body pain, chest pain, myalgia, bone tenderness, numbness of extremities, shortness of breath and joint pain. Prawn peelers suffered from high degree of musculo-

skeletal pain in the lumbar region due to continuous forward bending and most of them have finger and palm injuries from the prick of the rostum.

***Socio-economic status***

- i. *Education:* The literacy rate among fisherfolk is as low as 57%, against all India literacy rate of 65%. It varies from 33% in Andhra Pradesh to 73% in Kerala. In terms of higher and technical education and education of women, these communities are far below the national average.
- ii. *Health:* Health infrastructure (number of primary health centres and hospitals) is poor in West Bengal, Odisha and Andhra Pradesh.
- iii. *Housing:* By and large, few people in coastal fishing villages have title deeds or housing with basic amenities. Overall, 40 per cent live in huts and kutcha houses located within the Coastal Regulatory Zone (CRZ).

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**INFRASTRUCTURE & EQUIPMENT**

***Fishing Crafts:*** Of the 2,38,722 fishing craft in India, 58,911 are mechanized and 75,591 motorized. Maharashtra and Gujarat account for 44.5 per cent of the mechanized craft (Maharashtra has 13, 053, Gujarat has 13,047). Trawlers account for around 50 per cent of the mechanized craft. Of the 29,241 trawlers in the fishery, Gujarat accounts for 8,002, Tamil Nadu for 5,300, Maharashtra for 4,219 and Kerala for 3,982. Tamil Nadu, Andhra Pradesh and Kerala together account for nearly two-thirds of the motorized craft. East Coast states account for about 73 per cent of the non-motorized/ non-mechanized craft.

Nearly 62 per cent of fishing families do not possess any craft; about 49 per cent have no gear. Nearly 47 per cent of the families possess neither craft nor gear. Among the maritime states, Kerala has 66 per cent of such families, followed by West Bengal (49%), Tamil Nadu (46%) and others. In 10 per cent of the fisherfolk families of Maharashtra, only women take part in fishing or allied activities. At the all-India level, this figure is 5 per cent.

***Fishing Harbours:*** There are 6 major fishing harbours where 600 boats can be operated on a daily basis in India. Of 50 sanctioned minor harbours, where 300 boats can be operated on a daily basis), the majority is in Kerala, Karnataka and Tamil Nadu.

**Fish Markets:** Inland fish markets are quite informal and marketing channels are generally short. Producers' share in retail price is estimated to be more than 50 per cent. Overall, there is a gap in demand and supply of freshwater fish in India. There is surplus of fish in certain states like Andhra Pradesh, Haryana, Punjab and Rajasthan. Andhra Pradesh supplies freshwater fish to several states. Haryana, Punjab and Rajasthan cater to the requirement for freshwater fish in Delhi.

There has been limited intervention by Government to strengthen the inland fish marketing. In a very few instances, the government has constructed fish yards in wholesale markets.

<i>Domestic Fresh Water Fish Market</i>	
Surplus	Deficit
Andhra Pradesh	Delhi
Haryana	West Bengal
Rajasthan	Odisha
Punjab	Jharkhand
West Bengal	Bihar
Uttar Pradesh	Chhattisgarh
Madhya Pradesh	Uttar Pradesh
Chhattisgarh	Madhya Pradesh

### COMMUNITY STRUCTURES

Community institutions (such as caste panchayats, peddalu and padu) are organized along caste, kinship or religious lines. They play an important role in resolving conflicts, besides regulating and allocating resources so as to ensure equitable access and providing some form of social insurance. They are especially important when a large number of people bank on a limited resource base.

Besides the traditional caste-based organization of fishing communities, they are also organized into associations, such as the boat owner associations, trade unions, cooperatives (both state-run and private), self-help groups, federations, etc.

### PRIVATE CAPITAL INVESTMENT AND PRODUCTIVITY

Private capital investment on marine fishing equipment is estimated at ₹ 7,366 crore, of which 80 per cent is on mechanization and another 12 per cent on motorization, leaving barely 8 per cent for non-mechanized fishing. Capital productivity is highest in Andhra Pradesh and labour productivity in Kerala.

**SEAFOOD PROCESSING INDUSTRY**

<i>Infrastructure for the Seafood Processing Industry</i>		
Category	Registered as on 31-3-2000	Capacity
Exporters	1549	
Fishing Vessels	14266	
Freezing Plant	394	8439
Canning Plant	13	51
Ice Plant	157	2970
Fish Meal Plant	12	229
Peeling Sheds	576	3387
Conveyance	511	
Cold Storage	479	105991
Agar agar Plant	4	0.145
Isinglass	1	10
AFD Plant	3	3
Surimi Plant	5	112

*Source: Report of Working Group on Fisheries for 10th Five Year Plan, MoA, 2001*

**ECONOMICS OF THE FISHERIES SECTOR**

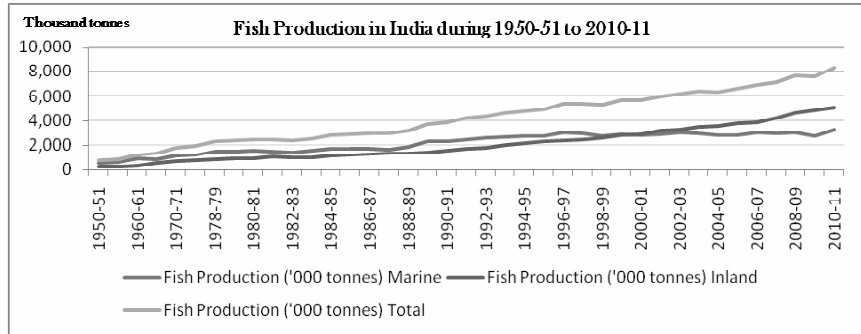
***Production and Share of GDP:*** Fish production in India has shown an increasing trend from 0.72 million tonnes in 1950-51 to 8.288 million tonnes in 2010-11 (Projected), an average growth of 6 per cent over the Five-Year Plan periods. In case of marine fisheries, production has increased from 0.53 million tonnes in 1950-51 to 3.220 million tonnes in 2010-11. In the inland sector, the growth has been steady, increasing from 0.218 million tonnes in 1950-51 to about 5.068 million tonnes in 2010-11, with an annual growth rate of 4.21 per cent (Graph:1).

From ₹ 245 crores in 1970-71, the GDP of the fisheries sector has grown to ₹ 29,707 crore in 2004-05. It accounted for 1.06 per cent of the national GDP in 2002-03. This came down to 0.71 per cent in 2010-11.

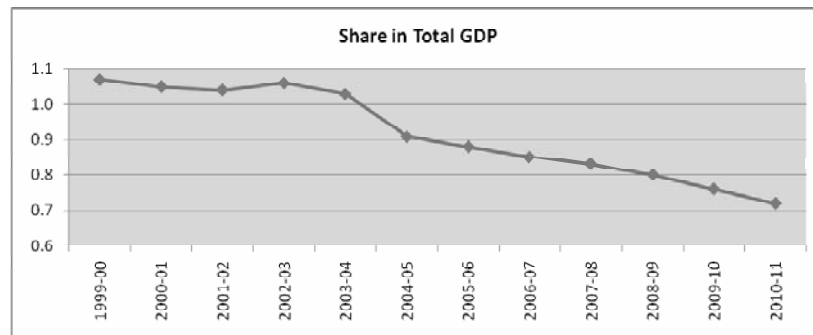


## National Policy on Fishing & Fishermen

Graph – 1:



Graph – 2: Share of Total GDP



**Production Potential:** In terms of fish production potential, 86.84 per cent of resources (3.837 million tonnes) are in the 100 meter depth zone; 5.86 per cent (0.259 million tonnes) at 100-200 meter depth; and 2.59 per cent (0.115 million tonnes) at a 200-500 meter depth. The resources in the oceanic area have been estimated as 0.208 million tonnes, which is 4.71 per cent of the total potential. The oceanic resources largely comprise yellow fin tuna (80,000 metric tonnes), skipjack tuna (99,000 MT), bigeye tuna (500 MT), billfish (5,900 MT), pelagic sharks (20,800 MT) and other species (1,800 MT).

Amongst the pelagic species, oil sardines top with a share of 0.51 MT, followed by ribbon fish (0.23 MT) and Indian mackerel (0.2 MT). In the demersal group, penaeid prawns top with a share of 0.24 MT, followed by croakers (0.22 MT) and non-penaeid prawns (0.21 MT).

Inland fisheries and aquaculture offer immense potential for enhancement of fish productivity and production. The productivity of freshwater aquaculture

## National Policy on Fishing & Fishermen

is far below the potential (2.85 tonnes/ha from ponds managed under the Fish Farmers Development Authority (FFDA) programme against a production potential estimate of 5.0 tonnes/ha). The area under fish culture is a small part of the existing resources just 0.95 Mha out of 2.41 Mha. Similarly, for brackish water aquaculture, only 15 per cent of the amenable area is under culture.

Inland reservoirs and floodplain wetlands offer scope for culturing fish. The average fish production potential was estimated at 250 kg/ha for reservoirs and 1,500 kg/ha for floodplains/wetlands. The current yield is 30 kg/ha for reservoirs and about 350 kg/ha for floodplains/wetlands. In case of reservoirs adopted under the National Fisheries Development Board (NFDB) Reservoir Fisheries Development Programme, the average yield was 174 kg/ha for small, 94 kg/ha for medium and 33 kg/ha for large reservoirs, an average of 110 kg/ha. For floodplains/wetlands, the fish yield from the West Bengal wetlands has been estimated at over 3 tonne/ha. Irrigation canals, too, offer scope for fish production.

### MARINE FISH RESOURCES

<i>Marine Fisheries Resources of India</i>			
<i>State/UT</i>	<i>Length of Coast line (KM)</i>	<i>Continental shelf ('000 sq km)</i>	<i>No. of Landing Centres</i>
Andhra Pradesh	974	33	314
Goa	104	10	34
Gujarat	1600	184	123
Karnataka	300	27	88
Kerala	590	40	178
Maharashtra	720	112	152
Odisha	480	26	57
Tamil nadu	1076	41	352
West Bengal	158	17	44
A & N Islands (p)	1912	35	57
Daman & Diu (p)	27	NA	7
Lakshadweep (p)	132	4	11
Puducherry	45	1	26
Total	8118	530	1443

Marine fish production growth rate has fluctuated sharply. It increased from 10.4 per cent in 1951-56 to 32 per cent in 1956-61 (second five-year plan period) and stood at 25 per cent during the 4th and 7th five-year

plans. Growth rate was negative during the 3rd, 9th and 10th five years plan periods. Since 1997, growth rate has been negative except during 2002-03.

### ***Inland***

There are three types of inland fisheries

1. Riverine
2. Reservoir
3. Tank/Lake/Pond

Given India's extensive water resources, 50 per cent of fish production is from inland fisheries.

Rivers and Canals	-	1,95,210 km
Reservoirs	-	2.916 million ha.
Ponds and Tanks	-	2.4 million ha.
Floodplain lakes and Wetlands	-	0.79 million ha.
Brackish Waters	-	1.24 million ha.

(The area, other than rivers and brackish waters, will increase in future due to ongoing irrigation projects).

These fresh water resources are divided into major rivers basins, namely, Brahmaputra, Ganga, Mahanadi, Godavari, Krishna, Cauvery, Sindhu, Narmada, Tapi and other west flowing small rivers originating from the Western Ghats.

Inland fish production has increased from 0.218 MT in 1950-51 to 3.84 MT in 2006-07, However, the growth rate has been declined steadily and is now 3.39 per cent against 5.22 per cent for the entire sector.

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### **GLOBAL SCENARIO**

The per capita availability of fish worldwide is 12.1 kg as compared to 5.2 kg in India. The annual per capita consumption of fish is increasing due to increase in purchasing power and the preference for fish as a low-cost animal protein. In India, there is a strong domestic demand for fresh water fish, mainly carp and hilsa.

The FAO report on the State of the World Fisheries and Aquaculture (SOFIA, 2010) estimates that in 2009, total world fish production reached an all-time high of 145.1 MT, comprising 90.0 MT from captures fisheries

## National Policy on Fishing & Fishermen

(both inland and marine) and 55.1 MT from aquaculture. Of the total production, 117.8 MT was used as human food and 27.3 MT for non-food use. Per capita fish supply was estimated at 17.2 kg during the year.

In 2008, the proportion of fully exploited fish stocks was estimated at 50 per cent, depleted or recovering stocks at 32 per cent and underexploited or moderately exploited stocks at 15 per cent. Of the 4.3 million vessels comprising the global fishing fleet, 59 per cent (2.54 million) are powered by engines and the remaining 41 per cent (1.76 million) are traditional boats, operated by sails or oars.

High levels of unwanted and often unreported by-catch and discards in fisheries round the world, including the capture of ecologically important species and juveniles of economically valuable species, is a serious problem. Global discards from fishing amount to about 7.0 MT per year.

In 2008, India was second to China in total fish production; sixth in marine and inland capture fisheries (after China, Peru, Indonesia, USA, Japan); third in inland capture fisheries (after China and Bangladesh) and second in aquaculture (after China).

The following provides a comparative account of the global and Indian fish productions from capture and culture fisheries.

<i>Fish Production in India and the World and its Per cent Contribution to world Production (in MMT)</i>						
<i>Year</i>	<i>Capture Fish Production</i>		<i>Aquaculture Production</i>		<i>Total Fish Production</i>	
	<i>Global</i>	<i>India</i>	<i>Global</i>	<i>India</i>	<i>Global</i>	<i>India</i>
2005	92.00	3.691	44.30	2.967	136.30	6.658 (4.88%)
2006	89.70	3.845	47.30	3.180	137.00	7.025 (5.13%)
2007	89.90	3.859	49.90	3.112	139.80	6.971 (4.99%)
2008	89.70	4.105	52.50	3.479	142.20	7.584 (5.33%)
2010	90.00	4.020	55.10	4.270	145.10	8.290 (5.71%)

In 2008, 39.7 per cent (56.5 MMT) of total world fish production was marketed as fresh, while 41.2 per cent (56.6 MMT) as frozen, cured or otherwise processed for human consumption. Since the mid-1990's, the proportion of fish used for direct human consumption has grown as more fish is used as food and less for producing fish meal and fish oil.

Globally, per capita supply from aquaculture increased from 0.7 kg in 1970 to 7.8 kg in 2008, an average annual growth rate of 6.6 per cent. The value of the world aquaculture harvest excluding aquatic plants is estimated

## National Policy on Fishing & Fishermen

at US\$ 98.4 billion in 2008. The actual total output value from the entire aquaculture sector should be significantly higher, because the value of aquaculture hatchery and nursery production and that of the breeding of ornamental fisheries are yet to be estimated and included.

In 2008, global export of fish and fishery products reached a record value of US\$ 102.0 billion, representing a share of about 10 per cent of total agricultural exports. Prices of fish and fishery products were also affected by the food price crisis, following the general upward trend in all food prices. China, Norway and Thailand are the top three fish exporters. China's fishery exports have grown considerably since the 1990's and a growing share of these exports consists of reprocessed imported raw material. China, Thailand and Vietnam, accounted for 50 per cent (US\$ 50.8 billion) of world export of fish and fishery products in value terms.

The fisheries sector continues to be a source of income and livelihood for millions. In 2008, an estimated 44.9 million people were directly engaged, full-time or part-time, in fisheries and aquaculture. This number represents a 167 per cent increase, as compared with the 16.7 million people in 1980. Women comprise 12 per cent of the total population (5.39 million). For each person employed in fisheries and aquaculture production, about three jobs are produced in secondary activities. Employment in fisheries sector has grown faster than the world's population. The majority of fishers and fish farmers are in developing countries, mainly in Asia, which has experienced a rapid expansion of aquaculture.

Small-scale fisheries contribute more than half of the world's marine and inland fish catch, almost all of which is destined for direct human consumption. These fisheries employ more than 90 per cent of the world's 45 million fishers and they support another 84 million people employed in jobs associated with fish processing, distribution and marketing. More than 95 per cent of small-scale fishers and related workers in post-harvest sectors live in developing countries. In spite of their significant contributions to the global fish food supplies, small-scale fishing communities live and work in very difficult conditions.

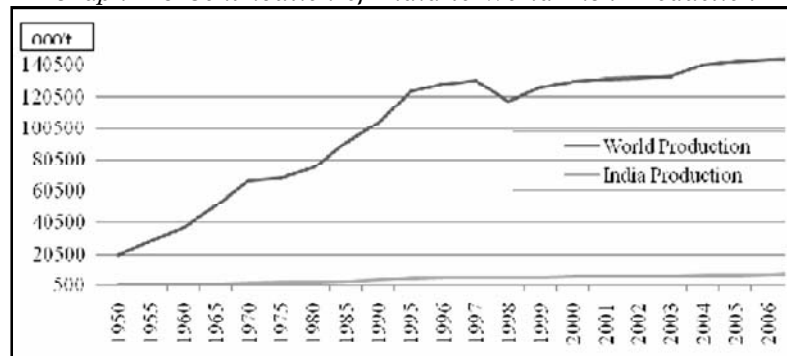
The SOFIA, 2010 estimates the average production per person in fisheries (capture and aquaculture) sector, is 2.4 tonnes per year for Asia; 23.0 tonnes for Europe; 13.8 tonnes for Latin America and the Caribbean and

## National Policy on Fishing & Fishermen

2.0 tonnes per year for Africa. The figures on production per person indicate the degree of industrialization of fishing activities and also the key role played by small-scale fisheries in this regard.

Globally, fish production from capture fisheries and aquaculture was over 130 MT in 2000 as compared to nearly 20 MT in 1950. The production declined to 117 MT in 1998 and has now recovered. India's share in global production has reached 4.36% per cent with 9.92% in inland and 2.8% in marine. For the inland sector, India is ranked second after China. Other major producers are China, Japan, the United States, the Russian Federation and Indonesia. Indian share in the global trade has increased from 6.1% (4.37 MT) in 1992 to 6.5% (6.40 MT) in 2003. There is a steady increase in exports.

*Graph – 3 Contribution of India to World Fish Production*



### EXPORT

Fisheries exports from India comprise 18 per cent of agricultural exports. Over fifty products are exported to as many destinations, with India making a mark in ornamental fish exports. Between 2008-09 and 2009-10, the quantity of fish exports increased by 12.54% in quantity and over 16.74% in value. Seafood exports constitute more than 70 per cent of the food exports. Fish and fish products contributed to nearly 1 per cent of India's total exports in 2007-08.

India exported 541,701 MT of fish and fish products, with a value of ₹ 7,620.92 crore in 2007-08 (MPEDA 2008). India ranks 27<sup>th</sup> in the world, in terms of value, and 23<sup>rd</sup> in terms of quantity (FAO 2009). The Eleventh Five Year Plan targeted an increase in fisheries exports from ₹ 6,000 crore to ₹ 14,000 crore.

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Countries importing Indian fish and fish products include Japan, U.S.A, European Union (Spain, Belgium, United Kingdom, Italy, France, Germany, Portugal, the Netherlands), China, Hong Kong, United Arab Emirates, Canada, Singapore and Thailand. Frozen crustaceans and molluscs are the top exporting products (in terms of value).

### **IMPORTS**

Imports show a rather haphazard trend. Analysis of real imports data from 1962 to 2005 shows that though in the initial years imports were high, they fell drastically until 2000 and have picked up thereafter. Currently, India's imports consist primarily of fishmeal, as well as chilled or fresh fish, like Hilsa from Bangladesh. In 1998, 97% of the imports of fresh and frozen fish came from Bangladesh.

Fish is also imported from Japan and Pakistan and to a small extent from USA, Norway, China, Singapore, Thailand and Korea. Fish feed is imported from Thailand, Chile, Peru, Myanmar and Taiwan.

### **EMPLOYMENT**

As per the Indian Livestock Census, 2003, 14.49 million people were engaged in various fisheries related activities. About 75 per cent of the fishers are engaged in inland fisheries activities and about 25 per cent in marine fisheries activities.

One of the most significant characteristics of the Indian fisheries sector is its small-scale nature. Fishing is a traditional economic activity in India practiced for generations by the fisher communities. The fishers can be broadly classified as

- (1) inland fishers,
- (2) marine fishers and
- (3) fish farmers.

According to the National Marine Fisheries Census (NMFC) conducted in 2005 by the CMFRI, Kochi (for mainland coastal States/UTs) and the Fishery Survey of India (FSI), Mumbai (for the two Island groups) the marine fisheries sector provides employment to about 3.5 million people including 0.9 million fishermen, 0.7 million in various other fishing operations., 0.2 million in fish marketing, 0.1 million in repairs, 0.2 million in fish processing and 0.1 million in other ancillary activities.

## National Policy on Fishing & Fishermen

The marine fishermen population has nearly doubled from 1.87 million in 1980 to 3.51 million in 2005. Among the maritime states, West Bengal has the highest concentration per kilometer of coastline (1,706), followed by Kerala (1,012) and Odisha (938).

Among those engaged in active marine fishing, majority (81%) are full-time, 13 per cent on part-time basis and the rest in occasional fishing. Fishing as a full time profession is relatively popular in the West Coast States/UTs (Gujarat, Goa, Daman & Diu, Maharashtra, Karnataka, Lakshadweep and Kerala) where 84 per cent of active fishers are engaged in full-time fishing as compared to the East Coast States/UTs (West Bengal, Odisha, Andhra Pradesh, Puducherry, Andaman & Nicobar Islands and Tamil Nadu), where 79 per cent fishers engage in full-time fishing.

The 2005 NMFC notes that women dominate marketing (41.8 per cent), labour (18.4 per cent) and curing/processing (18 per cent). As many as 73.6 per cent of those engaged in marketing and 75.7 per cent of those in curing and processing, are women.

The largest numbers of women engaged in marketing are in Maharashtra (39,288), Tamil Nadu (31,019) and Andhra Pradesh (27,160). Significant numbers of women engage in processing/curing activities in Andhra Pradesh (24,524), Odisha (16,447) and Maharashtra (8,584).

*State and Activity-wise marine fisher population in India*

<i>State/Uts</i>	<i>Active Fishermen</i>	<i>Fishing Allied</i>	<i>Non Fishing Working</i>	<i>Total Population</i>
West Bengal	70,750	57,741	141,074	269,565
Odisha	121,282	152,534	176,575	450,391
Andhra Pradesh	138,614	152,892	218,485	509,991
Tamil Nadu	206,908	104,509	478,991	790,408
Puducherry	10,341	10,095	22,592	43,028
Kerala	140,222	71,074	390,938	602,234
Karnataka	37,632	45,699	87,583	170,914
Goa	2,515	3,382	4,771	10,668
Maharashtra	72,074	81,780	165,543	319,397
Gujarat	83,322	75,082	164,811	323,215
Daman & Diu	5,868	1,603	21,834	29,305
A & N Islands	4,247	6,580	4,439	15,266
Lakshadweep	8,040	3,561	28,721	40,322
<b>India</b>	<b>901,815</b>	<b>766,532</b>	<b>1,906,357</b>	<b>3,574,704</b>



## FISHING FLEET

The marine fishing fleet comprises 2,43,939 fishing crafts of which 107,448 (44.05%) are traditional and 76,748 (31.46%) motorized traditional crafts. There are 59,743 mechanized vessels – 24.49 per cent of the total. Major fishing activities are still concentrated in the areas within 100 meter depth zone. Most of the traditional crafts (including motorized) are on the East Coast (about 67 % of the total), while 64 per cent of mechanized craft are on the West Coast.

## CAPITAL FORMATION

The gross fixed capital formation in fisheries has increased over the past three plan periods (CSO, 2000 & 2005), with the interesting aspect being a considerable contribution from the private sector. There is a need for greater investment by the public sector.

Five Year Plan	Average annual Gross Fixed Capital Formation (GFCF) (Rs. Cr.)	Average Annual Output		GFCF/Output Ratio
		Qty. ('000t)	Value (Crores)	
VIII	1,561.80	4,819.06	12,566.40	12.43
IX	3,210.60	5,594.60	24,558.00	13.07
X	4,896.00	6,299.50	31,682.50	15.45

Institutional finance in the marine sector has been inadequate. Credit sources in the inland fishing are informal, comprising middlemen, merchants and traditional money lenders. This is a major concern in achieving projected growth rates. The major financing institutions for fisheries sector are NABARD and NCDC. The Ground Level Credit (GLC) disbursements by NABARD during last three years varied between ₹ 539 crores in 2002-03 to ₹ 1,301 crores in 2004-05 and the provisional estimates for the current year is ₹ 1,720 crores.

Enhancing credit flow is critical and delivery mechanisms need to be developed. For example, most fishermen and aqua-farmers cannot provide security in terms of land/water holdings and banks generally do not have the requisite manpower to evaluate the proposals. The projected GLC for the 11<sup>th</sup> plan is to the tune of ₹ 13,336 crores as compared to a provisional estimate of ₹ 6,198 crores during the 10<sup>th</sup> plan.

## National Policy on Fishing & Fishermen

### BUDGET ALLOCATIONS

As a fast growing sector, fisheries have received incremental outlay over successive plans, from ₹ 5.13 crore in the first plan to ₹ 2069.70 crores in the 10th plan. The outlay, expenditure and utilisation is described below:

<i>Budget outlay and Utilization of fisheries sector over various Five Year Plans</i>								
Plan	Central Sector		Centrally Sponsored		State		Total	
	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure	Outlay	Expenditure
I	1	0.38	-	-	4.13	2.4	5.13	2.78
II	3.73	1.8	-	-	8.53	7.26	12.26	9.06
III	6.72	3.03	-	-	21.55	20.29	28.27	23.32
IV	28	8.11	6	5.17	48.68	40.83	82.68	54.11
V	51.05	39.93	17	4.07	83.19	71.11	151.24	115.11
VI	137.1	75.54	36.62	28.8	197.42	182.61	371.14	286.95
VII	156.58	116.93	60.75	53.26	329.19	307.4	546.52	477.59
VIII	139	161.01	300	268.02	766.39	689.43	1205.39	1118.46
IX	240	124.37	560	273.18	1269.78	1016.26	2069.78	1413.81
X	175	183.15	565	485.15	1320.54	-	2060.54	-

<i>Budget utilization of fisheries sector over various Five Year Plans</i>				
Plan	% Utilization			
	Central Sector	Centrally Sponsored	State	Total
I	38	-	58.11	54.19
II	48.26	-	85.11	73.9
III	45.09	-	94.15	82.49
IV	28.96	86.17	83.87	65.45
V	78.22	23.94	85.48	76.11
VI	55.1	78.65	92.5	77.32
VII	74.68	87.67	93.38	87.39
VIII	115.83	89.34	89.96	92.79
IX	51.82	48.78	80.03	68.31
X	104.66	85.87	-	-

### ECOLOGICAL ISSUES

**Tsunami:** Almost all the countries situated around the Bay of Bengal were affected by the tsunami of 26 December 2004, triggered by an earthquake

## National Policy on Fishing & Fishermen

measuring 8.9 on the Richter scale, with its epicenter near the West Coast of Sumatra, Indonesia.

The tsunami severely affected Tamil Nadu, Puducherry, Andhra Pradesh, Kerala and the Andaman & Nicobar Islands.

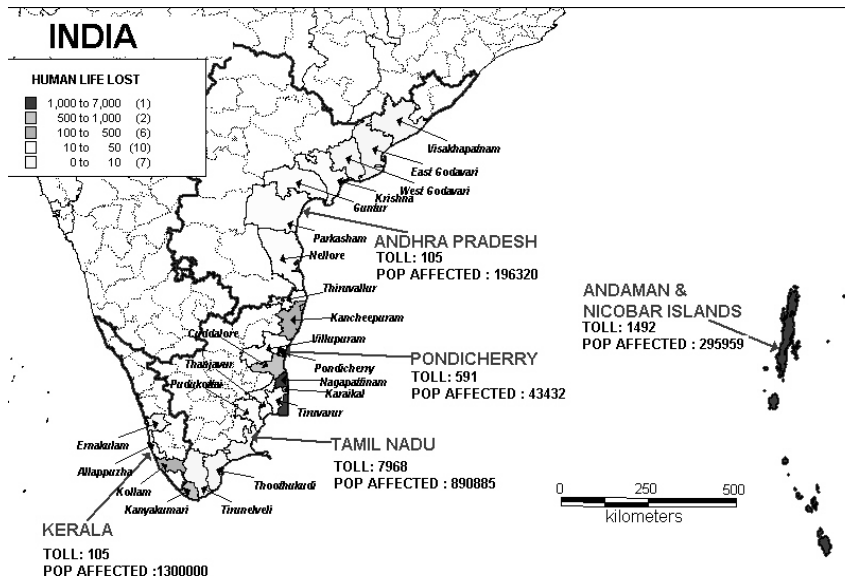
The fallout was extensive. Around 5,000 mechanized boats suffered damage to the tune of ₹ 663.1 crore (\$152.4 million). Another 7,933 FRP boats/vallams valued at ₹ 50.10 crore (\$11.5 million); 24,580 boats of other categories, mainly motorised, valued at ₹ 121 crore (\$27.8 million); 35,483 wooden catamarans valued at ₹ 90 (\$20.7 million) were also damaged. In addition, 2,342 outboard motors worth ₹ 10.1 crore (\$2.3 million) were damaged or lost. Nets valued at ₹ 44.4 crore (\$10.2 million) were damaged or lost. Boats worth ₹ 19.9 crore (\$4.6 million) were lost in Kerala. Some 388 hectares of shrimp ponds were decimated (estimated at ₹ 8.4 crore or \$1.9 million) and five hatcheries (₹ 0.25 crore or \$57,500) and 102 small-scale oyster farms in Kerala valued at ₹ 0.102 crore (\$23,500) were destroyed.

<b>Tsunami Damages &amp; Losses</b>				
	<i>Damage and losses (in \$ Million)</i>			<i>Effects on livelihood</i>
	<i>Damage</i>	<i>Losses</i>	<i>Total</i>	
Andhra Pradesh	29.7	15	44.7	21.2
Kerala	61.7	39.1	100.8	36.3
Tamilnadu	437.8	377.2	815	358.3
Puducherry	45.3	6.5	51.8	5.9
<b>Total</b>	<b>574.5</b>	<b>448.3</b>	<b>1022.8</b>	<b>42.7</b>
<b>By sectors</b>				
Housing	193.1	35.4	228.5	
Health and education	10.7	12.9	23.6	
Agriculture and livestock	15.1	22.4	37.5	26
Fisheries	229.6	338.2	567.8	338.2
Livelihood (micro enterprises and others)	20	37.5	57.5	57.5
Rural and municipal infrastructure	28	1.6	29.6	
Transportation	35.2	0.3	35.5	
Coastal Protection	42.8	0	42.8	

## National Policy on Fishing & Fishermen

<b>Tsunami damage in India</b>					
<i>Factor</i>	<i>Andhra Pradesh</i>	<i>Kerala</i>	<i>Tamil Nadu</i>	<i>Pondicherry</i>	<i>Total</i>
Population affected	211,000	2,470,000	691,000	43,000	3,415,000
Area affected (Ha)	790	Unknown	2,487	790	4,067
Length of coast affected (km)	985	250	1,000	25	2,260
Extent of penetration (km)	0.5 - 2.0	1 - 2	1 - 1.5	0.30 - 3.0	3 - 7.5 (approx)
Reported height of tsunami(m)	5	3 to 5	7 to 10	10	25 - 30
Villages affected	301	187	362	26	876
Dwelling units	1,557	11,832	91,037	6,403	110,829
Cattle lost	195	Unknown	5,476	3,445	9,116

*Source: DiMaRF (Disaster Management and Research Foundation), India-2005*



### COASTAL REGULATION ZONE (CRZ) NOTIFICATION 2010

Published in the gazette on September 15, 2010 by the Ministry of Environment and Forest, Government of India, the CRZ notification legalized all amendments diluting coastal regulation norms from 1991 up to 2007. It bypassed the Standing Committee of Parliament.

The original CRZ notification of 1991 was meant to safeguard coastal areas from further environmental degradation, but was subsequently amended

## National Policy on Fishing & Fishermen

23 times to allow latitude to industry, including tourism and entertainment, nuclear and thermal power plants, ports, sand mining and fishing.

The following were prohibited under the original regulation:

1. Setting up of new industries and expansion of existing industries.
2. Manufacture of handling, storage, disposal of hazardous substances.
3. Any construction activity between the HTL and LTL.
4. Setting up and expansion of fish processing units.
5. Setting up and expansion of units, mechanism for disposal of waste and effluents.
6. Discharge of untreated wastes and effluents from industries, cities or town and other human settlements.
7. Dumping of city or town waste for the purpose of land filling and ash or any waste from thermal power stations.
8. Land reclamation, bunding or disturbing the natural course of sea water.
9. Mining of sand and rocks.
10. Harvesting or withdrawal of ground water within 200m of HTL.
11. Construction activities in ecologically sensitive areas.
12. Dressing or altering of sand dunes, hills, natural features including landscape changes and other sub-strata materials.

***The amended CRZ regulations allow:***

1. Setting up industries relating to water front or foreshore facilities, service industries in the CRZ of specific economic zones, atomic energy projects (April 2001 & October 2002 amendments).
2. Facilities for storing of petroleum products and liquid natural gas and fertilizers (July 1997).
3. Setting up and expansion of fishing processing units (July 1997).
4. Discharge of untreated waste and effluents (amendment 2003).
5. Removal of fly ash from thermal power plants, a prohibited activity in the original CRZ Notification of 1991.

## National Policy on Fishing & Fishermen

6. Reclamation of commercial activities is now legitimised in the Draft CRZ Notification 2010 [Section 3(xii)], an amendment to CRZ Notification 1991 (April 2001).
7. As per [Section 3(xii) (a) & (b)], mining of (a) those rare minerals not available outside the CRZ area, (b) exploration and exploitation of oil and natural gas (amendment 1997).
8. [Section 3(xv)] Construction activity in CRZ – I was prohibited but is now a regulated activity.
9. Inclusion of ports and harbours under exempted clause [Section 3 (xi)(a)] (The new port policy as reflected in the final frontier document has been exempted under the prohibition clause of the draft CRZ Notification of 2010).

**Impact:** The EIA notification of 2006 together with establishing of Special Economic Zones and nuclear plants all along the coast by granting exemption under the CRZ rules, renders ocean resources and the people dependent on them, vulnerable.

Depletion of fisheries due to deep sea industrial fishing, endemic pollution, destructive fishing in shallow waters by mechanized boats (already depleted due to the tsunami), displacement of fishing families as part of resettlement and rehabilitation and stagnation/reduction in subsidies and loans have all contributed to a serious decline in the standard of living of the fishing community.

**Coastal Regulation Zone (CRZ), 2011:** This lays out the guidelines for the preparation of Coastal Zone Management Plans, lists petroleum and chemical products permitted for storage in and regulations for development of beach resorts or hotels in the designated areas of CRZ-III and CRZ-II with prior approval of the Ministry of Environment and Forests.

*It has several new features, namely:*

1. Special provisions for Goa, Kerala, Greater Mumbai and critically vulnerable coastal areas (CVCAs) like Sunderbans mangrove area, Chilka and Bhitarkanika (Odisha), Gulf of Khambat and Gulf of Kutch (Gujarat), Malwan (Maharashtra), Karwar and Kundapur (Karnataka), Vembanad (Kerala), Coringa, East Godavari and Krishna Delta (Andhra Pradesh) and the Gulf of Mannar (Tamil Nadu).

## National Policy on Fishing & Fishermen

2. Clear procedures for obtaining CRZ approval with time-lines have been stipulated along with post-clearance monitoring and enforcement mechanisms.
3. Oceanic zone up to 12 nautical miles as well as tidal water bodies such as creeks, rivers, estuaries etc., would now be included in the CRZ areas, without imposing any restrictions of fishing activities.
4. The concept of a Coastal Zone Management Plan (CZMP), to be prepared with the fullest involvement and participation of local communities, has been introduced.
5. The concept of a hazard line to be demarcated over the next five years has been introduced to protect the life and property of local communities and infrastructure along coastal areas.

Prohibited activities within the CRZ as per the present notification include:

- (1) Setting up new industries and expansion of existing industries except those directly related to the waterfront or directly needing foreshore facilities; atomic energy projects; non-conventional energy sources; development of green field airport already permitted at Navi Mumbai; reconstruction, repair works of dwelling units of local communities including fishers in accordance with local town and country planning regulations; desalination plants in the areas not classified as CRZ-I. These are to be based on an impact assessment study including social impacts.
- (2) Setting up and expansion of fish processing units including warehousing, except hatchery and natural fish drying in permitted areas.
- (3) Land reclamation, bunding or disturbing the natural course of seawater.
- (4) Setting up and expansion of units or mechanism for disposal of wastes and effluents.
- (5) Discharge of untreated waste and effluents from industries, cities or towns and other human settlements.
- (6) Dumping of city or town wastes including construction debris, industrial solid wastes, fly ash for the purpose of land filling.

***Island Protection Zone Notification 2011:*** The Island Coastal Regulation Zone (ICRZ) and Integrated Islands Management Plans (IIMPs) are geared towards the environmental management of the Andaman & Nicobar and Lakshadweep islands.

The coastal areas of Andaman & Nicobar islands are classified as follows:

***ICRZ-I:*** The areas that are ecologically sensitive and the geomorphologic features which play a role in maintaining integrity of the coast and the area between Low Tide Line and High Tide Line.

***ICRZ-II:*** The areas that have been developed up to or close to the shoreline.

***ICRZ-III:*** Areas that are relatively undisturbed and those that do not belong to ICRZ-I, which include coastal zone in the rural areas (developed and undeveloped) and also areas within municipal limits or in other legally designated urban area.

***ICRZ-IV:*** The oceanic area from the Low Tide Line to 12 nautical miles on the seaward side; including tidal water bodies.

The Coastal Regulation Zone Notification of 2011 must be assessed in the light of whether it fails to meet the demands of the fishing community and offers substantive protection to the coastal ecosystem.

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#### **ENCROACHMENT ON TERRITORIAL WATERS**

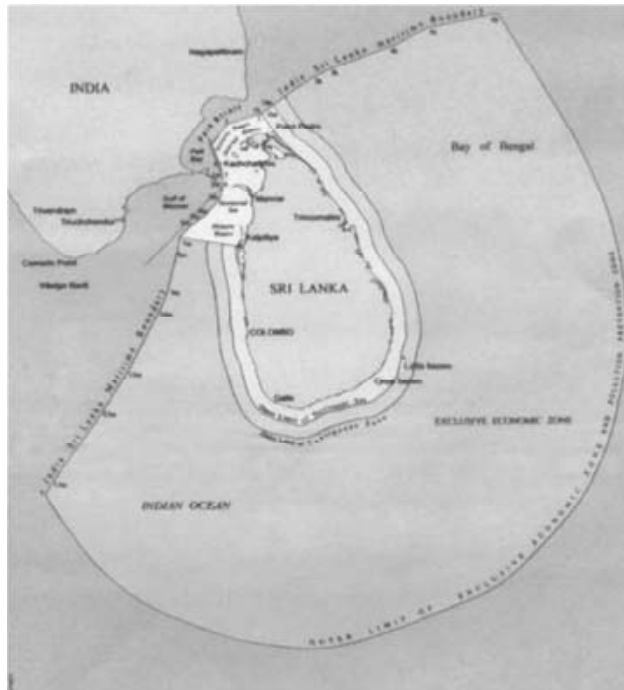
***1. Sri Lanka:*** In the last two decades, an estimated 500 fishermen have been killed by the security agencies of Sri Lanka. After the transfer of the Katchatheve islands to Sri Lanka in 1976, fishermen had restricted access to the island, regardless of the terms of the agreement.

Fishermen have braved arrests to fish in these waters.

It is not uncommon for fishing craft to inadvertently stray into the territorial waters of another nation and tragically, it often costs them their lives. The establishment of a Joint Working Group (JWG) and constant interface between security agencies of the concerned nations could go a long way in preventing such mishaps.



National Policy on Fishing & Fishermen



*Sri Lanka - India maritime boundary and zones*

**2. Pakistan:** Fishermen from Gujarat and Maharashtra crossing the territorial waters of Pakistan run the risk of winding up in jail for many years, besides having their boats confiscated. Around 260 fishermen are believed to be lodged in prisons in Pakistan at the moment.



## National Policy on Fishing & Fishermen

<b><i>Number of Detained Fishermen in Two Countries</i></b>		
	<i>Indian claimed Pakistani Detained fishermen</i>	<i>Pakistani claimed Indian Detained Fishermen</i>
Apr-08	18	410
Jul-08	378	412
Jan-09	failed to submit	343
Jul-09	failed to submit	535
Jan-10	failed to submit	510

<b><i>Recently release and the Occasions</i></b>		
<i>Date of Released</i>	<i>Particular</i>	<i>Occasion</i>
14-Aug-07	48 Pakistani fishermen and 100 Indian fishermen released	Preceded by home secretary level meeting independence day
25-Nov-08	29 Pakistani and 101 Indian Fishermen released	Preceded by home secretary level meeting
25-Dec-08	99 Indian fishermen released	Good will gesture by PM
2-Jan-10	31 Pakistani Fishermen released	Response to Pak gesture
12 June, 2012	311 Indian Fishermen Released	To maintain friendlier ties with India

### **TRADE AGREEMENTS**

***South Asian Free Trade Area (SAFTA):*** India and Sri Lanka signed an agreement on December 28, 1999 to progressively work towards free trade. It allows duty free export of fisheries items from Sri Lanka to India. As a signatory of SAFTA (South Asian Free Trade Area) agreement and SAPTA (South Asian Preferential Trade Area), India has undertaken preferential trade agreements with South Asian nations.

***Bangkok Agreement:*** An initiative under the Economic and Social Commission for Asia and the Pacific (ESCAP), for trade expansion through exchange of tariff concessions, this 1975 agreement has seven signatories including India.

***India-EU Trade Agreement:*** Negotiations began in 2007 for a bilateral trade and investment agreement to expand opportunities for Indian and EU businesses, with fisheries also figuring in the discussions.

***Tariff and Non-tariff Barriers:*** Strong import barriers are currently in place but figures for fish import are climbing steadily. A Special Import Permit (SIP) is needed.

## National Policy on Fishing & Fishermen

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### LEGISLATION

The Traditional Coastal and Marine Fisherfolk (Protection of Rights) Bill 2009, was drafted by the Ministry of Environment and Forests.

- It recognizes the rights of the traditional fishing community and emphasizes the need to regulate this activity to ensure the sustainable exploitation of natural resources, which will conserve biodiversity and ecological balance.
- It covers not only the coastal areas but also estuaries, creeks, bays, etc.
- The panchayat is to determine the nature and extent of the rights of the fishing community as a whole and also of individual fishermen. The State government shall constitute a committee to examine the resolutions of the panchayat, and the state's fisheries department will be the appellate authority in case of any dispute or grievance.

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### THE BILL HAS SIGNIFICANT LACUNA, NAMELY

- It lacks clarity with regard to important concepts such as 'coastal waters', 'mechanized fishing', 'nodal agency', 'traditional' etc. These definitions need to be updated.
- It recognises the right of fishermen to ply their craft only 5 km into the ocean
- The Ministry of Environment and Forests instead of Union Agriculture Ministry proposed the draft, ie, the focus is not on the fisherfolk.
- Monitoring has been entrusted to the local bodies.

# 4

## CONCLUSION & RECOMMENDATIONS

- A Union ministry for Fisheries should be created
- The National Marine Fisheries Policy (NMFP) which focuses on the “socio-economic security” of “artisanal fishermen”, entirely dependent on fishing for their livelihood, should cover all coastal fishing communities.
- Fishermen’s associations should be involved in managing infrastructure facilities like fish landing centres and minor fishing harbours. These should be used for improving fleet management and quality control. Dredging costs should be met by the state.
- The associations should be incorporated into the coastal security body, comprising government agencies like the Navy, Coast Guard, Marine Police, the Local Police, State Administrative Authorities, Port Trust Authorities and the State Fisheries Departments. Fishermen are the first line of defence out at sea.
- The Draft National Water Policy, 2012 should factor in development of the fisheries sector in the planning and management of water resources. The River Basin Development Authority (RBDA) envisaged in the policy should be a multidisciplinary body, including experts on irrigation, agriculture, drinking water, power, industry, fisheries, meteorology, sociology and environment.

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### WELFARE MEASURES – WOMEN

- Fisherwomen should be provided hygienic conditions at processing and marketing locations.

## National Policy on Fishing & Fishermen

- Self Help Groups (SHG) should be created for fisherwomen.
- Budget allocations at national and state level should be enhanced for fisherwomen SHGs.
- Fisherwomen development packages should be drawn up.
- Fisherwomen are prone to highly contagious diseases while handling fish, hence provisions should be developed for hygienic facilities, medicine and nutrition.
- Fisherwomen marketing co-operatives should be established and auction houses exclusively allotted to them.
- Medical insurance schemes be properly designed with appropriate budgetary support.

There should be training and support to women to improve quality of fish sold. Coastal pollution from chemical waste is a matter of concern. It was suggested that movements similar to organic agriculture should be developed in fisheries, especially to sell 'safe fish', based on self-regulation and independent standards acceptable to consumers worldwide.

### **WELFARE MEASURES – GENERAL**

- Budget allocation for the sector should be given on the basis of its importance.
- Group accident insurance scheme for active fisherman is necessary. For accidental death, insurance cover should be ₹ one lakh to ₹ 5 lakhs.
- 50 per cent subsidy on electricity should be given for fish cold storages on electricity.
- Fishing villages should have infrastructure for capture, processing, packaging, marketing and fish waste management.
- While fishermen should have the inalienable right to fish in water bodies, the monitoring should be undertaken by the states' fisheries departments.
- Small and medium fish waste management units should be established at marine fish landing centers and also at Mandal / Block levels for the inland sector.
- An aqua-product processing board should be established.

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### **HABITAT**

Fishermen Awas Yojana should be implemented at the national level with enhanced budget allocations and the following should be provided:

- Drinking water facilities
- Approach roads with street lights
- Medical centres
- Ice factories
- Educational institutions
- Boat landing centres with parking and fuel outlets
- Community centres

Model fishing villages should be adopted for development of ports, roads, electricity, educational institutions, markets and other infrastructure for capture, processing, packaging, marketing and fish waste management.

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### **HEALTH AND HYGIENE IN FISHING HARBOURS AND MARKETS**

- Regulations to improve hygiene standards should first be implemented in harbours and landing centres. Coastal panchayats should be involved in keeping beaches clean of debris and filth. Use of ammonia to preserve fish should be curbed in order to make it eco-friendly. There should be provision for toilets in market places, raised platforms for keeping fish and adequate clean water.
- Identity Cards, either in the form of Bio Metric Cards or Smart Cards should be issued free of cost to all fishermen through the respective State Fisheries Depts, as a part of Fisheries Security System.

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### **DATA MANAGEMENT**

A mechanism for systematic collection, verification and updating of reliable statistics on the fisheries sector should be undertaken by the state departments, with help from the water resources, agriculture and hydrometrological departments.

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### **DEVELOPMENT OF FISHERIES IN PONDS AND TANKS**

Water body from 0.1 to 20 ha should be classified as ponds and from 21 to 200 ha, as tanks. Desiltation of existing ponds and tanks needs to be done to create the storage capacity. The upper layer of six inches of silt should be kept aside and after deepening of tank that silt should be spread on the bed of the deepened area for maintaining the aquatic flora for fish habitat as well as the water quality.

To protect the fishery activity in tanks and ponds, minimum water storage should be maintained:

1 to 10 ha of tank/pond – 20% area of FTL

10 to 40 ha of tank/pond – 10 to 20 % area of FTL

40 to 200 ha of tank/pond - 10 % area of FTL

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### **EXPORTS**

A study conducted by National Centre for Agricultural Economics and Policy (NCAP), New Delhi indicated that although fisheries export has performed well and is competitive in the global market, the relative advantage has declined in recent years. However, expansion in world trade is the major determinant of fisheries export from India. Food safety measures (HACCP and SPS standards) will play a major role in future exports. However, the cost of implementing these measures works against smaller plants. Government support may be needed to make smaller plants viable and export-competitive. Appropriate institutional mechanisms must be evolved to create a network of small producers, so as to leverage economies of scale.

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### **EMPLOYMENT**

- Traditional fishermen who are physically fit as per norms may be inducted into the Coast Guards.
- Educated traditional fishermen should be given job reservations in the pollution control board and fisheries departments.

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## FUEL

- All fishermen, not just those covered by BPL, should be allowed subsidized diesel.
- Subsidy of diesel should be given to motorised boats at the filling points.

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## SUBSIDIES

The Doha Round of WTO (2007) proposed significant changes in rules relating to subsidies for the fisheries sector, including a broad ban on many of the most harmful subsidies, alongside “special and differential treatment” (“S&DT”) for developing countries and mechanisms for ensuring that non-prohibited subsidies are subject to “sustainability criteria”.

- (1) Relaxing WTO rules for “small-scale” fisheries—especially when these are defined purely by vessel size—has no basis in sound policy, and runs a very great risk of introducing a crippling loophole into WTO fisheries subsidies rules;
- (2) Artisanal fisheries (as defined for purposes of the WTO talks in terms of subsistence or near-subsistence activity) should be kept distinct from “small-scale”, and should be given special treatment as part of S&DT; and
- (3) Governments should remain free to assist their small-scale fishing communities in ways that are properly tailored to their socio-economic goals. Where the objective is to grow small-scale fishing (or at least make it relatively stronger in relation to industrial fishing), governments should consider using the allocation of sustainable fishing rights rather than subsidies for capital or operating costs. If the goal is simply to protect uncompetitive traditional communities from social dislocations, governments should turn to social safety nets and transitional arrangements rather than subsidies linked to production.

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## PROTECTION OF TRADITIONAL FISHING COMMUNITIES

- The right of traditional fishermen to fish in natural water bodies should be recognized and recorded in the state revenue records and they should be considered as stakeholders in natural water bodies.



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- They should be given land-leasing rights of revenue lands on artificial ponds for fish culture along rivers and on the coast.
- They should have membership of water user societies which manage natural water bodies for fish culture at the village level.

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### **EXPECTATIONS FROM THE STATES**

- Institute a clear Fresh Water Fishing Policy.
- Encourage regeneration of plankton and aquatic vegetation.
- Facilitate research for sustainable fishery and controlling fish diseases.
- Ensure that cooperatives would be made more functional and strong market links and effective organizational structure would be established.
- Categorically state that fish and agricultural produce like Makhana and Singhada is a right of fishermen.
- Draft a stringent law for pollution control with strong penal provisions.
- Ensure seed production units would be established near every perennial fresh water source.
- Come out with strong protection measures for conservation of local species of fish.
- Document the traditional knowledge and wisdom of the fishermen community and make sure that knowledge would be utilized for the development of Fishery and the Community.
- Promote and encourage fish processing units at fishing areas.
- To enhance value added activities among fishing communities, options of objective training processes should be initiated.

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### **CONSERVATION AND MANAGEMENT OF FISH BIODIVERSITY FOR SUSTAINABLE USE**

- The State or RBDA should notify closed season or fishing holidays in open waters like rivers / reservoirs / wetlands from June 15 to August 15 every year (with local variations in breeding season) during breeding season of commercially important species to augment auto-stocking and prevent wanton killing of fish juveniles as well as fish breeder stock. The hydrological structure should consider the issue of fish migration and be designed accordingly.

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- Encroachment or reclamation of any fresh water source, whether for arable land or human habitation or any other purposes, which lead to a colossal loss of aquatic resources and associated utility functions, should be banned and for the past occurrences, a heavy penalty should be imposed.
- Research for conservation and propagation of endangered, indigenous and economically important species should be promoted.
- The state fishery officers should be equipped with magisterial powers to search premises and impose penalty for ecologically destructive activity affecting fishery production.
- The RBDA will monitor the quality of water in the basin area and will take action to control pollution.
- A seed certifying authority should be established by states, comprising officers from the Department of Fisheries, research institutes and social workers.

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### **BIOMETRIC ID CARD**

Cards should be issued to all inland fishermen by the state fishery department and the expenditure should be borne by the Central government.

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### **DEVELOPMENT OF FISHERIES IN RIVERS AND CANALS**

- Unregulated fishing in rivers and canals damages natural breeding and affects the availability of fish seed and fish. Rights of fishermen should be recorded and stretches of river (up to 5 kms) should be leased out to them. The RBDA should do the stocking of the river.
- If any irrigation or hydropower project is planned along the river, the fishermen, whose rights and livelihood are affected, should be treated as project-affected persons. The Supreme Court has issued such an order in the case of the Pench Water Reserve; this is also in accordance with the provisions of the National Biodiversity Act, 2002.
- There should be the hydrobiological stations at every 200 km of the river length to study and to conserve the river biodiversity. The station will also monitor the levels of pollution due to sewage and effluents

and will function under the RBDA. The latter will take necessary action through the line departments.

- The state should prepare an inventory of pools along the rivers and ensure their protection and maintenance. These may be declared as protected areas and the active participation of fisheries, cooperatives, local panchayats and NGOs to conserve fish and other important biodiversity in such pools should be encouraged.
- To protect wetlands/floodplain lakes, especially during flooding, to allow migration of fish breeders to the wetlands which are a natural nursery for riverine fish. Minimum inflow of 5 cusecs annually should be maintained.

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#### **DEVELOPMENT OF FISHERIES IN RESERVOIRS**

- Reservoirs should be classified as small (201 to 1000 ha), medium (1001 to 5000 ha) and large (5001 ha and above). A mandatory pre-impoundment survey by the state fishery department, irrespective of ownership of reservoirs, should be undertaken every five years. Hydraulic structures should include devices to facilitate migration of fish species and hydrobiological surveys should be carried out every year.
- Before impoundment of the reservoir, the trees and plants in the area (from LSL to FTL) should be cleared.
- The River Basin Development Authority shall also declare the lotic sector of a reservoir including the tail end as a protected area during the breeding season and ban any activity which has the potential to hamper breeding.
- Construction of outlets for fish seed farms is required for reservoir fishery and should be integral to the Detailed Project Report of the reservoir. Construction of the farm should be simultaneous with that of the reservoir.
- Fish landing stations should be created according to the size of the reservoir. Fish is a highly perishable commodity and therefore all season approach roads are necessary for transportation. The roads should be part of the land required for the project.

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- The right of fishing in reservoirs should be given to the cooperative society of project-affected persons
- Ponds and tanks should be made fully usable for fisheries
- Adequate stocking of fish seed should be ensured through state fisheries departments and PPP.

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### **DEVELOPMENT OF FISHERIES IN FLOODPLAIN LAKES AND WETLANDS**

As stated above, wetlands/floodplain lakes should be protected and no obstruction to their lateral connectivity with rivers allowed. These water bodies support a rich biodiversity, but are biologically sensitive and fragile in nature. They are also the repositories of a variety of freshwater food and ornamental fishes. Greater colonization of macrophytes and habitat degradation are also major problems. The State should ensure proper coordination between Fishery, Water Resources and Agriculture departments for an integrated development of floodplains and wetlands.

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### **DEVELOPMENT OF FISHERIES IN BRACKISH-WATERS**

- Brackish water suffers due to industrial pollution and use of chemicals in aquaculture. Pollution control norms should be strictly followed in order to increase fish productivity of the coastal region. Prawn and shrimp culture are economically lucrative and have potential to enhance incomes of coastal fisherman.
- To this end, the Central and State Pollution Control Boards need to take strict action on industrial effluents discharged into the sea. Regulations should be included in the Hazard Analysis and Critical Control Points (HACCP) certification to make treatment of effluents mandatory.
- Planting mangroves to create nurseries for shrimp and fish should be introduced as a participatory programme with the active involvement of coastal people, particularly the fishing community.
- Marketing support should be provided to the fishermen
- A three tiered co-operative system for fish harvesting should be mandatory

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### **CRAFT AND GEAR**

The state should prescribe use of gear and crafts to regulate fishing activity in inland waters and protect fingerlings, juveniles or larvae of fish.

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### **SKILL DEVELOPMENT**

- All educational institutions and state/central research bodies should communicate their studies to the fishermen through cooperative societies. Information related to water resources, storage status, wind speed (in case of reservoirs), fish seed availability and production should be disseminated through the cooperative society.
- Traditional knowledge of fisherman related to fish seed production and rearing should be recognised, preserved, utilised and built upon.

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<b>ANNEXURE - I</b>						
<b><i>Inland Fishery Resources of India</i></b>						
<i>Sl. No.</i>	<i>States/Uts</i>	<i>Rivers &amp; Canals (KM)</i>	<i>Reservoirs (million ha)</i>	<i>Ponds &amp; Tanks (million ha)</i>	<i>Beels, Oxbow lakes &amp; Derelict water bodies</i>	<i>Brackish water (million ha)</i>
1	Andhra Pradesh	11514	0.23	0.52		0.06
2	Assam	4820	0.002	0.023	0.11	
3	Bihar	3200	0.06	0.1	0.01	
4	Goa	250	0.003	0.003		neg
5	Gujarat	3865	0.24	0.07	0.01	0.1
6	Haryana	5000	Neg	0.01	0.01	
7	Himachal Pradesh	3000	0.04	0.001		
8	Jammu & Kashmir	27781	0.01	0.02	0.01	
9	Karnataka	9000	0.44	0.29		0.01
10	Kerala	3092	0.03	0.03	0.24	0.24
11	Madhya Pradesh	17088	0.23	0.06		
12	Maharashtra	16000	0.28	0.06		0.01
13	Manipur	3360	0.001	0.01	0.004	
14	Meghalaya	5600	0.01	0.002	Neg	
15	Nagaland	1600	0.02	0.05	Neg	
16	Odisha	4500	0.26	0.11	0.18	0.43
17	Punjab	15270	Neg	0.01		
18	Rajasthan	5290	0.12	0.18		
19	Sikkim	900			0.003	
20	Tamil Nadu	7420	0.57	0.06	0.01	0.06
21	Tripura	1200	0.005	0.013		
22	Uttar Pradesh	28500	0.14	0.16	0.13	
23	West Bengal	2526	0.02	0.28	0.04	0.21
24	Arunachal Pradesh	2000		0.28	0.04	
25	Mizoram	1395		0.002		
26	A & N Islands	115	0.001	0.003		0.12
27	Chandigarh	2		Neg	Neg	
28	Delhi	150	0.004			
29	Lakshadweep					
30	Puducherry	247		Neg	0.001	neg
31	Dadra & Nagar Haveli	54	0.01			
32	Daman & Diu	12		Neg		n
33	Chhattisgarh	3573	0.08	0.06		
34	Uttaranchal	2686	0.02	0.001		
35	Jharkhand	4200	0.09	0.03		
<b>Total</b>		<b>195210</b>	<b>2.916</b>	<b>2407</b>	<b>0.797</b>	<b>1.24</b>

Source: Hand Book on Fisheries Statistics, 2005; Report of Working Group on Fisheries for X Five Year Plan, MoA, 2001

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**ANNEXURE – II**

*State-wise detail of fishing vessels in India*

<i>Sl. No.</i>	<i>State/Uts</i>	<i>Mechanized Vessels</i>	<i>Motorized Vessels</i>	<i>Non-motorized Vessels</i>	<i>Total</i>
1	West Bengal	6829	1776	10041	18646
2	Odisha	3577	4719	15444	23740
3	Andhra Pradesh	2541	14112	24386	41039
4	Tamil Nadu	7711	22478	24231	54420
5	Puducherry	627	2306	1524	4457
6	Kerala	5504	14151	9522	29177
7	Karnataka	4373	3705	7577	15655
8	Goa	1087	932	532	2551
9	Maharashtra	13053	3382	7073	23508
10	Gujarat	13047	7376	3729	24152
11	Daman & Diu	562	654	211	1427
12	A & N Islands	165	781	1837	2783
13	Lakshadweep	667	376	1341	2384
14	India	59743	76748	107448	243939

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**ANNEXURE – III**

*Fish Production in India (1950-51 to 2010-2011)*

<i>Year</i>	<i>Fish Production ('000 tonnes)</i>		
	<i>Marine</i>	<i>Inland</i>	<i>Total</i>
1950-51	534	218	752
1955-56	596	243	839
1960-61	880	280	1,160
1965-66	824	507	1,331
1970-71	1,086	670	1,756
1973-74	1,210	748	1,958
1978-79	1,490	816	2,306
1979-80	1,492	848	2,340
1980-81	1,555	887	2,442
1981-82	1,445	999	2,444
1982-83	1,427	940	2,367
1983-84	1,519	987	2,506
1984-85	1,698	1,103	2,801
1985-86	1,716	1,160	2,876
1986-87	1,713	1,229	2,942
1987-88	1,658	1,301	2,959
1988-89	1,817	1,335	3,152
1989-90	2,275	1,402	3,677
1990-91	2,300	1,536	3,836
1991-92	2,447	1,710	4,157
1992-93	2,576	1,789	4,365
1993-94	2,649	1,995	4,644
1994-95	2,692	2,097	4,789
1995-96	2,707	2,242	4,949
1996-97	2,967	2,381	5,348
1997-98	2,950	2,438	5,388
1998-99	2,696	2,602	5,298
1999-00	2,852	2,823	5,675
2000-01	2,811	2,845	5,656
2001-02	2,830	3,126	5,956
2002-03	2,990	3,210	6,200
2003-04	2,941	3,458	6,399
2004-05	2,779	3,526	6,305
2005-06	2,816	3,756	6,572
2006-07	3,024	3,845	6,869
2007-08	2,920	4,207	7,127
2008-09	2,978	4,639	7,617
2009-10	2,689	4,862	7,551
2010-11	3,220	5,068	8,288

*Sources:*

1. Department of Animal Husbandry, Dairying and Fisheries (2009), Hand Book of Fisheries Statistics, 2008, Ministry of Agriculture, Government of India.
2. Department of Animal Husbandry, Dairying and Fisheries (2011), Annual Report, 2010-11. Ministry of Agriculture, Government of India.