Marine Fishery Industry and Marine Fish Workers in India: A Study with Special Reference to Exploring Employment Potentials in the Sector

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Foreword

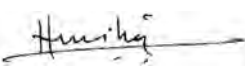
Fishery sector contributes significantly to national economy and provides livelihood to a large segment of people. It has been recognized as a powerful income and employment generator. Fishery sector also stimulates growth of a number of subsidiary industries.

Despite this, the survival of the fish workers is becoming precarious since the process of globalization have adversely affected the fishery industry. It has resulted in increasing unemployment, under employment, exploitation and oppression of workers in general, and fish workers, in particular. This is because of competition and introduction of newer technology which is often less employment generating. The major issues, pertaining to fisheries development in India, are development of sustainable technologies for fin and shell fish culture, promoting aquaculture, yield optimization, infrastructure for harvest and post harvest operations and landing facilities, etc.

The present study was undertaken to assess the living and working conditions of the fish harvesters. The research also aimed at looking at the possibilities of employment potential in the area.

On the basis of the findings of the study, it is suggested that for fisheries development, it is necessary to optimize production and productivity, augment export of marine fish products, generate employment and improve the welfare of fish harvesters and other fishery allied workers. This will eventually improve the overall quality of life of the fish workers.

The study will be useful for researchers, students, policy makers and other agents of change.



P.P. Mitra
Director General

Preface

Today the marine fishery industry employs 14 million workers and their number is increasing over the years. Marine fish production has also recorded an increasing trend over the years and its value has also increased tremendously. Thus the industry not only provides employment opportunities but also provides nutritious food to the world.

By nature the work in marine fishery is very risky, irregular, uncertain and less remunerative. The workers are unprotected and insecure. They face from many problems, such as lack of medical facilities, insurance and social security. Apart from these, the fish workers are mostly unorganized and live in remote areas where different facilities are conspicuous by its absence. The present study examines various aspects of the industry and workers' working and living conditions. The study has been presented in ten chapters.

Chapter One presents an overview of the marine fish workers and fish industry.

Chapter Two reviews the profile of the marine fishery industry.

Chapter Three examines the social security measures available currently for fish workers and the protective legislative measures available for them.

The profile on fishing crafts, workers, landing centres of Tamil Nadu is presented in **Chapter Four**

The existing conditions of surveyed sample workers of Tamil Nadu is presented in

Chapter Five.

Chapter Six provides the profile of fishing crafts, trading centres in Orissa.

Chapter Seven reveals the field level situation of fishing households surveyed in Orissa.

Chapter Eight present briefly main findings of the study.

Chapter Nine deals with employment potential for fish workers.

Chapter Ten provide the suggestions and recommendations which emerged from the study.

Poonam S. Chauhan

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Chapter One

Fishery Industry and Fish Workers: An Introduction

1 Introduction

India is endowed with 8118 km length of coastline and also an 'Exclusive Economic Zone' of 2.02 million s.q. km which have great potential for marine fishers. In addition, the country has a continental self area which is approximately 0.53 million square km. The production of fish from these sources is enormous. For example, in 2003-04 the production of marine fish was 2.94 million tons, while the production of inland fish was 3.46 million tones- these together produced a total 6.40 million tones of fishes during the same year. In 2005-06, the total fish production increased to 6.57 million tones from 6.46 million tones in 2003-04. It is estimated that the potential production could be 8.40 million tones. Globally, India is the third largest producer of fish in the world. It is also second largest producer of fresh water fishes in the world.

"The marine fishery resources of the country's EEZ stand assessed at 3.93 million metric tones as per the latest update of 2000. This resource is distributed in inshore (58%), off shore (34.9%) and deep sea (7%) waters. The major share of this resource is demersal (2.02 million tones) followed by 1.67 million tones of pelagic and 0.24 million tones of oceanic resources. The estimates also points to the fact that there is scope for further augmenting the marine fish production by about 1.2 million tones if fishing is carried out deploying resource-specific vessels, mainly in the oceanic region. Another phenomenon noticed is the depletion of resources in the coastal sector, which is either species specific or location-specific, both resulting from unsustainable fishing pressure." (G.O.I, 2005)

In terms of earning, the country earns foreign exchange to the tune of Rs.6 thousand crore per annum. With regard to employment the sector is a source of livelihood to more than 14 million people in the country. With regard to food, the sector is a major supplier of protein to ever growing population of the country.

A large number of workers in the world are engaged in fishing. As an occupation it is hazardous in nature. The rate of accident, causality and incapacitation is highest among all sectors, even in developed countries. According to ILO's occupational safety and health estimates – fishing has

a worldwide fatality rate of 80 per 100,000 workers or approximately 24000 deaths per year, and about 24 million non-fatal accidents occur in the sector per annum. In developing countries the working condition of workers is deplorable. Majority of the workers are deprived of legal protection. The vast majority of people, their representatives and even the stakeholders are not fully aware of the implications and potentials of the ILO convention.

In order to regulate and control the marine resources, the Government passed the Marine Fishery Regulation Act. Unfortunately the provisions of the Act have not been taken seriously by the implementing authority. The Government has also adopted the comprehensive Marine Fishing Policy in 1994. When efforts were made to implement the provisions of Act and policy measures, it met with resistance from different stakeholders like, the fleet-owners, fish farmers, middle-men and the fish workers themselves.

Over the years, the central and state governments have been implementing several programmes and schemes for the benefit of both the inland and marine fishers. However, evidence shows that not many fish workers have availed any benefits. Apart from these, there is also lack of awareness among fishers about such programmes and schemes.

2 Review of Literaturew

From available literature an attempt has been made to capture certain aspects of fish industry like, the problem of marine fish workers' working and living conditions and also the present state of technology and its application and impact.

One of the most important documents examining the living and working conditions of women fish workers and making recommendations for the alleviations of their conditions is the Report of the Task Force, by the constituted by the Ministry of Labour (now Ministry of Labour and Employment), Government of India, titled: *Recommendations for Improvement of the Living and Working Conditions of Women Workers in the Fish Processing Industry (2001)*. The report shows that women workers in the fish processing industry are very vulnerable and quite often they are migrants and mostly from Kerala. The report also highlight the fact that due to absence of awareness among the migrant workers about their rights and privileges, the contractors have a tendency to exploit the workers. The report made several recommendations like providing banking facilities, setting up welfare fund, etc. for the women fish workers.

The overwhelming majority of the fish workers are unorganized, and their living and working conditions are in no way better than their counterparts in other unorganized occupations, which has been graphically highlighted by the 'National Commission for Enterprises in the Unorganised Sectors' report on **"Conditions of Work and Promotion of Livelihoods in the Unorganised Sector" (2007).**

Many studies (Ramachandran, 2004; Pillai & Katiha, 2004; Sathiadhas, et.al., 2004;) have examined situations arising in fishery sector due to growing interventions and its impact on fishery habitats. The Studies point to the fact that there is now higher demand on the natural resources while the supplying capacity of the resources is under extreme stress. In addition, the types of vessels, tools and gears that are currently being used are more often not resource regeneration friendly. Neither the practice of harvesting of fish is. As a result, there is now considerable concern all around the sector. But due to lack of proper data and information shortage yet there is no clear idea about the emerging contours of the problems and also the issues that can be underlined for designing policy frame.

The new ILO Convention No.188 (2007) and Recommendation No.199 relate to work in the fishing sector. Through these the ILO stipulates new labour standards for the 'fishing sector'. The convention focuses upon the 'commercial fishing' and prescribes work conditions to be formulated and maintained between the 'fishing vessel owner' and the 'fisher'. Here commercial fishing refers to all fishing operations, including on rivers, lakes and canals, except the subsistence fishing and recreational fishing. The core objective of this convention is "to ensure that fishers have decent conditions of work on board fishing vessels with regard to minimum requirements for work on board; conditions of service; accommodation and food; exceptional safety and health protection; medical care and social security".

There are 16.45 lakh marine fish workers in India (GOI, 2005). This includes fishers and other workers engaged in allied categories of work in fishery industry. The ILO convention will not cover 46.0 percent of the marine fish workers, because they belong to allied activities such as marketing, net making and processing of fish. Since these activities are out of the purview of the convention, as they are not defined as 'work in fishing'. Even the 54.0 percent of active marine fishers will not benefit from the convention equally and evenly. The new convention will provide benefit to only those fishers who are engaged on board fishing vessels that are

above 24m. in length thus, no benefit to sizable number of marine fishers (Vijayan, 2007).

According to Thomas (2007) "China, Japan, Indonesia and some other developing countries were against the adoption of a convention for the fishing sector, because they feared that the adoption in the proposed manner might affect their fishing trade. The Indian Government finally supported the convention in 2007".

As noted earlier in this chapter, fishing is the most hazardous occupation. In case of accident or illness, a fisher may be far from professional medical care, and must rely on others on board to take care of him, or her, until brought ashore. Fishing is also an occupation with long traditions. One of these, found throughout the world, is that of not paying fishers a set wage but instead paying them on the basis of a share of the catch. This system has led to very long working hours, a tendency to remain at sea even in bad weather. The outcome is greater risks and accidents. In many countries, fishers seem to fall, at least in part, through gaps in the system of laws, regulations and other measurers that protect other workers (Wagner, 2007).

The data generated by Central Marine Fisheries Research Institute (CMRI) highlights that over 2,37,000 women, in total, make a direct livelihood from the fishing in their local communities. All data were collected from fishing communities. Hence, it does not include the women involved in fish-related activities from outside the fishing areas per se. All these women face health and safety problems as well as problems of the right to access to fish for vending and financial resources. They work under stressful and unhygienic conditions (Nayak 2007).

The ILO Convention and a National Legislation for the Workers in Fishing Sector

Editorial, Labour File, (2007), the article describes the establishment of an international legislative measure for the safety and security of the workers engaged in the sector. The article tells about the ILO Convention No. 188 adopted in the 96th annual conference of the International Labour Organization, which set new standards for ensuring of improved occupational safety and health and medical car at sea, care ashore for the sick or injured, sufficient rest, an agreement for protection of work and social security protection similar to other workers.

Vijayan, (2007), analyses the 'Work in Fishing Convention 2007 very critically. He said that the Convention is framed in relation the 'commercial fishing and prescribes work conditions to be formulated and maintained between the 'fishing vessel owner' and the 'fisher'. Though the Convention forces the member nations to formulate the suitable welfare measures for the fishers like the other categories of workers, still there are some limitations which abstained a huge segment of the workers from the benefits as it has not specified the 'subsistence fishing'. So 'subsistence fishing' can be termed as those fishing in traditional craft for their livelihood, without the help of any mechanical means of propulsion, and fishing trips lasting a few hours of a day would fall under it. Thus a significant number remained uncovered.

He also points out that though the Convention provides social security measures for fishers in Articles 34 to 39. However, these Articles are not specific about what social welfare benefits the fishers are to be provided with and who will have to contribute to it.

Thomas (2007), analyses the process of creation of the Convention and Recommendations on international platform. He discussed about the role of Trade Unions employers and the Governments on bringing out the aforesaid Convention. He said that it took a long way from its plenary session to the adoption of a comprehensive Convention with 46 clauses in 96th session of the annual conference of International Labour Organization in 2007.

Vadhel (2005) explained the plight of migrant women fishers of Nadher coastal area of Junagarh. She observed that the fisherwomen workers engaged in fish processing are seasonally migrant and remained entangled in the well woven trap of contractors. These workers live in very difficult conditions that it is tough to get reasonable wages for their labour. Their family lives are disturbed; they get very poor accommodation and food; they have no recreation and have to endure severe physical and mental fatigue, and social and economic distress. They do not have any bargaining power because of the restriction of the contractors.

Wagner (2005) examines the feasibility of ratification and implementation of the ILO convention. He highlighted that in developing an international standard to address specific conditions of all fishers has provided a considerable challenge. The ratification of the fishing convention by the ILO members states has not been as high as could be desires.

Mathew (2005) highlights the process of ratifying a convention for the fishers at the international platform.

Nayak (2005) examines the ILO convention in context of manual fish workers especially for the women fishers engaged in manual fishing and allied activities, which constitute a comprehensive proportion of fish workers. She suggested for the need of a new convention which could provide umbrella for the workers of above categories.

A study was conducted by Central Marine Fisheries Research Institute (CMFRI) for Elamkunnapuzha village of Vypeen Island in Ernakulam district of Kerala. The village was studied under Institution Village Link programme. The aim of the programme was to improve the relevance of technology generation, assessing the prevailing technology and to suggest the possible and potential refinement. The core objective was to transfer the scientific knowledge to the changing needs of farmers and fisher folk.

The specific objectives were as follows:

1) To assess the needs and identity the coastal agro-ecology and production systems perspectives of various technologies of the village.
2) To introduce improvements in the existing production systems through better scientific and management practices to enhance productivity without endangering the stability and sustainability of the environment.
3) To improve the innovative well defined farm production systems with multiple options for the purpose of refining the technologies in the context of sustaining higher productivity and obtaining profitability.
4) To give specific consideration in the introduction of income and employment generating activities for the weaker sections of society and women work force to promote distributive justice and to maintain parity and equity in the village economy.
5) To examine the impact of refined production technologies in the coastal agro-ecosystem, and
6) To transfer the proven refined technologies to the district extension for their further propagation and implementation.

The findings related to fishery based interventions indicate that whether it was crabs, finfish, brackish water fish, pond fish or marine fish, the

production increased, there was high growth, size of fish became larger, disease resistive, high marketability, increased income of fish farmers. The scientific know-how and modern technique helped in high yield and high income. The wastage of fish was also reduced. (Sathiyadhas, Immanuel, Laxmi Narayan, Krishnan, Jayanand and Sadanandan, 2003).

An appraisal of the marine fisheries in Orissa was done by Scariah at el. (1984). This research was sponsored and carried out by CMFRI. The study was done in districts Balasore, Cuttack, Puri and Ganjam, of Orissa state. In 1984 the total number of fishermen households in Orissa was 20,329. The maximum proportion of households was found in district Balasore (61.0 percent), followed by Gangam (20.0 percent) and Puri (17.0 percent). The lowest number of fishermen households we in Cuttack district (2.0 percent). In the same year the total fishermen population in the state was 1.17 lakhs. Out of this 32.0 percent were adult males, 29.0 percent were adult females and 39.0 percent were children.

As far as literacy among the fishermen population is concerned, 7.0 percent had education up to primary level, 2.0 percent were educated up to secondary level and only 1.0 percent has passed higher secondary.

In Orissa the total number of mechanized boats in operation, were 745, out of which 470 were trawlers and the rest were gill-netters. The total number of non-mechanized boats in Orissa was 10,550. There were 33936 fishing gear in Orissa. The highest number was found in Puri (12,220), followed by Balasore district (11,383), Ganjam (6,566) and Cuttack (3,767). The details of district wise infrastructure facilities highlight that in 1984 Balasore (Sadar) blocks were generally endowed with infrastructure facilities like electricity, tap water, schools and hospitals. In Cuttack district Paradeep fishery harbour is situated in Kunjung block, as compared to other blocks, this is better developed in terms of infrastructure facilities.

Among the four blocks of district Puri, in Astarang block 33.0 percent fishermen had pucca houses and in Ganjam district, Rangailunda block had better infrastructure facilities.

The report also illustrates the marine fish landings in Orissa. The average per annum marine fish production in the State during 1975-84 was 34,027 tonnes. The maximum production (46,773) was in 1984 and the minimum catch was of 15,072 tonnes in 1977. Quarter wise analysis of fish catch during the aforesaid period showed that on an average the landings were highest in fourth quarter (17,167 tonnes) followed by first quarter (7,723

tonnes) and third quarter (5,603 tonnes and lowest fish landings was in second quarter (3,514 tonnes).

The fish landing by mechanized units over the decade was 21,126 tonnes per year. In the years 1980 and 1984 the total produce from mechanized sector was on the higher side i.e. 650 percent and 62.0 percent of the total fish production whereas in 1982 the catch from the non-mechanized sector was found to be higher (54.0 percent).

In the mechanized sector during 1980-84, two kinds of gear, i.e. trawl and gillnets were in operation. The contribution from trawl net to the total mechanized catch on an average was 60.0 percent during 1980-81 and contribution by gillnets alone was 67.0 percent and 69.0 percent respectively. In the later period the contribution by trawl net steadily increased.

It can also be noticed in the report that during 1975-84 the contribution of pelagic fisheries to total fish landings indicated a declining trend, in the State. The species wise analysis of average catch during 1975-1984 period highlighted that pomfrets formed the highest constituent (15.0 percent), followed by croackers (13.0 percent), Hilsa Ilisha (12.0 percent), Catfish (9.0 percent) and other Sardines (8.0 percent). A new development was seen in the fisheries of Orissa during 1984, i.e. landing of oil sardines. District-wise analysis of fish landings shows that Balasore district had highest fish landings during 1980-84 (19.099 tonnes), followed by Puri (7,888 tonnes), Cuttack (5.941 tonnes) and Ganjam (7,224 tonnes). The authors have mentioned that the new development in marine fisheries sector in Orissa was the landings of oil sardines. There are indications for the development of mackerel fishery along Orissa coast. Pelagic group of fishes have sufficient score to be exploited. There are indications of the abundance of demersal fish like catfish and priacanthus in the coastal areas of Orissa.

A study was conducted by CMFRI, wherein an appraisal of the marine fisheries of Tamil Nadu was done. The research was carried out by Dharamraja et al. (1987).

In 1980s there were 422 fishing villages in Tamil Nadu, out of which 87 were in Thanjavoor district, followed by Ramanathapuram (80 fishing villages), Chengalpattu (65), South Arcot (55) and Kanyakumari district had 46 fishing villages. Madras, Thirunelveli and Pudukottai have 37, 32 and 20 fishing villages respectively.

There were 352 landing centres along the coast of Tamil Nadu, Ramanathapuram had maximum number (73) of landing centres. Thanjavoor, Chengalpattu and South Arcot also have substantial number of centres such as 67, 64 and 98 respectively. All other districts have less than 50 centres. The lowest number of fishlanding centres were in Madras (12).

The study highlighted that there were 75,721 fishermen households in Tamil Nadu. Kanyakumari had the maximum number of fishermen households (403), followed by Thirunelveli (246), Thanjavoor (176), Ramanathapuram (156), Madras (153), South Arcot (128), Chengalpattu (112) and Pudukottai had 77 fishermen households. In 1984 there were 3.96 lakh fishermen along the coast of Tamil Nadu. The maximum number of fishermen were in Kanyakumari district (99051) followed by Thirunelveli (1368), Madras (893), Ramanathapuram (889), Thanjavoor (807), South Arcot (663), Chengalpattu (529) and Pudukottai (389).

Chengalpattu had maximum number of literate fishermen population. It also had the highest proportion of active fishermen (26.12 percent).

The authors found out that in Tamil Nadu the mechanized fishing craft was not confined to fishermen alone, it was also owned by the industrialists who were not residing in the maritime village. These mechanized boats were highly migratory. They moved from one state to another. They were mostly Trawlers and gill-netters.

In the State, there were substantial number of non-mechanized boats which included catamaran, plank built boats and dugout canoes. Tamil Nadu had eight types of fishing gears, operating in different districts. There were trawl nets, drift /set gill nets, boat seines, fixed bag nets, hook and lines, shore seines, traps and scoop nets. In the state during the same period, there were 55 freezing and ice plants, 2 canning plants, 3 fish meal plants and 2 sea wood-processing plants. There are 9 fishing harbors in the State, they are located in Madras, Cuddalore, Nagapattanam, Malli pattnam, Kodikkarai, Mandapam-South, Mandapam-North, Rameswaram and Tuticorin.

Tamil Nadu ranks third among the maritime States in India, in the contribution of marine fish landings. During 1975-84, on an average the contribution from the State was 2.32 lakh tones per year. It was 16.7 percent of the all India fish landings.

The various species of marine fishes and shell fishes during the decade are grouped into pelagic and demersal categories. The pelagic groups of species include wolf herring, oil sardine, other sardine, hilsa shad, other shads, anchovies, other ellipsoids, Bombay duck, half beaks, full beaks, flying fishes, ribbon fishes, carangids, mackerel, seer fishes, tunnies, bill fishes, barracudas, mullets and uniconcod.

Among the demersal group the major fishes are elasmobranches, eets, cat fishes, lizard fishes, perches, goat fishes, threadfines, croakers, silver bellies, big jawed jumper, pomfrets, flat fishes, prawns, lobsters, crabs, stomatopods and cephalopods. In Tamilnadu silverbellis contribute to one of the major demersal fisheries of the state and account for 16.6 prevent of the total marine fish landings. Other sardines, which form a major pelagic fishery of the State, constitute 12.2 percent of the total marine fish landing of the State. The authors have also mentioned that the average landing from mechanized boats for period 1975-84, was at 94,148 tones, constituting about 41 percent of total marine fish catch of Tamil Nadu. The landings from non-mechanised boats varied between 114,632 and 167,724 tones with an average of 137,728 tones.

The authors have pointed out that the demersal component dominated the marine fish landings with an average contribution of 55 percent during 1975-84. Among the commercially important varieties, silver bellies, lesser sardines, anchovas, elasmobranches, crabs, carangids, croakers, ribbon fish, penaeid prawns and perches accounted for about 72 percent of the marine fish landings in the state. The landings by the mechanized craft have shown gradual progression and during the ten year period accounted for about 49 percent of the total landings. Among the mechanized craft the landings by trawlers accounted for the bulk (97 percent) of the mechanized landings.

FFAD report outlines that over the several decades after independence, at macro level the fishery sector presents a picture of dynamism and growth. However, as the Report of the working group on the Ninth Plan (1997-2002) highlights that the fisher folks still remain the poorest of the poor and continue to occupy the lower rung in the social strata.

The author points out the need for a fisheries perspective in analyzing poverty. Presently, in India, an agrarian, land-based perspective tends to predominate. The author says that the perspective on fishery sector has to be different because the two sectors are different. The core feature of fishery

is that, unlike agriculture, the nature of the resources makes it difficult to establish clear spatial boundaries indicating ownership over resources. Fish is a mobile resource that moves across space. Sea is considered to be a resource that can be freely accessed. Kurian (1995) illustrated in his paper that the fishery sector is characterized by a sheer unpredictability and seasonality of catch. Prices obtained to catch on any given day can be highly uncertain and will be dependent on the species caught, total catches and price prevailing on that particular day.

Fishery is dependent on market. As compared to agriculture, it is a commodity of perishable nature, thus, the communities cannot survive on fishing alone. In agriculture, investment in form of land can be considered a more stable asset. However, the investment in fisheries in form of craft and gear, has high maintenance costs, it deprecate rapidly and are often lost or damaged.

In agriculture ownership is fixed and stable. In fisheries the craft and gear are sold when the prices are highest so at certain points of periods the fishers remain asset less.

In east coast of India the fisher communities live in remote areas near the sea. They do not receive educational and health facilities. They experience social exclusion. The fisher communities living near the sea, face over crowding with increasing pressure on coastal resources. They live in conditions of poor hygiene and sanitation. They are also subjected to the dangers of cyclones and tidal waves. The author stresses upon that in analyzing the existing poverty among the fisher folks, there is need to keep in mind the distinct features of fishery sector. Analyzing the estimates of income or consumption alone cannot provide the good indicator of poverty. As author states- "Lack of clear rights to the resource, variable and unpredictable catches from the fishery, the importance of market and the middlemen, an asset base that is less stable, are all dimensions that have an important bearing on understanding poverty issues in fishery sector".

Nambudiri (2009) has analyzed the impact of trade agreements between Government of India and other nations on the life and livelihood of millions of people who are engaged in fishery sector. He presents that the most important contribution of fishery sector to the Indian economy is one of providing jobs to many poor households, those which are situated in the coastal areas. The fishery sector provides employment security to a

large number of households through income generated from domestic and export fish trade,

India has made tremendous investment in the fishery sector. The investment has been in terms of increased number of crafts, equipments, fish processing plants, and fishing vessels. All these have led to increase in fish production manifolds. He further expresses that "from a subsistence-based livelihood activity pursued by a group of largely poor and rural artisans, marine fisheries sector had acquired the hues of an urban based, capital intensive commercial sector, earning sizable sums of foreign exchange for the country". He points out that India has entered into trade agreements with many countries which allow duty free export and import including fishery items. The most recent trade agreement (January, 2010) is between India and ten member Association of East Asian Nations. Under this agreement ASEAN and India will lift import tariffs on more than 80 percent of traded products that include fishery products between 2013 and 2016.

The Free Trade Agreement with ASEAN has met with strong resistance from some of the states governments. Kerala state has stiff reservations. These states fear that import of fishery products into the country would cause down fall of prices. The common varieties of fish like cuttle fish, pomfret, anchovy and ribbon are caught in China and Thailand. Import of such fishes will not only dampen prices, but also affect the fisher folks whose livelihood depends on catches of such fishes. Their survival will become difficult.

He has highlighted that the plight of fisher community is manifold. A great majority of fisher-folks of Kerala are indebted. Global slowdown has decreased the export of prospects of fishery products. Also, the fall in availability of fishes along the Kerala state has made the life of fisher community miserable. The global recession has reduced the prices of several fish and impact of the ASEAN agreement will further worsen the condition of fisher folks in the country. The author outlines that India's fishery sector has to cope up with the demands of changing trade and take advantage of the new opportunities. To face the competitions from abroad there is need to invest in "further developing infrastructure, capacity building and management and in institutional frame works for technical support and monitoring".

National Fish workers' Forum (NFF) supports the enactment of 'Marine Fisheries Regulation and Management Act, 2009,' but with certain reforms

in the legislation. NFF has proposed certain changes in the Act. These are in the areas of intent and scope of the Act, guiding principles on resource allocation, punishments and better governance.

NFF proposes the following to be included in the 'intent' of the Act. Apart from many suggestions, two relate to workers.

- Livelihood security to the traditional fishing communities and preferential rights to access fish resources in all the maritime zones of India.
- Ensure equity and sustainability by giving preferential access to small scale fishermen and those using passive and selective fishing methods.

The NFF suggests the expansion of scope of the act. Many changes have been proposed, out of which some relate to fish workers. With regard to 'Rights of fishing communities, strengthening small scale and friendly fishing units, the author takes a position that the act needs to include the rights of fishing communities towards fish resources in maritime zones of India and clearly indicate the need to give preference to small scale and friendly methods of fishing. Further, it will also be justified to include sections that deal with labour involved in fishing in line with the ILO convention on working conditions of labour engaged in fishing, including age of entry, decent work conditions, right to social security, safety at sea etc.

The scope of act should also include protection to the livelihood of fisher women who execute a dominant role in the post harvesting sector. Management plan need to be sensitive towards the role played by women as decisions and choices made in fishing technology and fisheries policies can have down-stream effects on the post harvest sector.

It is suggested that traditional fishermen should get ownership rights over fishing vassals. It is important to promote owner operator principle with that of providing first priority to those from the traditional fishing communities to own vassals. NFF propose for gender sensitive management plans and policies. A large section of fisher women are involved in post harvest activities and fish vending is often ignored while formulating policies for fish harvest.

It calls for a national authority to integrate all stakeholders, to manage fisheries in the maritime zones of India.

Suchitra and Venugopal (2006) have illustrated the tensions between the trawler boats owners and traditional fish workers over a 45 days ban on trawl boats during monsoon period.

It has been noticed that as in the past, in the current year too, the ban has triggered controversies, with the trawl-boat workers and traditional fishermen pitted against each other. The ban leads to fight between them on the shore and even skirmishes at sea. When emotions are out of control the boats are burned.

The trawl boat owners and workers feel its totally unfair to ban a section of the fishing community during monsoon, when the catch is maximum. But, the traditional fishermen are bent upon that the trawler should be banned during monsoon, because during monsoon only the traditional fishing folks get good catch, rest nine months it becomes difficult to pull on. They expressed that the trawlers sweep the sea bed and cause massive destruction of fish juveniles and eggs.

According to the authors several research studies have shown the devastating effects of trawl fishing. It has direct and indirect impacts on marine ecosystem and microorganisms. Kurup (2006) points out that "trawlers operating along the Kerala coast kill and destroy an average 2.5 lakh tones of marine organisms annually, comprising of 232 species". He further says that trawling destroys 2500 tonnes of juvenile squid and cuttle fishes, 5000 tonnes of shrimp juveniles, 80,000 tonnes of juveniles of low quality fishes and 700 tonnes of eggs. Balakrishnan Committee confirmed that even the partial ban was highly beneficial for the regeneration of marine wealth. Fish production showed an increase of 65 percent when compared to the pre-ban period (CMFRI).

The traditional fishermen have also turned to mechanization. They started off with low power outboard engines and slowly to engines with 25 horse power. Some began to use two to three engines. It proved to be an expensive affair, but the workers thought that they would be able to increase the catch fish they could never do using traditional fishing methods. By the end of nineties the country crafts of 80 feet and more in length began to be fitted with inboard Leyland truck engines. About 50-55 fishermen can go in this craft using ring seine nets weighing upto 4000 kg. Their high fuel capacity enables the craft to go further out into the sea, cutting the operational costs greatly. The tussle between the trawler boats worker/ owner and traditional fishermen continues. The major issues pertaining to

both types of fish workers are over exploitation of marine resources, use of nets detrimental to conservation, middlemen who fleece the fish workers and debt traps, as pointed out by the authors.

Singh at el. (2007) have highlighted in their report that there are more 8 lakhs marine fish workers, engaged in different sectors of marine fishery. These workers are dependent upon means of production owned by fish farmers. They are paid in kind. The boat owners get 70-75 percent share of the catch and workers receive 30-35 percent share. The fish workers are most vulnerable. The authors pointed out that use of mechanized and motorized vessels and use of destructive gears to fish are leading to rapid depletion of fish. In this process the juvenile fishes are also not spared, thus, the growth of fish is declining. The sea is getting polluted due to industrial waste and sewage water. This is causing damage to all forms of marine life including fishes and mangroves. Now, the international fishing fleets are entering the 'exclusive economic zone', this leads to conflict between the fishermen. The fish landing centres are very unhygienic and dirty. The conditions of marine fish workers were not found good as in many places they are affected by pollution. These workers are exploited by the middle men. Since 1960s the fishing has become a market driven operation. The market driven situation has resulted into introduction of sophisticated fishing gears which are highly mechanized fishing vessels. The excessive catch of fish and other marine resources also poses a serious biological problem. For example, the reproduction of different varieties are dwindling. Thus, causing fish famine and shortage of other crustaceans.

The authors express that "among the many stressors, the commercial exploitation of sea is the single most destructive economic force. This process will: (i) reduce fish production, leading to (ii) reduced profit in long run, and (iii) reduced yield eventually".

Kerala Fishermen's Welfare Board (KFWFB), for the welfare of the fishermen, is running several schemes. The schemes being implemented by the Board are as follows; (1) Group Insurance, (2) reimbursement of medical expenses, (3) death while fishing or immediately thereafter not due to accident, (4) Financial Assistance for marriage of daughters of fishermen, (5) Old Age Pension Scheme, (6) Financial Assistance for the death of dependents, (7) Financial Assistance for temporary disability due to accident, (8) Financial Assistance to the dependents on death of fishermen, (9) SSLC cash award and scholarship, (10) Family Welfare Schemes, (11) Financial Assistance for treatment of fatal disease, (12) Chairman's Relief

Fund, (13) Netrajyothi Scheme, (14) Special cases sanctioned by the Board, (15) Maternity benefit Scheme, (16) Cash award for higher education, (17) Fishermen's guidance centre, (18) Awareness Campaigns/Extension Programmes, (19) Srestha Matsya Thozhilali Award (20) Widow Pension and (21) Assistance for handicapped and mentally children.

The fishermen, who are members of welfare fund, get benefit out of the above mentioned schemes. The benefit is given as assistance and some are based on contributory nature.

Dehadrai (2002) mentioned that in India although women are not involved in active fishing in marine fisheries, but they contribute substantially in the pre and post-harvest operations. About 25 percent of the labour force in pre-harvest activities, 60 percent in export marketing and 40 percent in internal marketing are women. Although about 0.5 million women are employed in the pre and post harvest operations in marine fisheries sector, out of a total 1.2 million workforce. The working conditions are poor and the wage rates received by the women are comparatively low.

The author further states that the opportunities for women in fisheries could be enlarged in the field of integrated aquaculture, fishery estates, marine product development, management of fishery infrastructure, marketing and export as well as in research and technologies development. For women, projects with special emphasis on fisheries could be started to develop their skills, knowledge, habits and attitude towards adoption of new and economically viable technologies.

Experience justifies aquaculture as an appropriate technology for the rural women being compatible with their physical capacity and general attitude. It is easily adoptable and highly rewarding economically. The use of pond embankment for seasonal horticulture crops could provide a successful integration for optimum productivity per unit area. The backyards ponds could be of immense use for taking sizable crops of fry, fingerling, and even table size fish in succession, providing self employment to rural women.

According to Srinath (2002) – In India about six million people are directly engaged in marine fisheries and their families live in coastal areas. Women form fifty per cent of the total population. Coastal women support the fisheries sector through their involvement in small scale fisheries operations such as net making, fish culture, fish pre processing, processing and marketing. The author highlights that "the nature of contribution varies with the geographical area, resource availability, type of technology,

type of technology, infrastructure, access to processing facilities, market pattern, rural-urban settings and social factors. Women's role in coastal resource management has become more pronounced with the increasing number of female-headed house holds (Srinath, 1993).

About 0.4 million women are estimated to be engaged in fish pre-processing and processing work India. Women are employed as workers in peeling sheds for pre-processing of shrimps, squads, cattle-fish and as workers, technicians and supervisors in processing units for cleaning, grading, processing, quality control and packaging. In the processing factories women also handle finfish and crabs.

In activities like net making, women are being marginalized due to increasing mechanization, commercialization and centralization of fish landings.

Jaleela (2002) mentioned in his paper that women folk engaged in fish trading experience great hardship. If the family owns fishing vessels and net, it is the house wife who sells at least a small portion of catches. Those who do not have fishing equipments work as labourers and get a small share of the catches, which is sold by womenfolk. Majority of the womenfolk take loan from intermediaries and purchase fish and carry them on head-load to houses and markets for sale traveling long distances. The author further discusses that the women in the traditional fishing households do not get the security they deserve in terms of food and nutrition due to poverty, men folks addition to alcohol, poor quality of life, substandard living conditions and the liabilities of the fishing community.

Poverty is thus the primary cause of food insecurity. The household is not a homogenous unit, with women and girl children tending to suffer more from endemic hunger (Swaminath-2001).

The loan scheme by MATSYA FED (A Kerala State Cooperative Federation for Fishers Development Ltd.) has helped the fisher women from Vaddy- Thangasherri region to take up marketing of fish as a means of supplementing the family income in the face of fluctuating incomes of their men folk from fishing. A majority of women are still dependent on the informal credit sector for financing their daily transactions (Gopal and Srinath, 2002). The authors suggest that the fisher women could be organized into self help groups to encourage the saving habit. Synerg is needed between credit, savings and marketing issues for the venture to be economically viable and sustainable.

Fishery sector contributes significantly towards National Economy. Salim et al. (2005) highlighted that during 2002-03, fisheries sector contributed Rs.35482 crores to the total gross domestic product (GDP). The gross income generated at landing center level from marine fish catch of 2.7 million tones in 1999-2000 is worked out to be Rs.18412/- crores. The authors also mention that export earnings also contribute to national income. Seafood exported from India in terms of quantity was 4.1 lakhs tones and Rs.6091 crores in terms of value during 2003-2004. Frozen Shrimp continued to be the largest item in terms of value. It contributed 31.50 percent in volume and 65.88 percent in value of the total export of marine products from India.

The authors also have shown that there has been considerable increase in the export of dried items with 53.75 percent in volume, 72.96 per cent in rupee earnings and 81.50 percent in US$ realization. The average unit value also increased by 18.07 percent. Growth was also recorded in the export of chilled items like Reef Cod, Prawn, Snapper, Pomfret, Fresh water fish etc. Marine productions are majorly exported to USA, then to Japan and China.

One of the most important gaps which emerge from an examination of available literature on fishing sector, is the shortage of proper information on the fishery workers in the country in general and appropriate technology in particular. Another shortcoming in the available literature is the impact of technology on fish harvesting and marketing. These shortcomings thus make it imperative for conducting a comprehensive study which may provide a holistic picture of the industry and also to indicate framework for formulating policy measures and designing programmes and schemes for the protection, promotion and sustainability of fishers and fish generating resources in the country, thereby minimizing destructive conflicts between man and nature (Singh, Rehman & Chauhan, 2007).

The report of the Working Group on Fisheries for the Eleventh Five Year Plan (2007-2012) is a comprehensive document prepared by country's topmost experts in the area of fishery. The document takes stock of the existing situation in the area of marine fishery in all its aspects and also suggests policy measures for the development of the fishery sector. For instance, it suggests the following strategy for development of fishery:

- Ensuring adoption of responsible and sustainable fishery practices
- Enhancing fish productivity in all cultivable waters
- Establishing agro-aqua farms, aqua-shops and fishery estates from production to consumption

- Spreading fish quality literacy among fishers and aqua-farmers
- Improving facilities for fish landing and handling at harvest and post-harvest stages
- Developing social marketing techniques
- Introducing Aquarian Reforms, with regard to leasing and management of waters, ownership and community management
- Training in different aspects of fisheries and aquaculture

In addition to these, still there are areas which need to be addressed for protecting and promoting the marine fish sector.

3 Rationale

Examination of existing literature shows that the questions of working, living and social security and also the workers' other needs, like their accessibility to market, credit institutions, technical know-how and other occupational enhancing skills have not been addressed adequately.

Another aspect on which no attention has been drawn is the future employment opportunities which will have to be provided on account of depleting per capita catch in the existing water bodies, and the dislocation which is likely to take place due to slow but gradual submergence of several coastal and estuarine areas of the country on account of global warming which is now very real.

Besides, the condition of the fish industry itself has not been studied in an integrated manner keeping in view the technology and its impact on infrastructure facilities, transportation and conditions of fish landing centres.

4 Objectives

Keeping the above in view, the present study was conducted. The main purpose was to examine the marine fish workers' existing situation and to explore wages and means for their employment and living conditions and also explore the alternate and adaptable employment potential in future. Another objective was to examine the infrastructure facilities in selected landing centres in different maritime states in the country.

The specific objectives were to:

i) Study
i) rent stages the living and working conditions of marine fishers in selected maritime states.

iii) To study the status of social security programmes for the fish workers.

iv) Examine the problems of marine fish-habitats in terms of its sustainabilities.

v) Study the labour process and employment pattern and technology application, its density in differ.

vi) Examine the conditions of selected fish landing centres in some selected areas.

5 Methodology/Frame of the Study

• In the first stage, all the maritime States were identified	Secondary information
• In the second stage, the identified maritime states were divided in two zones, viz., the east coast and the west coast	• By geographical location
• In the third stage, from one zone, three "Study areas" (fishing villages) were selected. The areas were chosen in term of highest concentration of fishers.	• By rank order
• From each areas, 300 fisher households were selected.	• By random sampling method
• Present production pattern	• Focused group discussion
• Area conditions:	• Observation
• Ecological & environment	• Local bodies
• Technology and tools and gears used and their effects	• Published documents • Perception assessment
• Type of machinery used and their capacity	• Observations • Workers' assessment
• Packaging and distribution	• Fishery research institutes' document and field studies
• Potential partnership: Govt.+Civil Society+Fishworkers	
• Infrastructure	• Survey & FGD Infrastructure assessment by schedule administration
• Identified places and peoples-involved in the market chain: from fish harvesters, middlemen, consumers & value addition process	• Through survey of the selected respondents and visiting fish-harvesting and fish disposal sites.

Chapter Two

Profile of Marine Fishery Workers and Industry

Introduction

In Chapter one an attempt has been made to present the overall scenario of fish industry in India. The main focus is on the population profile, production of fish and other aspect like profile of landing centres, processing etc.

The ocean is largely unknown and uncharted to majority of the inhabitants living on land. However, the coastal communities have quite different relationships with the seas. They have been engaged in fishing in sea for centuries. These fishers know the rich diversity of the sea life from seaweed and grasses to crustaceans, cephalopods and variety of fishes.

The coasts, a very specific zone between the land and the sea, are a living ecosystem with intricate dynamics sustaining vegetation and both animal and human populations. The coasts are seen as a source of natural resources on which the fisher community has remained dependent for centuries and exercise their rights over such resources.

India is bestowed with a coastline of over 8118 km. and an exclusive economic zone (EEZ) of over 2 million Sq. km. Marine fishery is an important sector in India and has been for long an important occupation for the coastal communities of the country.

As per the estimates about 67 million people depend on fisheries to earn their livelihood. Over 2 million from the total, are engaged in marine fisheries. This includes roughly 725,000 full time, and an equal number of part time dependent on fishing operations and over 1 million people engaged in pre- and post harvest activities (Government of India, 2010).

According to the FAO estimates, 39 million people world wide (2002) were directly employed in fisheries and aquaculture. The highest number of fishers and aquaculture workers was in Asia (87.0 percent), followed by Africa (7.0 percent) worldwide, some 12 million people were fulltime fishers, while 120 million people were estimated to depend on fish for all or part of their incomes.

According to FAO – "In many developing countries, which have largest number of fishers, the spouses and families of fishers are occupied in coastal artisanal fisheries and associated activities. Reliable estimates of the number of people engaged in fishing on a part time or occasional basis or undertaking rural aquaculture as unpaid family workers, are difficult to obtain. As a consequence, the socio-economic importance of these activities is more difficult to measure, although their contribution to production and income, and to food security for coastal and rural communities, is substantial".

In general, the coastal fishing communities have lower levels of literacy, a lower sex ratio, and poor conditions of housing, which are below the state and the national averages. Evidence also shows that communities are faced with deteriorating quality of life which is due to pollution, sea erosion, increased pressure on coastal lands, degradation of the coastal environment and displacement.

Since 1971, Mr. Thomas Kocherry a priest and social activist has been involved with the fisher communities and their movement. He noted that "*The lives of these fisher people have been organically linked to the coast for centuries but the aim of the multinationals and some rich local inhabitants, is to transform the coast into a money-making haven. In the name of Special Economic Zones (SEZs) and tourism development, more and more people are being displaced from the coast. And, in the midst of all, there are natural disasters like Tsunamis, cyclones, floods, etc.*"

The majority of the fishermen in the country have no other skills than fishing, apart from catching, processing or distributing fish. Earlier fishing was food gathering activity, now it has become highly commercial activity. In the past the basic skills were enough for survival now the fishermen have to acquire modern skills to eke out a decent survival.

2. Profile of Marine Fishery Workers

2.1 Coastal Length

Table 2.1 shows the State-wise coastal length. The data indicate that the coastal length of Gujarat was 26.7 percent followed by 17.9 percent coastal length in Tamil Nadu and 16.2 percent in Andhra Pradesh. The lowest coastal length was found in Daman & Diu (0.4 percent) followed by Pondicherry (0.7 percent) and Goa (1.7 percent).

Table 2.1
State Profile

Sl. No.	State/U.T.	Coastal Length (km)	Percentage
1	Gujarat	1,600	26.7
2	Tamilnadu	1,076	17.9
3	Andhra Pradesh	974	16.2
4	Maharashtra	720	12.0
5	Kerala	590	9.8
6	Orissa	480	8.0
7	Karnataka	300	5.0
8	West Bengal	158	2.6
9	Goa	104	1.7
10	Pondicherry	45	0.7
11	Daman & Diu	27	0.4
	Total	**6,002**	**100.0**

Source: GOI (2005), *Marine Fisheries Census 2005*: Part I, Ministry of Agriculture, Dept of Animal Husbandry, Dairying & Fisheries, New Delhi.

2.2: Landing Centres

Table 2.2 shows the number of landing centres in maritime States of India. It can be noticed that highest number of landing centres are located in Tamil Nadu (26.4 percent) followed by Andhra Pradesh (20.3 percent), Kerala (13.4 percent) and Maharashtra (11.4 percent).

The lowest number of landing centres is located in Daman & Diu (0.5 percent), followed by Pondicherry (2.0 percent) and Goa (2.6 percent).

Table 2.2
No. of Landing Centres

Sl. No.	State/U.T.	No. of landing centres	Percentage
1	Gujarat	123	9.2
2	Tamilnadu	352	26.4
3	Andhra Pradesh	271	20.3
4	Maharashtra	152	11.4
5	Kerala	178	13.4
6	Orissa	57	4.3
7	Karnataka	88	6.6
8	West Bengal	44	3.3
9	Goa	34	2.6
10	Pondicherry	26	2.0
11	Daman & Diu	7	0.5
	Total	**1,332**	**100.0**

Source: GOI (2005), '*Marine Fisheries Census 2005: Part I*', Ministry of Agriculture, Dept of Animal Husbandry, Dairying & Fisheries, New Delhi.

2.3: Fishing villages

The number of fishing villages is presented in Table 2.3. As could be observed in the table, the highest number of fishing villages are concentrated in Orissa (20.0 percent), followed by Tamil Nadu (18.1 percent), Andhra Pradesh (15.6 percent) and Maharashtra (12.7 percent).

The lowest number of fishing villages is in Daman & Diu (0.7 percent), Pondicherry (0.9 percent), Goa (1.2 percent) and Karnataka (4.9 percent).

Table 2.3
No. of fishing villages

Sl. No.	State/U.T.	No. of fishing villages	Percentage
1	Gujarat	263	8.2
2	Tamilnadu	581	18.1
3	Andhra Pradesh	498	15.6
4	Maharashtra	406	12.7
5	Kerala	222	6.9
6	Orissa	641	20.0
7	Karnataka	156	4.9
8	West Bengal	346	10.8
9	Goa	39	1.2
10	Pondicherry	28	0.9
11	Daman & Diu	22	0.7
	Total	**3,202**	**100.0**

Source: GOI (2005), '*Marine Fisheries Census 2005: Part I*', Ministry of Agriculture, Dept of Animal Husbandry, Dairying & Fisheries, New Delhi.

3. Profile of fishermen

The state-wise profile of fishermen is given in Table 2.4. The data show that the majority of the fishermen are in Tamil Nadu (25.4 percent), followed by Andhra Pradesh (17.1 percent), Kerala (15.9 percent) and Orissa (11.4 percent). Of the total, 0.7 percent fishermen are in Daman & Diu and 1.5 percent are in Goa.

Table 2.4
No. of fishermen families

Sl. No.	State/U.T.	No. of fishermen families	Percentage
1	Gujarat	59,889	7.9
2	Tamilnadu	192,152	25.4

Sl. No.	State/U.T.	No. of fishermen families	Percentage
3	Andhra Pradesh	129,246	17.1
4	Maharashtra	65,313	8.6
5	Kerala	120,486	15.9
6	Orissa	86,352	11.4
7	Karnataka	30,176	4.0
8	West Bengal	53,816	7.1
9	Goa	1,963	0.3
10	Pondicherry	11,541	1.5
11	Daman & Diu	5,278	0.7
	Total	**756,212**	**100.0**

Source: GOI (2005), '*Marine Fisheries Census 2005: Part I*', Ministry of Agriculture, Dept of Animal Husbandry, Dairying & Fisheries, New Delhi.

3.1: Population of profile

The population profile of fishers is highlighted in Table 2.5. It can be observed that the highest concentration of population of fishers is in Tamil Nadu (22.5 percent), followed by Kerala (17.1 percent), Andhra Pradesh (14.5 percent) and Orissa (12.8 percent). The lowest fishers population is found in Goa (0.3 percent), followed by Daman & Diu (0.8 percent) and Pondicherry (1.2 percent).

Table 2.5
Fisher-folk population

Sl. No.	State/UT	Fisher fold Population	Percentage
1	Gujarat	323,215	9.2
2	Tamil Nadu	790,408	22.5
3	Andhra Pradesh	509,991	14.5
4	Maharashtra	319,397	9.1
5	Kerala	602,234	17.1
6	Orissa	450,391	12.8
7	Karnataka	170,914	4.9
8	West Bengal	269,565	7.7
9	Goa	10,668	0.3
10	Pondicherry	43,028	1.2
11	Daman & Diu	29,305	0.8
	Total	**3,519,116**	**100.0**

Source: GOI (2005), '*Marine Fisheries Census 2005: Part I*', Ministry of Agriculture, Dept of Animal Husbandry, Dairying & Fisheries, New Delhi.

3.2: Average population of village

Table 2.6 presents average number families per village in different states. It can be noted that highest proportion of average number of families per village is in Kerala (542.7), followed by Pondicherry (412.2 average families per village), Tamil Nadu (330.7 average families per village) and Andhra Pradesh (259.5 average families per village). The lowest proportion of average number of families per village was in Goa (50.3), followed by Orissa (134.7 average families) and West Bengal (155.5 average families per village).

Table 2.6
Population Structure

Sl. No.	State/U.T.	Villages	Families	Average families per village
1	West Bengal	346	53,816	155.5
2	Orissa	641	86,352	134.7
3	Andhra Pradesh	498	129,246	259.5
4	Tamilnadu	581	192,152	330.7
5	Pondicherry	28	11,541	412.2
6	Kerala	222	120,486	542.7
7	Karnataka	156	30,176	193.4
8	Goa	39	1,963	50.3
9	Maharashtra	406	65,313	160.9
10	Gujarat	263	59,889	227.7
11	Daman & Diu	22	5,278	239.9
	Total :	**3202**	**756212**	236.2

Source: GOI (2005), *Marine Fisheries Census 2005 : Part I,* Ministry of Agriculture, Dept of Animal Husbandry, Dairying & Fisheries, New Delhi

3.3: Gender Profile

Table 2.7 reveals the sex wise population of the fisher folks across different maritime states. The data show that in West Bengal, out of the total fisher folk population, 52.7 were males and 47.3 percent were females, followed by 52.3 percent males and 47.7 percent females in Orissa, 51.6 percent and 48.4 percent male and female respectively in Gujarat and 51.3 percent males and 48.7 percent females in Tamil Nadu. 51.7 percent males and 48.3 percent females, out of the total fisher folk population, was from Goa. 50.5 percent males and 49.5 percent females, each were from Pondicherry and Kerala. 50.9 percent and 49.1 percent, males and females out of the total population, were from Daman and Diu.

Table 2.7
Population Structure

Sl. No.	State/U.T.	Population					
		Male	**%age**	**Female**	**%age**	**Total**	**%age**
1	West Bengal	142,022	52.7	127,543	47.3	269,565	100.0
	%age	52.7		47.3		100.0	
2	Orissa	235,610	52.3	214,781	47.7	450,391	100.0
	%age	52.3		47.7		100.0	
3	Andhra Pradesh	259,918	51.0	250,073	49.0	509,991	100.0
	%age	51.0		49.0		100.0	
4	Tamilnadu	405,790	51.3	384,618	48.7	790,408	100.0
	%age	51.3		48.7		100.0	
5	Pondicherry	21,733	50.5	21,295	49.5	43,028	100.0
	%age	50.5		49.5		100.0	
6	Kerala	304,308	50.5	297,926	49.5	602,234	100.0
	%age	50.5		49.5		100.0	
7	Karnataka	86,826	50.8	84,088	49.2	170,914	100.0
	%age	50.8		49.2		100.0	
8	Goa	5,516	51.7	5,152	48.3	10,668	100.0
	%age	51.7		48.3		100.0	
9	Maharashtra	163,363	51.1	156,034	48.9	319,397	100.0
	%age	51.1		48.9		100.0	
10	Gujarat	166,814	51.6	156,401	48.4	323,215	100.0
	%age	51.6		48.4		100.0	
11	Daman & Diu	14,905	50.9	14,400	49.1	29,305	100.0
	%age	50.9		49.1		100.0	
	Total	**1,806,805**	51.3	**1,712,311**	48.7	**3,519,116**	100.0
		51.3		48.7		100.0	

Source: GOI (2005), *Marine Fisheries Census 2005 : Part I,* Ministry of Agriculture, Dept of Animal Husbandry, Dairying & Fisheries, New Delhi

3.4: Population structure

Table 2.8 presents the distribution of population by sex and adult and children. It could be observed that among the males, the highest number of adult and children were from Goa (73.2 percent and 26.8 percent respectively), followed by Karnataka (71.4 percent adult and 28.6 percent children), Kerala (70.2 percent adult and 29.8 percent children) and 67.9

percent adult in Tamil Nadu and Pondicherry. Among the male children 32.1 percent were in Tamil Nadu and 32.4 percent were in Pondicherry.

As far as female population is concerned the maximum number of adults were in Goa (73.3 percent) followed by Karnataka (72.9 percent), Kerala (71.6 percent) and Maharashtra (70.1 percent). Among the female children the highest number was in Gujarat (40.6 percent), followed by Orissa (40.1 percent), West Bengal (39.7 percent) and Andhra Pradesh (39.5 percent). The lowest number of children was in Goa (26.7 percent), followed by Karnataka (27.1 percent) and Maharashtra (29.9 percent).

Table 2.8
Population Structure of Fishing Population

Sl. No.	State/U.T.	Male			Female		
		Adult	Children	Total	Adult	Children	Total
1	West Bengal	86,532	55,490	142,022	76,945	50,598	127,543
	%age	60.9	39.1	100.0	60.3	39.7	100.0
2	Orissa	142,318	93,292	235,610	128,632	86,149	214,781
	%age	60.4	39.6	100.0	59.9	40.1	100.0
3	Andhra Pradesh	152,096	107,822	259,918	151,184	98,889	250,073
	%age	58.5	41.5	100.0	60.5	39.5	100.0
4	Tamilnadu	275,556	130,234	405,790	262,847	121,771	384,618
	%age	67.9	32.1	100.0	68.3	31.7	100.0
5	Pondicherry	14,697	7,036	21,733	14,738	6,557	21,295
	%age	67.6	32.4	100.0	69.2	30.8	100.0
6	Kerala	213,773	90,535	304,308	213,319	84,607	297,926
	%age	70.2	29.8	100.0	71.6	28.4	100.0
7	Karnataka	61,969	24,857	86,826	61,332	22,756	84,088
	%age	71.4	28.6	100.0	72.9	27.1	100.0
8	Goa	4,036	1,480	5,516	3,778	1,374	5,152
	%age	73.2	26.8	100.0	73.3	26.7	100.0
9	Maharashtra	111,665	51,698	163,363	109,331	46,703	156,034
	%age	68.4	31.6	100.0	70.1	29.9	100.0
10	Gujarat	97,907	68,907	166,814	92,958	63,443	156,401
	%age	58.7	41.3	100.0	59.4	40.6	100.0
11	Daman & Diu	8,952	5,953	14,905	8,860	5,540	14,400
	%age	60.1	39.9	100.0	61.5	38.5	100.0
	Total	**1,169,501**	**637,304**	**1,806,805**	**1,123,924**	**588,387**	**1,712,311**
	%age	64.7	35.3	100.0	65.6	34.4	100.0

Source: GOI (2005), *Marine Fisheries Census 2005 : Part I,* Ministry of Agriculture, Dept of Animal Husbandry, Dairying & Fisheries, New Delhi

3.5: Educational Level in West Bengal

Table 2.9 presents the distribution of fishermen by their educational status. It can be observed that in West Bengal, 30.9 percent fisher people had education upto primary level, followed by 12.5 percent who had education upto secondary level and 2.2 percent attained education upto Higher Secondary level. However, it may also be noted that 54.4 percent fisher population was illiterate in West Bengal.

Table 2.9
Educational Status of Marine Fishermen in West Bengal

Sl. No.	Education Level	Number	%age
1	Primary	83,301	30.9
2	Secondary	33,734	12.5
3	Above Secondary	6,018	2.2
4	Not Educated	146,512	54.4
	Total	**269,565**	**100.0**

Source: GOI (2005), *Marine Fisheries Census 2005: Part I,* Ministry of Agriculture, Dept of Animal Husbandry, Dairying & Fisheries, New Delhi

3.6: Educational level in West Orissa

Educational status of fisher population in Orissa is shown in Table 2.10. The data show that 31.5 percent had obtained education up to primary level, followed by 12.6 percent who had education up to secondary level and 3.7 percent were literate up to higher secondary. Further, it can be noticed that 52.1 percent fisher people were illiterate.

Table 2.10
Educational Status in Orissa

Sl. No.	Education Level	Number	%age
1	Primary	142,005	31.5
2	Secondary	56,879	12.6
3	Above Secondary	16,783	3.7
4	Not Educated	234,724	52.1
	Total	**450,391**	**100.0**

Source: GOI (2005), *Marine Fisheries Census 2005 : Part I,* Ministry of Agriculture, Dept of Animal Husbandry, Dairying & Fisheries, New Delhi

3.7: Educational Level: Andhra Pradesh

Table 2.11 illustrates the distribution of fisher population by their educational status in Andhra Pradesh. It can be noted that 21.8 percent

fisher people were literate up to primary level, followed by 9.0 percent who had education up to secondary level and 1.6 percent had education up to higher secondary. Of the total population, 67.5 percent fisher population was illiterate.

Table 2.11
Educational Status in all status in Andhra Pradesh

Sl. No.	Education Level	Number	%age
1	Primary	111,403	21.8
2	Secondary	45,827	9.0
3	Above Secondary	8,384	1.6
4	Not Educated	344,377	67.5
	Total	**509,991**	100.0

Source: GOI (2005) *Marine Fisheries Census 2005: Part I,* Ministry of Agriculture, Dept of Animal Husbandry, Dairying & Fisheries, New Delhi

3.8: Educational Level: Tamil Nadu

Table 2.12 further highlights the educational status of fisher population in Tamil Nadu. As could be seen, 32.9 percent fisher people had education upto primary level, followed by 26.1 percent who were educated upto secondary level and 7.7 percent were literate upto higher secondary. 33.3 percent fisher population was illiterate.

Table 2.12
Educational Status in Tamil Nadu

Sl. No.	Education Level	Number	%age
1	Primary	260,088	32.9
2	Secondary	206,257	26.1
3	Above Secondary	61,229	7.7
4	Not Educated	262,834	33.3
	Total	**790,408**	100.0

Source: GOI (2005), *Marine Fisheries Census 2005 : Part I,* Ministry of Agriculture, Dept of Animal Husbandry, Dairying & Fisheries, New Delhi

3.9: Educational Level: Pondicherry

The educational status of fisher population in Pondicherry is presented in Table 2.13. The data show indicate that out of the total fisher population, 29.7 percent in Pondicherry were educated upto primary level, followed

by 25.3 percent who were educated up to secondary level, and 8.2 percent had education upto above secondary. 36.8 percent fisher people were illiterate.

Table 2.13
Educational Status in Pondicherry

Sl. No.	Education Level	Number	%age
1	Primary	12,763	29.7
2	Secondary	10,904	25.3
3	Above Secondary	3,518	8.2
4	Not Educated	15,843	36.8
	Total	**43,028**	100.0

Source: GOI (2005) *Marine Fisheries Census 2005 : Part I,* Ministry of Agriculture, Dept of Animal Husbandry, Dairying & Fisheries, New Delhi

3.10: Education Profile: Kerala

Table 2.14 presents the educational status of fisher population in Kerala. The data show that out of the total population, 28.5 percent had education upto primary level, followed by 36.3 percent who were educated upto secondary and 8.1 percent had education upto higher secondary. 27.2 percent fisher population was illiterate.

Table 2.14
Educational Status in Kerala

Sl. No.	Education Level	Number	%age
1	Primary	171,470	28.5
2	Secondary	218,704	36.3
3	Above Secondary	48,493	8.1
4	Not Educated	163,567	27.2
	Total	**602,234**	100.0

Source: GOI (2005), *Marine Fisheries Census 2005 : Part I,* Ministry of Agriculture, Dept of Animal Husbandry, Dairying & Fisheries, New Delhi

3.11: Educational Profile: Karnataka

In Karnataka State, out of the total fisher population, 30.8 percent were educated upto primary level followed by 29.0 percent who had education upto secondary level and 10.1 percent had education upto higher secondary level. 30.1 percent from the total, were not educated (see Table 2.15).

Table 2.15
Educational Status in Karnataka

Sl. No.	Education Level	Number	%age
1	Primary	52,572	30.8
2	Secondary	49,606	29.0
3	Above Secondary	17,346	10.1
4	Not Educated	51,390	30.1
	Total	**170,914**	100.0

Source: GOI (2005) *Marine Fisheries Census 2005 : Part I,* Ministry of Agriculture, Dept of Animal Husbandry, Dairying & Fisheries, New Delhi

3.12: Educational Profile: Goa

Table 2.16 illustrates the educational status of fisher population in Goa. The data show that 15.9 percent from the total, were educated upto primary level, followed by 42.9 percent who were educated upto secondary level and 10.3 percent were educated upto higher secondary level. 30.9 percent of the total were illiterate.

Table 2.16
Educational Status in Goa

Sl. No.	Education Level	Number	%age
1	Primary	1,691	15.9
2	Secondary	4,581	42.9
3	Above Secondary	1,102	10.3
4	Not Educated	3,294	30.9
	Total	**10,668**	100.0

Source: GOI (2005) *Marine Fisheries Census 2005 : Part I,* Ministry of Agriculture, Dept of Animal Husbandry, Dairying & Fisheries, New Delhi.

3.13: Occupational Profile

Table 2.17 presents the occupational profile of fisher folk population. Out of the total population, 18.8 percent were totally occupied in Tamil Nadu, followed by Andhra Pradesh (17.4 percent), Orissa (16.7 percent) and Kerala (13.0 percent) totally occupied.

The lowest number of totally occupied fisher folk population was found in Goa (0.4 percent) and Daman & Diu (0.4 percent) and followed by Pondicherry (1.3 percent).

Among the fisher folk population the highest proportion was occupied in other than fishing in Orissa (18.5 percent) followed by Kerala (16.0 percent) and Tamil Nadu (15.4 percent).

The lowest number of people engaged in occupations other than fishing was found in Daman & Diu (0.1 percent), followed by Goa (0.6 percent) and Pondicherry (2.0 percent).

Table 2.17
Occupational Profile Fisher folk Population

Sl. No.	State/U.T.	Other than fishing	%age	Total occupied	%age	Total fisher folk population	%age
1	West Bengal	1,968	2.4	130,459	7.5	269,565	7.7
	%age	0.7		48.4		100.0	
2	Orissa	15,359	18.5	289,175	16.7	450,391	12.8
	%age	3.4		64.2		100.0	
3	Andhra Pradesh	8,727	10.5	300,233	17.4	509,991	14.5
	%age	1.7		58.9		100.0	
4	Tamil Nadu	12,817	15.4	324,234	18.8	790,408	22.5
	%age	1.6		41.0		100.0	
5	Pondicherry	1,697	2.0	22,133	1.3	43,028	1.2
	%age	3.9		51.4		100.0	
6	Kerala	13,310	16.0	224,606	13.0	602,234	17.1
	%age	2.2		37.3		100.0	
7	Karnataka	7,500	9.0	90,831	5.3	170,914	4.9
	%age	4.4		53.1		100.0	
8	Goa	502	0.6	6,399	0.4	10,668	0.3
	%age	4.7		60.0		100.0	
9	Maharashtra	10,725	12.9	164,579	9.5	319,397	9.1
	%age	3.4		51.5		100.0	
10	Gujarat	10,390	12.5	168,794	9.8	323,215	9.2
	%age	3.2		52.2		100.0	
11	Daman & Diu	78	0.1	7,549	0.4	29,305	0.8
	%age	0.3		25.8		100.0	
	Total	**83,073**	100.0	**1,728,992**	100.0	**3,519,116**	100.0
	%age	2.4		49.1		100.0	

Source: Ibid

4: Fishing and allied activities

4.1: Marketing

The distribution of male engaged in fishing and allied activities is illustrated in Table 2.18. It could be noted that among the males engaged in marketing of fish, the highest number was found in Orissa (21.3 percent), followed by Maharashtra (17.8 percent) and Kerala (13.9 percent). The lowest number was found in Daman & Diu (5.2 percent) followed by Karnataka (9.5 percent) and Pondicherry (9.4 percent).

4.2: Net-making

The proportion of males occupied in making/repairing net was highest in Karnataka (37.9 percent) followed by Andhra Pradesh (37.1 percent) and Orissa (33.0 percent).

The lowest proportion of such males was in Daman & Diu (6.4 percent).

4.3: Curing and processing

The males employed in curing and processing was maximum in Orissa (1.2 percent) followed by Andhra Pradesh (6.1 percent) and Gujarat (4.1 percent).

The lowest number of such males was found in Karnataka (1.1 percent), by Tamil Nadu (1.4 percent) and Daman & Diu (2.1 percent).

4.4: Peeling

The males occupied in peeling activity were highest in Gujarat (3.4 percent), followed by Orissa (1.6 percent) and Tamil Nadu and Kerala (1.2 percent each).

The lowest proportion of such males was in West Bengal (0.6 percent), followed by Andhra Pradesh (0.7 percent) and Maharashtra (0.7 percent). Among the labourers the highest number of males were engaged in West Bengal (56.9 percent), followed by Kerala (44.1 percent) and Tamil Nadu (40.9 percent).

The lowest proportion of male labourers was found in Daman & Diu (10.3 percent).

4.5: Other activities

In other activities the number of males was maximum in Daman & Diu (76.0 percent) followed by Pondicherry (44.6 percent) and Goa (36.5 percent).

The lowest number of such males was found in Orissa (5.6 percent), Andhra Pradesh (6.0 percent) and West Bengal (7.4 percent).

Table 2.18
Distribution of Male Engaged in Fishing Allied Activities

Sl. No.	State/U.T.	Male						
		Marketing of fish	**Making/ Repairing Net**	**Curing/ Processing**	**Peeling**	**Labourer**	**Others**	**Total**
1	West Bengal	4,492	7,711	1,936	250	22,872	2,965	40,226
	%age	11.2	19.2	4.8	0.6	56.9	7.4	100.0
2	Orissa	21,753	33,734	11,402	1,606	28,007	5,681	102,183
	%age	21.3	33.0	11.2	1.6	27.4	5.6	100.0
3	Andhra Pradesh	7,177	22,995	3,795	417	23,903	3,690	61,977
	%age	11.6	37.1	6.1	0.7	38.6	6.0	100.0
4	Tamil Nadu	5,107	16,775	760	680	22,627	9,328	55,277
	%age	9.2	30.3	1.4	1.2	40.9	16.9	100.0
5	Pondicherry	261	610	14	2	646	1,235	2,768
	%age	9.4	22.0	0.5	0.1	23.3	44.6	100.0
6	Kerala	4,964	5,500	590	416	15,705	8,447	35,622
	%age	13.9	15.4	1.7	1.2	44.1	23.7	100.0
7	Karnataka	1,927	7,690	221	161	7,757	2,527	20,283
	%age	9.5	37.9	1.1	0.8	38.2	12.5	100.0
8	Goa	219	475	0	0	501	686	1,881
	%age	11.6	25.3	0.0	0.0	26.6	36.5	100.0
9	Maharashtra	4,534	7,618	625	186	8,075	4,465	25,503
	%age	17.8	29.9	2.5	0.7	31.7	17.5	100.0
10	Gujarat	4,219	8,532	1,861	1,533	23,304	5,430	44,879
	%age	9.4	19.0	4.1	3.4	51.9	12.1	100.0
11	Daman & Diu	17	21	7	0	34	250	329
	%age	5.2	6.4	2.1	0.0	10.3	76.0	100.0
	Total	54,670	11,661	21,211	5,251	153,431	44,704	390,928
	%age	14.0	3.0	5.4	1.3	39.2	11.4	100.0

Source: Ibid

4.6: Allied Activities: Female

Table 2.19 reveals the distribution of female fishing workers in allied activities. The proportion of females in marketing of fish was highest in Pondicherry (14.3 percent), followed by Goa (13.8 percent) and Maharashtra (12.3 percent).

The lowest proportion of females was in West Bengal (0.3 percent) followed by Orissa (2.2 percent) and Kerala (2.2 percent).

4.7: Net making etc.

In making/repairing of net the females' participation rate was highest in West Bengal (2.8 percent), followed by Gujarat (1.5 percent) and Orissa (1.4 percent).

The lowest number of women workers engaged in making net was in Karnataka (0.1 percent), followed by Daman & Diu (0.2 percent) and Tamil Nadu (0.3 percent).

4.8: Processing

The females' engagement in curing and processing was maximum in Andhra Pradesh (4.8 percent), followed by Orissa (3.7 percent) and Karnataka (1.8 percent).

The proportion of female was lowest in Gujarat (0.4 percent) followed by Kerala (0.5 percent) and Tamil Nadu (0.7 percent). In peeling activity, the women's proportion was highest in Kerala (1.3 percent), followed by Gujarat (0.9 percent) and Andhra Pradesh (0.5 percent).

4.9: Peeling

The lowest proportion of females in 'peeling' was in Karnataka (0.2 percent), followed by Tamil Nadu (0.2 percent) and Maharashtra (0.4 percent).

Among the labourers, the female participation rate was highest in Andhra Pradesh (6.2 percent), followed by Karnataka (3.7 percent) and Gujarat (2.5 percent).

The proportion of such females was lowest in Goa (0.1 percent), followed by Pondicherry (0.2 percent) and Kerala (0.3 percent). In other activities, the maximum number of females were engaged in Pondicherry (1.8 percent), followed by Orissa (1.4 percent) and West Bengal (1.1 percent).

In the same category women's participation was lowest in Goa (0.1 percent), followed by Daman and Diu (0.4 percent) and Maharashtra (0.7 percent).

It can be noticed that in the fishery and allied activities, women's participation is much lower than their male counterparts.

Table 2.19
Distribution of Female Fishing Allied Activities

Sl. No.	State/U.T.	Marketing of fish	Making/ Repairing Net	Curing/ Processing	Peeling	Labourer	Others	Total	Total	Total fisher folk population
1	West Bengal	745	7,615	2,769	228	3,279	2,879	17,515	57,741	269,565
	%age	0.3	2.8	1.0	0.1	1.2	1.1	6.5	21.4	100.0
2	Orissa	9,938	6,518	16,447	1,561	9,774	6,113	50,351	152,534	450,391
	%age	2.2	1.4	3.7	0.3	2.2	1.4	11.2	33.9	100.0
3	Andhra Pradesh	27,160	931	24,524	2,579	31,469	4,252	90,915	152,892	509,991
	%age	5.3	0.2	4.8	0.5	6.2	0.8	17.8	30.0	100.0
4	Tamil Nadu	31,019	2,276	5,490	1,427	3,030	5,990	49,232	104,509	790,408
	%age	3.9	0.3	0.7	0.2	0.4	0.8	6.2	13.2	100.0
5	Pondicherry	6,132	20	350	3	68	754	7,327	10,095	43,028
	%age	14.3	0.0	0.8	0.0	0.2	1.8	17.0	23.5	100.0
6	Kerala	13,012	4,060	3,291	7,641	1,537	5,911	35,452	71,074	602,234
	%age	2.2	0.7	0.5	1.3	0.3	1.0	5.9	11.8	100.0
7	Karnataka	12,400	186	3,121	420	6,286	3,003	25,416	45,699	170,914
	%age	7.3	0.1	1.8	0.2	3.7	1.8	14.9	26.7	100.0
8	Goa	1,469	4	0	0	14	14	1,501	3,382	10,668
	%age	13.8	0.0	0.0	0.0	0.1	0.1	14.1	31.7	100.0
9	Maharashtra	39,288	1,468	8,584	1,253	3,490	2,194	56,277	81,780	319,397
	%age	12.3	0.5	2.7	0.4	1.1	0.7	17.6	25.6	100.0
10	Gujarat	10,666	4,920	1,351	2,777	8,062	2,427	30,203	75,082	323,215
	%age	3.3	1.5	0.4	0.9	2.5	0.8	9.3	23.2	100.0
11	Daman & Diu	883	59	4	3	222	123	1,274	1,603	29,305
	%age	3.0	0.2	0.0	0.0	0.8	0.4	4.3	5.5	100.0
	Total	**152,692**	**23,057**	**65,931**	**17,892**	**67,231**	**33,660**	**365,463**	**756,391**	**3,519,116**
	%age	4.3	0.7	1.9	0.5	1.9	1.0	10.4	21.5	100.0

Source: Ibid

5: Religious Profile

Family wise distribution of fisher folk population by religion and community is shown in Table 2.20. The data show that out of the total fisher population, 99.8 percent families in Daman and Diu were practicing Hinduism, followed by 99.2 percent from Pondicherry who followed Hinduism, 99.0 percent Hindu families were from Andhra Pradesh and 93.1 percent such families were from West Bengal.

The lowest number of families having faith in Hinduism was from Kerala (30.7 percent). Among the followers of Islam, the highest proportion was from Kerala (26.9 percent) followed by Gujarat (22.5 percent) and Karnataka (8.9 percent).

The lowest proportion of fisher families who had faith in Islam was from Andhra Pradesh (0.1 percent), followed by Daman & Diu (0.2 percent) and Pondicherry (0.6 percent).

The fisher families who practiced Christianity, were highest in Kerala (42.4 percent), followed by Goa (37.3 percent) and Tamil Nadu (34.6 percent).

The lowest proportion of fisher families in Christianity was in West Bengal (0.1 percent) and Pondicherry (0.1 percent followed by Orissa (0.9 percent) and Karnataka (1.2 percent). 0.1 percent fisher families were from other religious groups.

Community wise distribution of families highlight that highest number of SC/ST families were from Orissa (54.7 percent), followed by West Bengal (52.4 percent) and Maharashtra (49.9 percent).

The lowest number of SC/ST families were from Pondicherry (0.3 percent), followed by Daman & Diu (1.3 percent) and Kerala (1.5 percent).

Table 2.20
Religion and Community (No. of Families)

Sl. No.	State/U.T.	Religion				Total	Community SC/ST
		Hinduism	Islam	Christianity	Others		
1	West Bengal	50,093	3,667	56	0	53,816	28,187
	%age	93.1	6.8	0.1	0.0	100.0	52.4
2	Orissa	84,725	814	813	0	86,352	47,265
	%age	98.1	0.9	0.9	0.0	100.0	54.7

Sl. No.	State/U.T.	Religion				Total	Community SC/ST
		Hinduism	Islam	Christianity	Others		
3	Andhra Pradesh	127,905	183	1,158	0	129,246	337
	%age	99.0	0.1	0.9	0.0	100.0	0.3
4	Tamil Nadu	113,204	12,493	66,455	0	192,152	10,829
	%age	58.9	6.5	34.6	0.0	100.0	5.6
5	Pondicherry	11,454	71	16	0	11,541	33
	%age	99.2	0.6	0.1	0.0	100.0	0.3
6	Kerala	37,022	32,400	51,064	0	120,486	1,833
	%age	30.7	26.9	42.4	0.0	100.0	1.5
7	Karnataka	27,125	2,683	368	0	30,176	1,970
	%age	89.9	8.9	1.2	0.0	100.0	6.5
8	Goa	1,209	22	732	0	1,963	0
	%age	61.6	1.1	37.3	0.0	100.0	0.0
9	Maharashtra	56,214	4,066	4,991	42	65,313	32,580
	%age	86.1	6.2	7.6	0.1	100.0	49.9
10	Gujarat	46,416	13,457	16	0	59,889	3,928
	%age	77.5	22.5	0.0	0.0	100.0	6.6
11	Daman & Diu	5,269	9	0	0	5,278	71
	%age	99.8	0.2	0.0	0.0	100.0	1.3
	Total	560,636	69,865	125,669	42	756,212	127,033
	%age	74.1	9.2	16.6	0.0	100.0	16.8

Source: Ibid

6: Membership in Cooperatives

The distribution of fisher folk population by membership in cooperatives is presented in Table 2.21. It could be noted that out of the total population, 98.6 percent fisher folks from Daman & Diu were members of fisheries cooperatives followed by 32.6 percent who were from Gujarat and 84.2 percent from Maharashtra were members of fisheries cooperatives. The lowest proportion of fisher folks who were members of fisheries cooperative was from Andhra Pradesh.

Similarly, 50.0 percent of the fisher folks from Orissa were members of other cooperatives, followed by 34.1 percent who were from Kerala, and 25.3 percent from Karnataka were members of other cooperatives.

The lowest proportion of fisher folks who were members of other cooperative, was found in Daman & Diu (1.4 percent), followed by Goa (3.8 percent) and Gujarat (7.4 percent).

Table 2.21
Membership in Co-operatives

Sl. No.	State/U.T.	Members in			
		Fisheries co-operatives	Other co-operatives	Total	Total fisher folk population
1	West Bengal	4,281	1,092	5,373	269,565
	%age	79.7	20.3	100.0	7.7
2	Orissa	18,977	18,951	37,928	450,391
	%age	50.0	50.0	100.0	12.8
3	Andhra Pradesh	46,238	53,136	99,374	509,991
	%age	9.1	10.4	19.5	14.5
4	Tamil Nadu	243,282	80,488	323,770	790,408
	%age	75.1	24.9	100.0	22.5
5	Pondicherry	21,493	5,582	27,075	43,028
	%age	79.4	20.6	100.0	1.2
6	Kerala	119,406	61,479	180,385	602,234
	%age	66.2	34.1	100.0	17.1
7	Karnataka	18,018	6,103	24,121	170,914
	%age	74.7	25.3	100.0	4.9
8	Goa	355	14	369	10,668
	%age	96.2	3.8	100.0	0.3
9	Maharashtra	38,221	7,169	45,390	319,397
	%age	84.2	15.8	100.0	9.1
10	Gujarat	4,218	336	4,554	323,215
	%age	92.6	7.4	100.0	9.2
11	Daman & Diu	214	3	217	29,305
	%age	98.6	1.4	100.0	0.8
	Total	**514,703**	**234,353**	**749,056**	**3,519,116**
	%age	68.7	31.3	100.0	100.0

Source: Ibid

7: Fish Production

Table 2.22 presents year-wise and state-wise distribution of fish production. It could be noted that in 2000-01 the highest fish production was recorded in West Bengal (1060.23 tonnes), followed by Gujarat (660.74 tonnes), Kerala (651.81 tonnes) and Tamil Nadu (481.42 percent).

During the same year the lowest production was recorded in Dadar & Nagar Haveli (0.04 tonnes), followed by Chandigarh (0.08 tonnes) and Arunachal Pradesh (2.5 percent).

In the year 2001-02 the highest fish production was again recorded in West Bengal (1100.1 tonnes), followed by Gujarat (701.6 tonnes) and Andhra Pradesh (676.11 tonnes).

The lowest production was in Chandigarh (0.04 percent) followed by Sikkim (0.14 percent) and Dadra & Nagar Haveli (0.06 percent). The maximum production of fish in the year 2002-03 was in West Bengal (1120 tonnes) followed by Andhra Pradesh (827.9 tonnes) and Gujarat (777.91 tonnes).

The minimum production was recorded in Dadra & Nagar Haveli (0.05 thousand tonnes), followed by Chandigarh (0.8 tonnes) and Sikkim (0.14 thousand tonnes).

In 2003-04, the highest fish production was recorded in West Bengal (1169.6 thousand tones), followed by Andhra Pradesh (944.64 thousand tones) and Kerala (684.7 thousand tones).

The lowest fish production was recorded in Dadra & Nagar Haveli (0.05 thousand tones), followed by Chandigarh (0.08 thousand tones) and Sikkim (0.14 thousand tones).

In 2004-05 the highest fish production was recorded in West Bengal (1215 thousand tones), followed by Goa (990.44 thousand tones) and Andhra Pradesh (853.05 thousand tones).

The lowest fish production was recorded in Chandigarh (0.08 thousand tones), followed by Dadra & Nagar Haveli (0.05 thousand tonnes) and Sikkim (0.14 thousand tonnes).

In the year 2005-06 the maximum fish production was in West Bengal (1250 thousand tones), followed by Andhra Pradesh (891.09 thousand tones) and Gujarat (733.82 thousand tones).

The minimum production was in Dadra & Nagar Haveli (0.05 thousand tones), followed by Delhi (0.7 thousand tones) and Chandigarh (0.09 thousand tones).

In 2006-07 the highest production of fish was in West Bengal (1359.1 thousand tones), followed by Andhra Pradesh (856.93 thousand tones) and Gujarat (747.33 thousand tones).

The lowest Production was found in Dadra & Nagar Haveli (0.05 thousand tones), followed by Delhi (0.61 thousand tones) and Sikkim (0.15 thousand tones).

The data show that in West Bengal the fish production was continuously increasing from 2000-01 to 2006-07). In Andhra Pradesh there was also continuous increase from 2000-01 to 2003-04 but in 2004-05 the fish production recorded a decline, in 2005-06 there was slight increase but in 2006-07 the production marginally decreased.

In Sikkim from 2000-01 to 2005-06 there was stagnation in fish production. In Dadra and Nagar Haveli similar trend existed. In Delhi and Chandigarh, fishing is not a prime activity, thus lower production.

Table 2.22
Year-wise, state-wise distribution of fish production (In thousand tonnes)

Sl. No.	State/UT	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07 (P)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Andhra Pradesh	589.69	676.11	827.9	944.64	853.05	891.09	856.93
2.	Arunachal Pradesh	2.5	2.6	2.6	2.65	2.7	2.75	2.77
3.	Assam	158.62	161.45	165.52	181	186.31	188	181.48
4.	Bihar	222.16	240.4	261	266.49	267.51	279.53	267.04
5.	Goa	71.57	69.92	76.53	87.36	990.44	104.95	102.39
6.	Gujarat	660.74	701.6	777.91	654.62	635.21	733.82	747.33
7.	Haryana	33.04	34.57	35.18	39.13	42.05	48.2	60.08
8.	Himachal Pradesh	7.02	7.22	7.24	6.53	6.9	7.29	6.89
9.	Jammu & Kashmir	17.51	18.85	19.75	19.75	19.1	19.15	19.2
10.	Karnataka	303.38	249.61	266.42	257	251.23	297.57	292.46
11.	Kerala	651.81	671.82	678.32	684.7	678.31	636.89	677.63
12.	Madhya Pradesh	48.84	47.46	42.17	50.82	62.06	61.08	65.04
13.	Maharashtra	526.1	537.05	514.1	545.13	548.02	580.55	595.94
14.	Manipur	16.05	16.45	16.6	17.6	17.8	18.22	18.61
15.	Meghalaya	6.18	4.97	5.37	5.15	5.64	4.12	5.49
16.	Mizoram	2.86	3.15	3.25	3.38	3.68	3.75	3.76
17.	Nagaland	5.5	5.2	5.5	5.56	4.9	5.5	5.8
18.	Orissa	259.64	281.95	287.53	306.9	315.59	325.45	342.04
19.	Punjab	52	58	66	83.65	77.7	85.64	86.7
20.	Rajasthan	12.12	14.27	25.6	14.3	16.39	18.5	22.2
21.	Sikkim	0.14	0.14	0.14	0.14	0.14	0.15	0.15
22.	Tamil Nadu	481.42	485	437.5	474.14	459.43	463.03	542.28
23.	Tripura	29.42	29.45	29.52	17.98	19.84	23.87	28.63
24.	Uttar Pradesh	208.29	225.37	249.84	267	277.07	289.58	306.73
25.	West Bengal	1060.23	1100.1	1120	1169.6	1215	1250	1359.1
26.	A & N Islands	27.68	27.08	28.3	31.15	32.68	12.09	28.68

Sl. No.	State/UT	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07 (P)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
27.	Chandigarh	0.08	0.04	0.08	0.08	0.08	0.09	0.17
28.	Dadra & Nagar Haveli	0.04	0.06	0.05	0.05	0.05	0.05	0.05
29.	Daman & Diu	16.38	21.52	11.26	13.77	12.51	17.79	16.41
30.	Delhi	3.98	3.2	2.25	2.1	1.41	0.7	0.61
31.	Lakshadweep	12	13.65	7.5	10.03	11.96	11.96	11.75
32.	Pondicherry	43.3	44.5	45.02	48	36.75	21.45	39.66
33.	Chhattisgarh	43.39	95.76	99.8	111.05	120.07	131.75	137.75
34.	Uttaranchal	9.07	6.42	2.55	2.56	2.57	2.79	3.03
35.	Jharkhand	42.6	101	45.38	75.38	22	34.27	34.27
36.	Dep Sea Fishing	30	NA	NA	NA	NA	NA	NA
	Total	**5655.35**	**5955.93**	**6199.68**	**6399.39**	**6304.75**	**6571.62**	**6869.05**

Note: N.A - Not Available

Source: Ministry of Food Processing Industries (2007-08) Annual Report Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.1: Production in Andhra Pradesh

Table 2.23 highlights the year wise fish production in Andhra Pradesh. In the State the maximum fish production was in 2003-04 (944.64 thousand tones). In 2001-02 there was a growth of 12.8 percent in fish production. This increased in 2002-03 by 18.3 percent, in 2004-05 it declined by 10.7 percent. The fish production in Andhra Pradesh rose by 4.3 percent in 2005-06 and marginally declined in 2006-07.

Pradesh Table 2.23
Year-wise fish production in Andhra (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	589.69	-
2	2001-02	676.11	12.8
3	2002-03	827.90	18.3
4	2003-04	944.64	12.4
5	2004-05	853.05	-10.7
6	2005-06	891.09	4.3
7	2006-07 (P)	856.93	4

Source: Ministry of Food Processing Industries (2007-08) Annual Report Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.2: Production in Arunachal Pradesh

The year-wise production of fish in Arunachal Pradesh is illustrated in Table 2.24. It can be noticed that from 2000-01 to 2002-03 there was extremely marginal growth in the State. Then it showed an increasing trend from 2000-01 to 2001-02, there was substantial growth in fish production (3.8 percent). In 2002-03 it was stagnant. In 2003-04 and 2004-05 there was a growth of 1.9 percent each respectively. Then the production slightly increased (1.8 percent and 0.7 percent) in the years 2005-06 and 2006-07.

Table: 2.24
Year-wise fish production in Arunachal Pradesh (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	**2000-01**	2.5	-
2	**2001-02**	2.6	3.8
3	**2002-03**	2.6	0.0
4	**2003-04**	2.65	1.9
5	**2004-05**	2.7	1.9
6	**2005-06**	2.75	1.8
7	**2006-07 (P)**	2.77	0.7

Source: Ministry of Food Processing Industries (2007-08) Annual Report Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.3: Production in Assam

Table 25 presents the year-wise fish production in Assam. The highest production in the State was in 2005-06 (188.00 thousand tones). In Assam the fish production shows an increasing trend from 2000-01 to 2005-06. But it declined in 2006-07 (181.46 thousand tones). The highest percent growth was 8.6 percent from 2002-03 to 2003-04. The production decreased with 3.6 percent growth in 2006-07.

Table 2.25
Year-wise fish production in Assam (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	**(2)**	**(3)**	**(4)**
1	2000-01	158.62	-
2	2001-02	161.45	1.8
3	2002-03	165.52	2.5

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
4	2003-04	181.00	8.6
5	2004-05	186.31	2.9
6	2005-06	188.00	0.9
7	2006-07 (P)	181.46	-3.6

Source: Ministry of Food Processing Industries (2007-08) Annual Report Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.4: Production in Bihar

The year wise fish production in Bihar is revealed in Table 2.26. The maximum fish production in Bihar was in 2005-06 (279.53 thousand tones) followed by in 2003-04 (266.49 thousand tones) and 2002-03 (261.00 thousand tones). From 2000-01 to 2005-06 there is a continuous increase in fish production, but 4.7 percent decline was noted in the growth in year 2006-07.

Table 2.26
Year-wise fish production in Bihar (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	222.16	-
2	2001-02	240.40	7.6
3	2002-03	261.00	7.9
4	2003-04	266.49	2.1
5	2004-05	267.51	0.4
6	2005-06	279.53	4.3
7	2006-07 (P)	267.04	-4.7

Source: Ministry of Food Processing Industries (2007-08) Annual Report Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.5: Fish Production in Goa

Table 2.27 highlights the year wise fish production in Goa. The data indicate that the highest production in Goa was in the year 2004-05 (990.44 thousand tones). In this year there was a steep rise in the production of fish in Goa. From 2000-01 to 2004-05 there is an increasing trend in production. But, in 2005-06 there is a sharp decline in it, (-843.7 percent) and in 2006-07 (-2.5 percent).

Table 2.27
Year-wise fish production in Goa (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	71.57	-
2	2001-02	69.92	-2.4
3	2002-03	76.53	8.6
4	2003-04	87.36	12.4
5	2004-05	990.44	91.2
6	2005-06	104.95	-843.7
7	2006-07 (P)	102.39	-2.5

Source: Ministry of Food Processing Industries (2007-08) *Annual Report,* Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.6: Production in Gujarat

The data in Table 2.28 shows the year-wise fish production in Gujarat. The highest production in the State was recorded in 2002-03 (777.91 thousand tones), followed by 2006-07 (747.33 thousand tones) and 2005-06 (733.82 thousand tones). From 2000-01 to 2002-03 there was increase in production. But in 2003-04 there was a sharp decline (-18.8 percent), which continued till 2004-05. In the years 2005-06 and 2006-07, there was again an increase in fish production.

Table 2.28
Year-wise fish production in Gujarat (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	660.74	-
2	2001-02	701.6	5.8
3	2002-03	777.91	9.8
4	2003-04	654.62	-18.8
5	2004-05	635.21	-3.1
6	2005-06	733.82	13.4
7	2006-07 (P)	747.33	1.8

Source: Ministry of Food Processing Industries (2007-08) Annual Report Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.7: Production in Haryana

Table 2.29 presents the year wise fish production in Haryana. In Haryana, the highest production took place in 2006-07 (60.08 thousand tones). The fish production in the State is showing an increasing trend. The increase from 2002-03 to 2003-04 was 10.1 percent, then from 6.9 percent growth in production in 2004-05 there a jump of 12.8 percent in 2005-06, and in 2006-07 the production increased to 19.8 percent.

Table 2.29
Year-wise fish production in Haryana (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	33.04	-
2	2001-02	34.57	4.4
3	2002-03	35.18	1.7
4	2003-04	39.13	10.1
5	2004-05	42.05	6.9
6	2005-06	48.2	12.8
7	2006-07 (P)	60.08	19.8

Source: GOI (2008) Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

78: Production in Himachal Pradesh

The year-wise fish production in Himachal Pradesh is given in Table 2.30. In the state the production of fish marginally increased from 2000-01 to 2002-03 (2.8 percent and 0.3 percent respectively). It substantially declined in 2003-04 (-10.9 percent). There was a slight increase in 2005-06, but it again declined by -5.8 percent.

Table 2.30
Year-wise fish production in Himachal Pradesh (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	7.02	-
2	2001-02	7.22	2.8

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
3	2002-03	7.24	0.3
4	2003-04	6.53	-10.9
5	2004-05	6.9	5.4
6	2005-06	7.29	5.3
7	2006-07 (P)	6.89	-5.8

Source: GOI. Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.9: Production in Jammu & Kashmir

The data in Table 2.31 illustrate year-wise fish production of fish in Jammu & Kashmir. It can be noted that from 2000-01 to 2002-03 the fish production increased (7.1 percent and 4.6 percent respectively). In 2003-04 there was no increase in production, whereas in 2004-05 it recorded a decline of -3.4 percent. There was a marginal increase in 2005-06 and 2006-07 (0.3 percent each).

Table 2.31
Year-wise fish production in Jammu & Kashmir (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	17.51	-
2	2001-02	18.85	7.1
3	2002-03	19.75	4.6
4	2003-04	19.75	0
5	2004-05	19.1	-3.4
6	2005-06	19.15	0.3
7	2006-07 (P)	19.2	0.3

Source: Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.10: Production in Karnataka

Table 2.32 highlights the year wise production of fish in Karnataka. The highest production (303.38 thousand tones) in the state could be noticed in 2000-01. In 2001-02 the production of fish declined (-21.5 percent).

There was marginal increase in 2002-03 (6.3 percent), it again decreased in 2003-04, 2004-05 and 2006-07 (-3.7 percent, -2.3 percent and -1.7 percent respectively).

Table 2.32
Year-wise fish production in Karnataka (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	303.38	-
2	2001-02	249.61	-21.5
3	2002-03	266.42	6.3
4	2003-04	257	-3.7
5	2004-05	251.23	-2.3
6	2005-06	297.57	15.6
7	2006-07 (P)	292.46	-1.7

Source: Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.11: Production in Kerala

The year-wise fish production in Kerala is shown in Table 2.33. The highest production in the State was in 2003-04 (684.4 thousand tones). There was a increase in production from 2000-01 to 2003-04 (3.0 percent, 1.0 percent, 0.9 percent growth respectively) for next two years the production decreased (0.9 percent and -6.5 percent respectively). In 2006-07 there was substantial increase in the production (6.0 percent).

Table 2.33
Year-wise fish production in Kerala (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	651.81	-
2	2001-02	671.82	3.0
3	2002-03	678.32	1.0
4	2003-04	684.4	0.9
5	2004-05	678.31	-0.9
6	2005-06	636.89	-6.5
7	2006-07 (P)	677.63	6

Source: Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.12: Production in Madhya Pradesh

Table 2.34 shows the fish production in Madhya Pradesh. The maximum production in the state was recorded in 2006-07 (65.04 thousand tones). The production declined in 2001-02 and 2002-03. Then for two successive years the production increased by 17.0 percent and 18.1 percent respectively. It again declined (-1.6 percent) in 2005-06 and rose in 2006-07 (6.1 percent).

Table 2.34
Year-wise fish production in Madhya Pradesh (In thousand tones)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	48.84	-
2	2001-02	47.46	-2.9
3	2002-03	42.17	-12.5
4	2003-04	50.82	17.0
5	2004-05	62.06	18.1
6	2005-06	61.08	-1.6
7	2006-07 (P)	65.04	6.1

Source: Ibid.

7.13: Production in Maharashtra

The year-wise fish production in Maharashtra is depicted in Table 2.35. The data show that the highest production in the state was witnessed in 2006-07 (595.94 thousand tones), followed by 580.55 thousand tones in 2005-06. In Maharashtra, the production declined in 2002-03 by -4.5 percent. From 2003-04 to 2006-07 the fish production in the state showed an increasing trend (5.7 percent, 0.5 percent, 5.6 percent and 2.6 percent respectively).

Table 2.35
Year-wise fish production in Maharashtra (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	526.1	-
2	2001-02	537.05	2.0
3	2002-03	514.1	-4.5
4	2003-04	545.13	5.7

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	**(3)**	**(4)**
5	2004-05	548.02	0.5
6	2005-06	580.55	5.6
7	2006-07 (P)	595.94	2.6

Source: Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.14: Production in Manipur

Table 2.36 highlights the year-wise fish production in Manipur. The highest production of fish in the state was in 2006-07 (18.61 thousand tones and 17.8 thousand tones in 2004-05. The data show an increasing trend in production in Manipur. The highest growth was in 2003-04 (5.7 percent). There was a marginal increase from 2005-06 to 2006-07.

Table 2.36
Year-wise fish production in Manipur (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	**(2)**	**(3)**	**(4)**
1	2000-01	16.05	-
2	2001-02	16.45	2.4
3	2002-03	16.6	0.9
4	2003-04	17.6	5.7
5	2004-05	17.8	1.1
6	2005-06	18.22	2.3
7	2006-07 (P)	18.61	2.1

Source: Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.15: Production in Meghalaya

The data in Table 2.37 shows the year-wise fish production in Meghalaya. It could be noted that the highest production was in 2000-01 (6.18 thousand tones) which reduced in 2001-02 (-24.3 percent), in subsequent year it increased by 7.4 percent. The fish production in 2003-04 decreased by -4.3 percent, it once again dropped down by -36.9 percent in 2005-06 and increased in 2006-07 by 25.0 percent.

Table 2.37
Year-wise fish production in Meghalaya (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	6.18	-
2	2001-02	4.97	-24.3
3	2002-03	5.37	7.4
4	2003-04	5.15	-4.3
5	2004-05	5.64	8.7
6	2005-06	4.12	-36.9
7	2006-07 (P)	5.49	25.0

Source: Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.16: Production in Mizoram

Table 2.38 illustrates the year wise fish production in Mizoram. The maximum production of fish in the state was in 2006-07 (3.76 thousand tones) followed by 2005-06 (3.75 thousand tones). There is a continuous increase from 2000-01 to 2006-07. The major growth was 9.2 percent in 2001-02 followed by 8.2 percent in 2004-05).

Table 2.38
Year-wise fish production in Mizoram (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	2.86	-
2	2001-02	3.15	9.2
3	2002-03	3.25	3.1
4	2003-04	3.38	3.8
5	2004-05	3.68	8.2
6	2005-06	3.75	1.9
7	2006-07 (P)	3.76	0.3

Source: Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.17: Production in Nagaland

The year-wise fish production in Nagaland is shown in Table 2.39. The highest production in Nagaland was in the year 2006-07 (5.8 thousand

tones) followed by 2003-04 (5.56 percent). The production declined in 2001-02 by -5.8 percent, it again dropped in 2004-05 by -13.5 percent. In 2005-06 it increases by 10.9 percent.

Table 2.39
Year-wise fish production in Nagaland (In thousand tones)

Sl. No.	Year	**Production (in 000 tonnes)**	**Percentage Growth**
(1)	**(2)**	**(3)**	**(4)**
1	2000-01	5.5	-
2	2001-02	5.2	-5.8
3	2002-03	5.5	5.5
4	2003-04	5.56	1.1
5	2004-05	4.9	-13.5
6	2005-06	5.5	10.9
7	2006-07 (P)	5.8	5.2

Source: Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.18: Production in Orissa

Year-wise fish production in Orissa could be noticed in Table 2.40. The data indicate that highest production in 2006-07 (342.04 thousand tones), followed by 325.45 thousand tones in 2005-06.

From 2000-01 to 2006-07 the fish production in Orissa has increased continuously. The maximum increase was 7.9 percent in 2001-02. The minimum increase was 1.9 percent in 2002-03.

Table 2.40
Year-wise fish production in Orissa (In thousand tonnes)

Sl. No.	**Year**	**Production (in 000 tonnes)**	**Percentage Growth**
(1)	**(2)**	**(3)**	**(4)**
1	2000-01	259.64	-
2	2001-02	281.95	7.9
3	2002-03	287.53	1.9
4	2003-04	306.90	6.3
5	2004-05	315.59	2.8
6	2005-06	325.45	3.0
7	2006-07 (P)	342.04	4.9

Source: Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.19: Production in Punjab

A year-wise fish production in Punjab is presented in Table 2.41. As could be observed, the highest production was recorded in 2006-07 (86.7 thousand tones), followed by 2005-06 (85.64 thousand tones) and in 2003-04 (83.65 thousand tones). The maximum production was witnessed in 2003-04 (21.1 percent). However, production declined in 2004-05 (-7.7 percent).

Table 2.41
Year-wise fish production in Punjab (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	52	-
2	2001-02	58	10.3
3	2002-03	66	12.1
4	2003-04	83.65	21.1
5	2004-05	77.7	-7.7
6	2005-06	85.64	9.3
7	2006-07 (P)	86.7	1.2

Source: Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.20: Production in Rajasthan

The figures in Table 2.42 highlights the year-wise fish production in Rajasthan. The highest fish production in the State was recorded in 2002-03 (25.6 thousand tones) followed by in 2006-07 (22.2 thousand tones) and in 2005-06 (18.5 thousand tones). A record growth was recorded in 2002-03 (44.3 percent). There was a sharp decline in production in 2003-04 (-79.0 percent).

Table 2.42
Year-wise fish production in Rajasthan (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	12.12	-
2	2001-02	14.27	15.1
3	2002-03	25.6	44.3
4	2003-04	14.3	-79.0
5	2004-05	16.39	12.8
6	2005-06	18.5	11.4
7	2006-07 (P)	22.2	16.7

Source: Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.21: Production in Sikkim

Table 2.43 illustrates the fish production in Sikkim. The figures show that from 2000-01 to 2004-05, the production of fish in the state was stagnant (0.14 thousand tones). In 2005-06 it increased by 6.7 percent, and in 2006-07 remained constant (0.15 thousand tones).

Table 2.43
Year-wise fish production in Sikkim (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	0.14	-
2	2001-02	0.14	0.0
3	2002-03	0.14	0.0
4	2003-04	0.14	0.0
5	2004-05	0.14	0.0
6	2005-06	0.15	6.7
7	2006-07 (P)	0.15	0.0

Source: Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.22: Production in Tamil Nadu

The figures in Table 2.44 projects the year wise production in Tamil Nadu. In the State the maximum production was in 2006-07 (542.28 thousand tonnes) followed by 2000-01 (481.42 thousand tones) and 2003-04 (474.14 thousand tones). The highest growth was witnessed in 2006-07 (14.6 percent) and 7.7 percent) and in 2003-04. The production declined by -3.2 percent in 2004-05.

Table 2.44
Year-wise fish production in Tamil Nadu (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	481.42	-
2	2001-02	485	0.7
3	2002-03	437.5	*10.9
4	2003-04	474.14	7.7

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
5	2004-05	459.43	-3.2
6	2005-06	463.03	0.8
7	2006-07 (P)	542.28	14.6

Source: Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

Table 2.45 shows the year-wise production of fish in Tripura. The data indicate that highest production in the state recorded in 2002-03 (29.52 thousand tones). There was marginal increase in production from 2000-01 to 2001-02 (0.1 percent) and in 2005-06 to 2006-07 (16.9 percent and 16.6 percent). It declined in 2003-04 by -64.2 percent.

Table 2.45
Year-wise fish production in Tripura (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	29.42	-
2	2001-02	29.45	0.1
3	2002-03	29.52	0.2
4	2003-04	17.98	-64.2
5	2004-05	19.84	9.4
6	2005-06	23.87	16.9
7	2006-07 (P)	28.63	16.6

Source: Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.24: Production in Uttar Pradesh

A year-wise fish production in Uttar Pradesh is given in Table 2.46. It can be noted the highest production in Uttar Pradesh was in 2006-07 (306.73 thousand tones) followed by in 2005-06 (289.58 thousand tones) and in 2004-05 (277.07 thousand tones). The maximum growth was noticed in 2002-03 (9.8 percent), then in 2001-02 (7.6 percent). The production rate constantly improved over the years.

Table 2.46
Year-wise fish production in Uttar Pradesh (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	208.29	-
2	2001-02	225.37	7.6
3	2002-03	249.84	9.8
4	2003-04	267	6.4
5	2004-05	277.07	3.6
6	2005-06	289.58	4.3
7	2006-07 (P)	306.73	5.6

Source: Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.25: Production in West Bengal

The figures in Table 2.47 highlight the fish production in West Bengal. In the state the maximum production was recorded in 2006-07 (1359.1 thousand tones), followed by in 2005-06 (1250 thousand tones) and in 2004-05 (1215 thousand tones). The highest growth was recorded in 2006-07 (8.0 percent). In West Bengal an increasing trend in production could be noted.

Table 2.47
Year-wise fish production in West Bengal (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	1060.23	-
2	2001-02	1100.1	3.6
3	2002-03	1120	1.8
4	2003-04	1169.6	4.2
5	2004-05	1215	3.7
6	2005-06	1250	2.8
7	2006-07 (P)	1359.1	8.0

Source: Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.26: Production in Andaman & Nicobar Islands

Table 2.48 illustrates the year wise fish production in Andaman & Nicobar Islands. The highest production on the state was in 2004-05 (32.68 thousand tones), followed by in 2003-04 (31.15 thousand tones) and in 2006-07 (28.68

thousand tones). The record growth was in 2006-07 (57.8 percent) and the steep decrease was noted in 2005-06 (-170.3 percent).

Table 2.48
Year-wise fish production in Andaman & Nicobar Islands
(In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	27.68	-
2	2001-02	27.08	-2.2
3	2002-03	28.3	4.3
4	2003-04	31.15	9.1
5	2004-05	32.68	4.7
6	2005-06	12.09	-170.3
7	2006-07 (P)	28.68	57.8

Source: Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.27: Production in Chandigarh

A year-wise fish production in Chandigarh is presented in Table 2.49. The highest production in Chandigarh was in year 2006-07 (0.17 thousand tones). From 2000-01 to 2001-02 the production decreased by -100.0 percent. Then for next three years it remained constant at 0.08 thousand tones. The production increased by 11.1 percent and 47.1 percent in years 2005-06 and 2006-07 respectively.

Table 2.49
Year-wise fish production in Chandigarh (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	0.08	-
2	2001-02	0.04	-100.0
3	2002-03	0.08	50.0
4	2003-04	0.08	0.0
5	2004-05	0.08	0.0
6	2005-06	0.09	11.1
7	2006-07 (P)	0.17	47.1

Source: Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.28: Production in Dadra & Nagar Haveli

The figures in Table 2.50 highlight the fish production in Dadra & Nagar Haveli. It could be noted that highest production was in 2001-02 (0.06 thousand tones). This reduced in 2002-03 by -20.0 percent. In the remaining years (2003-04 to 2006-07) it remained constant at 0.05 percent.

Table 2.50
Year-wise fish production in Dadra & Nagar Haveli (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	0.04	-
2	2001-02	0.06	33.3
3	2002-03	0.05	-20.0
4	2003-04	0.05	0.0
5	2004-05	0.05	0.0
6	2005-06	0.05	0.0
7	2006-07 (P)	0.05	0.0

Source: Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.29: Production in Daman & Diu

Table 2.51 presents the fish production in Daman & Diu. The maximum production in this union territory was in 2001-02 (21.52 thousand tones), followed by in 2005-06 (17.79 thousand tones). The fish production declined by -91.1 percent in 2002-03 and it further decreased by -10.1 percent and -8.4 percent in 2004-05 and 2006-07 respectively.

Table 2.51
Year-wise fish production in Daman & Diu (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	16.38	-
2	2001-02	21.52	23.9
3	2002-03	11.26	-91.1
4	2003-04	13.77	18.2
5	2004-05	12.51	-10.1
6	2005-06	17.79	29.7
7	2006-07 (P)	16.41	-8.4

Source: Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

A year-wise production of fish in Delhi is illustrated in Table 2.52. As could be observed, the highest production was in 2001-02 (3.98 thousand tones), followed by 2001-02 (3.2 thousand tones). In Delhi the production of fish has declined from 2001-02 (-24.4 percent) to 2006-07. The highest decline was in 2005-06 (-101.4 percent).

Table 2.52
Year-wise fish production in Delhi (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	3.98	-
2	2001-02	3.2	-24.4
3	2002-03	2.25	-42.2
4	2003-04	2.1	-7.1
5	2004-05	1.41	-48.9
6	2005-06	0.7	-101.4
7	2006-07 (P)	0.61	-14.8

Source: Ibid

7.31: Production in Lakshadweep

The data in Table 2.53 present the fish production in Lakshadweep. The highest production was in 2001-02 (13.65 thousand tones). In 2002-03 the produce decreased by -82.0 percent. From 2003-04 to 2005-06 the production increased (25.2 percent &16.1 percent respectively). It again reduced in 2006-07 (-1.8 percent).

Table 2.53
Year-wise fish production in Lakshadweep (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	12	-
2	2001-02	13.65	12.1
3	2002-03	7.5	-82.0
4	2003-04	10.03	25.2
5	2004-05	11.96	16.1
6	2005-06	11.96	0.0
7	2006-07 (P)	11.75	-1.8

Source: Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.32: Production in Pondicherry

A year wise fish production in Pondicherry is given in Table 2.54. The highest production was in 2003-04 (48.00 thousand tones), followed by in 2002-03 (45.02 thousand tones) and in 2000-01 (43.30 thousand tones). The maximum growth in production was in 2006-07 (45.9 percent). The highest decline took place in 2004-05.

Table 2.54
Year-wise fish production in Pondicherry (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	43.30	-
2	2001-02	44.50	2.7
3	2002-03	45.02	1.2
4	2003-04	48.00	6.2
5	2004-05	36.75	-30.6
6	2005-06	21.45	-17.3
7	2006-07 (P)	39.66	45.9

Source: Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.33: Production in Chhattisgarh

Table 2.55 illustrates the year wise (109) fish production in Chhattisgarh. It can be noted the highest production was in 2006-07 (137.75 thousand tones), followed by in 2005-06 (131.75 thousand tones) and in 2004-05 (120.05 thousand tones). The production of fish in the state has increased continuously. The maximum growth was recorded in 2001-02 (54.7 percent) and the minimum in 2002-03 (4.0 percent).

Table 2.55
Year-wise fish production in Chhattisgarh (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	43.39	-
2	2001-02	95.76	54.7
3	2002-03	99.80	4.0

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
4	2003-04	111.05	10.1
5	2004-05	120.05	7.5
6	2005-06	131.75	8.9
7	2006-07 (P)	137.75	4.4

Source: Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.34: Production in Uttaranchal (or Uttarakhand)

Table 2.56 projects the year wise fish production in Uttaranchal. In the state the highest production was in 2000-01 (9.07 thousand tones), followed by in 2001-02 (6.48 thousand tones). In 2002-03, there was a steep decline in production (-151.8 percent). It also reduced in 2001-02 (-41.3 percent). From 2003-04 to 2006-07 it increased. The growth rate was same for 2003-04 and 2004-05 (0.4 percent each). For next two years, also it was constant (7.9 percent each).

Table 2.56
Year-wise fish production in Uttaranchal (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	9.07	-
2	2001-02	6.42	-41.3
3	2002-03	2.55	-151.8
4	2003-04	2.56	0.4
5	2004-05	2.57	0.4
6	2005-06	2.79	7.9
7	2006-07 (P)	3.03	7.9

Source: Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

7.35: Production in Jharkhand

The figures in Table 2.57 highlights the year wise fish production in Jharkhand. The highest production in the State was in 2001-02 (101 thousand tones), followed by in 2003-04 (75.38 thousand tones). In 2001-02, 2003-04 and 2005-06 the production increased by 57.8 percent, 39.8 percent and 35.8 percent. The highest decline was in 2002-03 (122.6 percent).

Table 2.57
Year-wise fish production in Jharkhand (In thousand tonnes)

Sl. No.	Year	Production (in 000 tonnes)	Percentage Growth
(1)	(2)	(3)	(4)
1	2000-01	42.6	-
2	2001-02	101	57.8
3	2002-03	45.38	-122.6
4	2003-04	75.38	39.8
5	2004-05	22	-242.6
6	2005-06	34.27	35.8
7	2006-07 (P)	34.27	0.0

Source: Annual Report 2007-08; Department of Animal Husbandry, Dairying and Fisheries; and States/ Union Territories.

8: Marine Product Processed and revenue earned

Table 2.58 shows the quantum of marine products processed and exported; and revenue earned during the period between 2001-02 and 2006-07. The data show that the highest quantity of fish was produced in 2006-07 (6126641 million tones), and value generated was 8364 crore. In 2005-06 the quantity of product processed 512164 million tones for which the value was 7245 crore and in 2002-03 467297 million tones with 6881 crore value.

Table 2.58
The quantum of marine products processed and exported and revenue thereof, during the period 2001-02 to 2006-07, is as:

Sl. No.	Year	Quantity (MT)	Value (Rs. crores)	Value (US $ million)
(1)	(2)	(3)	(4)	(5)
1	2001-02	424470	5957	1253
2	2002-03	467297	6881	1425
3	2003-04	412017	6092	1331
4	2004-05	461329	6647	1479
5	2005-06	512164	7245	1644
6	2006-07	612641	8364	1852

Source: Ministry of Food Processing Industries (2007-08) Annual Report

Chapter Three

Social Security and Other Development Schemes for Fish Workers

3.1: Introduction

Fisheries industry contributes significantly to the national economy while providing livelihood to approximately 14.49 million people in the country. Being a powerful income and employment generator and promoter of a lot of other subsidiary industries as well as a source of cheap and nutritious food besides being a source of foreign exchange earner, fishery industry is, however, facing various challenges today. It is a fact that this is a source of sustenance for a large section which is economically backward and vulnerable section of the society. Their conditions of work are entirely different from all other industrial categories of workers. However, Fisheries has been kept a subject for the State and the primary responsibility for its development rests with the State Governments. The major thrust in fisheries development has been on optimizing production and productivity, augmenting export of marine products, generating employment and improving welfare of fishermen and their socio-economic status.

3.2: On-going Schemes

There are several schemes which have been launched to enhance the fishery sector and fish workers in the country. They are as below:

(i) Development of Inland Fisheries and Aquaculture;
(ii) Development of Marine Fisheries, Infrastructure and Post Harvest Operations;
(iii) National Scheme for Welfare of Fishermen;
(iv) Strengthening of Database and Geographical Information System for Fisheries Sector;
(v) Assistance to Fisheries Institutes;
(vi) National Fisheries Development Board.

Development of Inland Fisheries and Aquaculture, Development of Freshwater Aquaculture and Development of Brackish water Aquaculture are the schemes targeted for the protection and providing assistance for

the fishermen in inland fishery. Apart from this, there are other schemes for welfare of fishermen. The Central Sector Scheme 'Strengthening of Database and Geographical Information System for Fisheries Sector', with an outlay of Rs.48.68 crore (Rupees forty eight crore and sixty eight lakh only) is being implemented with 100 per cent Central assistance during Eleventh Five Year Plan. The Scheme consists of following components:

(a) Sample survey for estimation of inland fishery resources and their potential and fish production.
(b) Census on marine fisheries
(c) Catch assessment survey for inland and marine fisheries
(d) Development of GIS
(e) Assessment of fish production potential in coastal areas
(f) Evaluation Studies/professional services
(g) Registration of fishing vessels
(h) Development of database of fisheries cooperative of India
(i) Mapping of smaller water bodies and development of GIS based fishery management system
(j) Strengthening of Statistical Unit at Headquarters

For marine fishery, there are a few schemes which are as follows:

(i) Development of Marine Fisheries,
(ii) Infrastructure and
(iii) Post-Harvest Operations.

3.3: Programmes for Development of Marine Fisheries

The Department has continued to extend financial assistance for the development of marine sector to implement several central sector and centrally sponsored schemes such as motorization of traditional craft, assisting the small-scale mechanized sector by subsidizing the excise duty on fuel, setting up of infrastructure for safe landing, berthing and post-harvest operations, etc. and thereby improving the socio-economic conditions of traditional fishermen.

3.4: Development of Marine Fisheries

3.4.1: Motorization of Traditional Craft: Motorization of Traditional Craft, a production oriented scheme was introduced during 7th Plan with the objectives of (i) technological up gradation of traditional fishing sector,

(ii) to help the fishermen to reduce their physical strain and (iii) to extend the range of their fishing operation primarily to increase the quantum of fish catch, income and thereby to uplift their socio-economic status.

3.4.2: Safety of fishermen at sea: The hazardous nature of sea fishing often results in loss of life and fishing boats and implements, besides injury and permanent impairment. Recent studies have pointed out that calamities occur mostly due to ill-equipped vessels and non-availability of an early warning system on board. This component is intended to improve the sea safety to reduce loss of human life and property at sea.

3.4.3: Fishermen Development Rebate on HSD Oil: The scheme for reimbursement of Central Excise Duty on HSD oil used by fishing vessels below 20 meter length was introduced from 1990-91 onwards with a view to help the small mechanized fishing owners/operators to bring down the operational cost of these vessels and thereby to encourage them to increase the fishing days, fish catch and income.

3.4.4: Introduction of Intermediate Craft of Improved Design: Out of the estimated 3.9 million tonnes of potential marine fisheries resources, about 3 million tonnes has been exploited. The remaining potential exists mainly in the deep sea, which is beyond the fishing capacity of small-scale fishing boats. Adequate number of appropriately designed boats would be required to judiciously exploit the fisheries potential of the EEZ. Accordingly, this component was included in the macro scheme to acquire an appropriate design and to provide the financial incentives to fishermen groups to take up new generation craft.

3.4.5: Promoting Fuel Efficient and Environment Friendly Fishing Practices: This is a new component introduced during the 11th Plan. Fishermen by and large use traditional fuels like kerosene, diesel and petrol for operating their engines. These fuels not only pollute the air but also slowly deteriorate the marine environment. Further, the spiraling price of these conventional fuels is making the fishing venture increasingly uneconomical. Shortage of kerosene through PDS has already put burden on fishermen in certain States. In order to overcome this, the LPG kit for use on OBMs is a recent development through sustained R&D efforts. The results obtained from a pilot study indicates positive factors such as reduced wear and tear to the engines, lower cost of operation and a substantial reduction in emissions.

3.4.6: Management of Marine Fisheries: Over capacity and over fishing are the two identified major factors contributing to resource depletion in marine capture fisheries. Many parts of the world's oceans have their major commercial stock either totally depleted or dangerously heading towards the point of depletion. Unsustainable fishing practices, damage to marine habitat and Illegal, Unregulated and Unreported (IUU) fishing are other major activities, which are negatively impacting the stock levels. Maximization of fish production and exports through various developmental strategies have occupied the centre-stage of our fisheries planning since independence. Since the exploitation of fisheries resources in the territorial waters have either reached the optimum level or exceeded in certain instances, focus has to be shifted to scientific management of our marine fisheries with development of appropriate tools and techniques in harmony with international guidelines in the matter. This new component aims at initiating science-based management of marine fisheries. The activities undertaken under this component include (i) conducting awareness programmes, (ii) implementing Code of Conduct for Responsible Fisheries (CCRF), (iii) capacity evaluation, (iv) undertaking community out reach programmes on sustainable fisheries and (v) production of Audio visuals on over fishing/over capacity. The Government of India provides 100 per cent financial assistance to undertake these activities. This component is implemented through States/UTs, PRIs, Central Fishery Institutes, NGOs and Fishermen Organizations/Societies.

3.5.1: Establishment of Fishing Harbours & Fish Landing Centers

Development of infrastructure facilities for the fishery sector is one of the important factors that contribute to augment marine fish production and its exports. In order to meet the infrastructure requirement of fisheries sector, a centrally sponsored scheme, with the objective of providing infrastructure facilities for safe landing and berthing of traditional fishing craft, mechanized fishing vessels and deep sea fishing vessels was initiated in 1964. The facilities created under the scheme are fishing harbours and fish landing centres which include breakwater, wharf, jetty, dredging, reclamation, quay, auction hall, slipway, workshop, net mending shed and other ancillary facilities.

3.5.2: Strengthening of Post Harvest Infrastructure

The Central Sector Scheme implemented till the end of 8th Five Year Plan was reintroduced as a component under the CSS on Development of Marine Fisheries, Infrastructure and Post Harvest Operations for 10th Five

Year Plan with view to create necessary facilities to provide remunerative prices to the fish farmers for their produce and make available fresh fish at reasonable prices to the consumers. Under this scheme, State Fisheries Cooperatives, Cooperative Federations and primary cooperatives are assisted in strengthening their marketing infrastructure to minimize the post-harvest losses through ideal marketing system.

3.5.3: Assistance for Maintenance of Dredging of Fishing Harbours and Fish Landing Centres.

In order to cater to the needs of safe landing and berthing facilities for various categories of fishing vessels plying along the coast of the country, fishing harbour and fish landing centre facilities have been developed under the centrally sponsored scheme in association with maritime States, Union Territories and Port Trusts. Every fishing harbour/fish landing centre is subjected to siltation due to natural phenomenon. Periodical maintenance and dredging is inevitable to keep the harbour/landing centre basin fit for safe navigation.

Realizing the siltation problem faced by existing fishing harbours and fish landing centres, a Trailing Suction Hopper Dredger **'TSD Sindhuraj'** has been procured under the Japanese Grants-in-aid programme with an aid of Japanese Yen 1,248.00 million. TSD Sindhuraj is ideal for dredging in shallow waters. The dredger can remove siltation of about 2 lakh cubic meters annually.

3.5.4: Provision for Taking up of Innovative Activities.

This is a new component introduced under the CSS during the 11th Five Year Plan period. Under this component, financial assistance is provided for taking innovative activities in marine fisheries/infrastructure, human resource development, strengthening of fisheries management, monitoring, evaluation and R&D studies in fisheries.

3.5.5: Development of Deep Sea Fishing

On the basis of the guidelines issued by the Department during November, 2002 (amended in September 2004) permitting Indian Flag Vessels in the Indian Exclusive Economic Zone, Indian companies are issued Letters of Permission (LOPs) for import & operation of resource specific vessels. By the end of 2009-10, 82deep sea fishing vessels belonging to 20 Indian Companies/Firms are holding valid LOPs and are authorized to fish in the Exclusive Economic Zone (EEZ) of India beyond territorial waters.

3.5.6: National Scheme of Welfare of Fishermen

This scheme has the following four components:-

(a) Development of Model Fishermen Villages;
(b) Group Accident Insurance for Active Fishermen;
(c) Saving-cum-Relief and
(d) Training and Extension

3.5.7: (a) Development of Model Fishermen Villages

The objective of the component is to provide basic civic amenities such as housing, drinking water and construction of community hall for fishermen. A fishermen village may consist of not less than 10 houses. The villages would be provided with tube wells at the rate of one tube well for every 20 houses. For recreation and common working place, a fishermen village with at least 75 houses is eligible to avail financial assistance for construction of a community hall. Unit costs under the scheme is Rs.50,000/- for a house, Rs.30,000/- for the tube-well (Rs.35,000 for North Eastern Region) and Rs.1,75,000/- for community hall. The expenditure is shared equally between central and state government. In case of union territories, the expenditure is fully borne by the Centre. The Government has increased the unit cost for a fisherman's house from Rs.40,000/- to Rs.50,000/- during the 11th Five Year Plan.

3.5.8: (b) Group Accident Insurance for Active Fishermen

The objective of this component is to provide insurance cover to fishermen engaged actively in fishing. Such active fishermen are insured for Rs.1,00,000/- for one year against accidental death or permanent total disability and Rs.50,000/- for permanent partial disability. The upper limit for insurance premium is Rs.30/- per head. 50 per cent of the annual premium is subsidized as grants in aid by the Centre and remaining 50 per cent by State Governments. In case of a Union Territory, 100 per cent premium is borne by Government of India. A single policy is taken in respect of all those States/Union Territories that are participating through FISHCOPFED. During the 11th Plan, the Government has increased the insured sum to Rs.1,00,000/- against accidental death or permanent total disability and Rs.50,000/- for permanent partial disability. Accordingly, the upper limit for insurance premium has been increased to Rs.30/- per head which will be subsidized by the Centre and the State on 50:50 basis.

3.5.9: (c) Saving-cum-Relief

The objective of this component is to provide financial assistance to fishermen during lean fishing season. Under this component, beneficiary

has to contribute a part of the earnings during non-lean months. A contribution of Rs.600/- in 9 months of fishing period is being made by fisherman and Rs.1,200/- are being contributed by the Centre and the State on 50:50 basis. The total sum of Rs.1,800/- is distributed to fisherman @ Rs.600/- per month for three months of lean period. In case of UTs, entire governmental contribution of Rs. 1,200/- is met by the centre.

3.5.10: (d) Training and Extension

The main objective of this component is to provide training to fishery personnel so as to assist them in undertaking fisheries extension programmes effectively. The scheme provides assistance to fisher folk in upgrading their skills. To enhance training facilities, assistance is also provided for setting up/up-gradation of training/awareness centres in states/union territories. From the year 1999-2000, this scheme is being operated with 80 per cent central assistance in case of States and 100 per cent central assistance in case of union territories and other organizations. Other components of the scheme are to publish manuals to provide adequate extension material, production of video films on the technologies and its publicity, to conduct meetings/ workshops/ seminars, etc. of national importance. The scheme has been merged with 'Welfare Programme for Fishermen' during 2005-06.

Chapter Four

Statistical Profile: Tamil Nadu

Introduction

In chapter three an effort has been made to present district-wise profile of fish industry, especially aspects like, the distribution landing centres, number of village, population and family size.

Landing centre

The profile of fishing sector in Tamil Nadu is highlighted in Table 3.1. The data show that there were 352 landing centres in Tamil Nadu. The highest number of landing centres was concentrated in Ramanathapuram (22.7 percent), followed by 12.5 percent in Kanyakumari, 11.6 percent in Nagapattinam and 10.8 percent in Kanchipuram.

The lowest number of landing centres were in Tirunelveli (2.6 percent), followed by 3.4 percent in Chennai and 4.0 percent in Thiruvallur.

Number of fishing villages

It can be seen that there were 581 fishing villages in Tamil Nadu. The largest number of fishing villages were located in Ramanathapuram (31.0 percent), followed by Nagapattinam (9.6 percent) and Cuddalore and Kanyakumari (8.1 percent each).

The lowest number of fishing villages were in Tirunelveli (1.5 percent) and in Thiruvarur (2.2 percent).

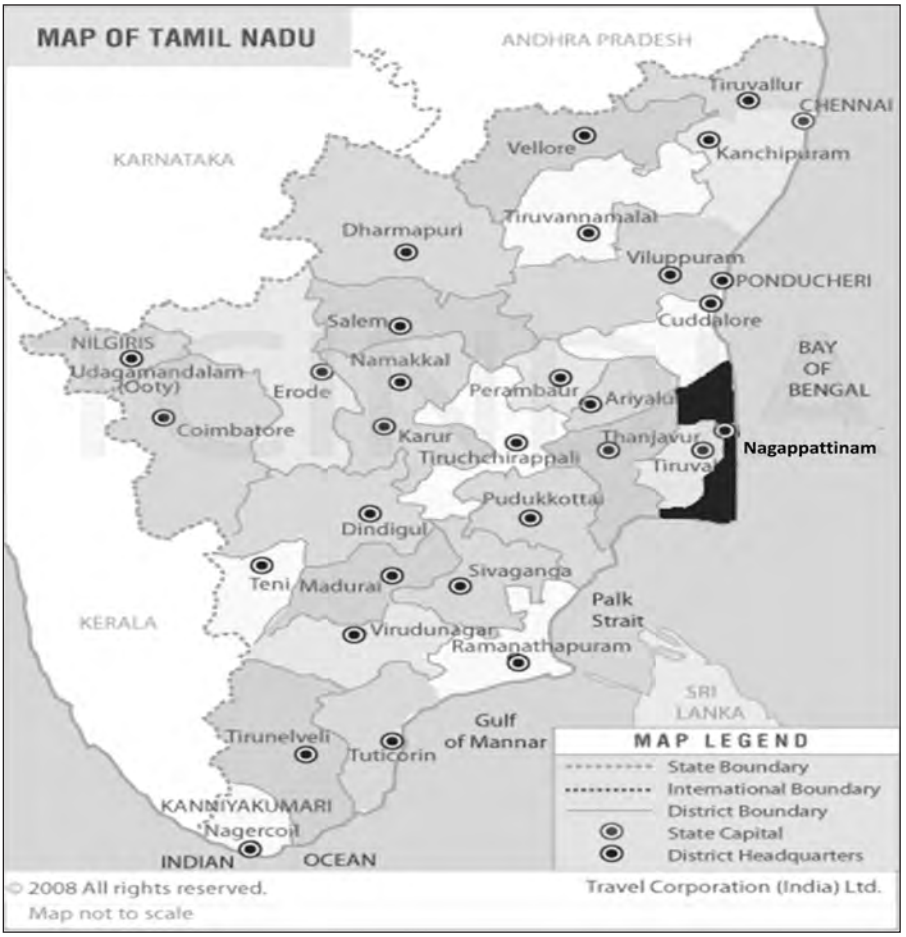
Number of fishermen families

There were 192,152 fishermen families in Tamil Nadu. The majority of fishermen families were in Ramanathapuram (20.2 percent), followed by Kanyakumari (19.5 percent) and Nagapattinam (11.8 percent). The lowest number of fishermen families were in the Thiruvarur (1.5 percent) followed by Villupuram and Tirunelveli (2.3 percent each).

Population

The total population of fishermen in Tamil Nadu was 790,408. Out of this total, the highest proportion of population was in Ramanathapuram (22.2 percent), followed by Kanyakumari (18.8 percent) and Nagapattinam (11.6 percent).

The lowest proportion of fishermen population was in Villupuram (2.0 percent), followed by Tirunelveli (2.5 percent) and Kanchipuram (3.5 percent).



Note: District Nagappattinam was selected in Tamil Nadu for the Study

Table : 4.1
District Profile: Tamil Nadu

Sl. No.	Districts	No. of landing centres	No. of fishing villages	No. of fishermen families	Fisherfolk Population
(1)	(2)	(3)	(4)	(5)	(6)
1	Thiruvallur	14	30	9,630	36,775
	%age	4	5.2	5	4.7
2	Chennai	12	43	18,809	75,166
	%age	3.4	7.4	9.8	9.5

Sl. No.	Districts	No. of landing centres	No. of fishing villages	No. of fishermen families	Fisherfolk Population
(1)	(2)	(3)	(4)	(5)	(6)
3	Kanchipuram	38	42	7,723	27,962
	%age	10.8	7.2	4	3.5
4	Villupuram	19	19	4,416	16,093
	%age	5.4	3.3	2.3	2
5	Cuddalore	28	47	12,840	48,705
	%age	8	8.1	6.7	6.2
6	Nagapattinam	41	56	22,643	91,415
	%age	11.6	9.6	11.8	11.6
7	Thiruvarur	0	13	2,956	11,827
	%age	0	2.2	1.5	1.5
8	Thanjavur	25	31	7,087	30,482
	%age	7.1	5.3	3.7	3.9
9	Pudukkottai	20	33	6,791	29,921
	%age	5.7	5.7	3.5	3.8
10	Ramanathapuram	80	180	38,800	1,75,421
	%age	22.7	31	20.2	22.2
11	Tuticorin	22	31	18,671	78,487
	%age	6.3	5.3	9.7	9.9
12	Tirunelveli	9	9	4,381	19,615
	%age	2.6	1.5	2.3	2.5
13	Kanyakumari	44	47	37,405	1,48,539
	%age	12.5	8.1	19.5	18.8
Total		**352**	**581**	**1,92,152**	**7,90,408**
%age		*100.0*	*100.0*	*100.0*	*100.0*

Source: Fisheries Census, 2005

Population Structure

Table 4.2 presents the population structure in Tamil Nadu. The total fishermen population in Tamil Nadu was 790,408. Out of this total, 405,790 and 384,618 were males and females respectively.

Among the males the highest proportion was in Ramanathapuram (22.5 percent), followed by Kanyakumari (18.9 percent) and Nagapattinam (11.6 percent).

The lowest proportion of male fishermen population was in Thiruvarur (1.5 percent) followed by Villupuram (2.0 percent) and Tirunelveli (2.5 percent).

As far as fisherwomen were concerned their highest number was in Ramanathapuram (21.9 percent), followed by Kanyakumari (18.7 percent), and Nagapattinam (11.5 percent).

The lowest number of fisherwomen population was in Thiruvarur (1.5 percent), followed by Villupuram (2.1 percent) and Tirunelveli (2.5 percent).

The average fishermen family-size was 4.11 percent. The highest proportion of family-size was in Ramanathapuram (4.52 percent) followed by Tirunelveli (4.48 percent) and Pudukkottai (4.41 percent).

Average family size

The lowest proportion of fishermen family-size was in Kanchipuram (3.62 percent) followed by Villupuram (3.64 percnet) and Thiruvarur.

Table : 4.2
Population Structure: Tamil Nadu

Sl. No.	Districts	No. of villages	No. of Families	Total Male	Total Female	Total Male + Female	Family Size
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Thiruvallur	30	9,630	18,578	18,197	36,775	3.82
	%age	5.2	5	4.6	4.7	4.7	
2	Chennai	43	18,809	38,108	37,058	75,166	4
	%age	7.4	9.8	9.4	9.6	9.5	
3	Kanchipuram	42	7,723	13,913	14,049	27,962	3.62
	%age	7.2	4	3.4	3.7	3.5	
4	Villupuram	19	4,416	8,045	8,048	16,093	3.64
	%age	3.3	2.3	2	2.1	2	
5	Cuddalore	47	12,840	24,922	23,783	48,705	3.79
	%age	8.1	6.7	6.1	6.2	6.2	
6	Nagapattinam	56	22,643	47,017	44,398	91,415	4.04
	%age	9.6	11.8	11.6	11.5	11.6	
7	Thiruvarur	13	2,956	6,036	5,791	11,827	4
	%age	2.2	1.5	1.5	1.5	1.5	
8	Thanjavur	31	7,087	15,351	15,131	30,482	4.3
	%age	5.3	3.7	3.8	3.9	3.9	
9	Pudukkottai	33	6,791	15,575	14,346	29,921	4.41

Sl. No.	Districts	No. of villages	No. of Families	Total Male	Total Female	Total Male + Female	Family Size
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	%age	5.7	3.5	3.8	3.7	3.8	
10	Ramanathapuram	180	38,800	91,202	84,219	1,75,421	4.52
	%age	31	20.2	22.5	21.9	22.2	
11	Tuticorin	31	18,671	40,139	38,348	78,487	4.2
	%age	5.3	9.7	9.9	10	9.9	
12	Tirunelveli	9	4,381	10,108	9,507	19,615	4.48
	%age	1.5	2.3	2.5	2.5	2.5	
13	Kanyakumari	47	37,405	76,796	71,743	1,48,539	3.97
	%age	8.1	19.5	18.9	18.7	18.8	
Total		**581**	**1,92,152**	**4,05,790**	**3,84,618**	**7,90,408**	**4.11**
%age		100.0	100.0	100.0	100.0	100.0	

Source: Fisheries Census, 2005

Educational status

The education status of fishermen is given in Table 4.3. The data show that maximum number of fisherman in Ramanathapuram (22.3) had education upto primary level, followed by Kanyakumari (21.1 percent) and Nagapattinam (13.5percent).

The lowest proportion of fishermen who had education upto primary level, were in Thiruvarur (1.4 percent), followed by Villupuram (2.3 percent) and Tirunelveli (2.6 percent).

21.6 percent fishermen in Kanyakumari had education upto secondary, followed by Ramanathapuram (21.3 percent) and Nagapattinam (11.0 percent).

The lowest proportion of fishermen, who had education upto secondary level, was in Tiru\nelveli (1.8 percent), followed by Villupuram (2.1 percent) and Pudukkottai (2.9 percent).

The total illiterate fishermen in Tamil Nadu were 262,834. Out of the total the highest number of illiterates was in Ramanathapuram (24.9 percent), 12.5 percent in Chennai, followed by 11.2 percent in Nagapattinam and 10.2 percent in Kanyakumari.

Table : 4.3
Education Status: Tamil Nadu

Sl. No.	Districts	Primary	Secondary	Above Secondary	Not Educated	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Thiruvallur	7,623	9,669	948	18,535	36,775
	%age	2.9	4.7	1.5	7.1	4.7
2	Chennai	16,989	18,759	6,528	32,890	75,166
	%age	6.5	9.1	10.7	12.5	9.5
3	Kanchipuram	7,752	8,616	1,699	9,895	27,962
	%age	3	4.2	2.8	3.8	3.5
4	Villupuram	6,105	4,386	1,266	4,336	16,093
	%age	2.3	2.1	2.1	1.6	2
5	Cuddalore	14,354	14,132	4,613	15,606	48,705
	%age	5.5	6.9	7.5	5.9	6.2
6	Nagapattinam	35,030	22,782	4,223	29,380	91,415
	%age	13.5	11	6.9	11.2	11.6
7	Thiruvarur	3,679	3,335	781	4,032	11,827
	%age	1.4	1.6	1.3	1.5	1.5
8	Thanjavur	9,666	6,079	1,337	13,400	30,482
	%age	3.7	2.9	2.2	5.1	3.9
9	Pudukkottai	8,017	5,893	850	15,161	29,921
	%age	3.1	2.9	1.4	5.8	3.8
10	Ramanathapuram	57,897	43,866	8,149	65,509	1,75,421
	%age	22.3	21.3	13.3	24.9	22.2
11	Tuticorin	31,508	20,371	6,004	20,604	78,487
	%age	12.1	9.9	9.8	7.8	9.9
12	Tirunelveli	6,644	3,779	2,399	6,793	19,615
	%age	2.6	1.8	3.9	2.6	2.5
13	Kanyakumari	54,824	44,590	22,432	26,693	1,48,539
	%age	21.1	21.6	36.6	10.2	18.8
Total		**2,60,088**	**2,06,257**	**61,229**	**2,62,834**	**7,90,408**
%age		100	100	100	100	100

Source: Fisheries Census 2005

Profile active fisher-folk

Table 4.4 illustrated the active fisher folk in Tamil Nadu. There were 1,85,603 fulltime fishermen in Tamil Nadu, and out of this total, the highest number of fulltime fishermen was in Ramanathapuram (19.0

percent), followed by Kanyakumari (21.1 percent), Nagapattinam (12.1 percent), and Tuticorin (11.1 percent).

The lowest number of active fisherfolks were in Thiruvarur (1.4 percent), followed by Villupuram (2.2 percent) and Tirunelveli (2.5 percent).

The total number of part-time fisherfolk in Tamil Nadu were 15,954. Out of the total part-time fishermen, 22.5 percent were in Chennai, followed by 19.2 percent in Ramanathapuram and 15.5 percent in Thiruvallur.

The lowest proportion of part-time fisherfolks was in Pudukkottai (0.1 percent) followed by Tirunelveli (0.3 percent) and Villupuram (0.7 percent).

The fisherfolks who occasionally went for fishing were 5351 in Tamil Nadu. From this total, the highest number of occasional fisherfolks was in Kanyakumari (28.7 percent), followed by in Chennai (21.3 percent) and Cuddalore (13.1 percent).

The lowest proportion of occasional fisherfolks was in Pudukkottai (0.4 percent), followed by Thiruvarur (0.8 percent) and Tirunelveli (1.1 percent).

Table : 4.4
Active Fisherfolk: Tamil Nadu

Sl. No.	Districts	Full Time	Part Time	Occasional	Total	Fisherfolk Population
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Thiruvallur	9,346	2,478	397	12,221	36,775
	%age	5	15.5	7.4	5.9	4.7
2	Chennai	14,080	3,590	1,138	18,808	75,166
	%age	7.6	22.5	21.3	9.1	9.5
3	Kanchipuram	7,122	150	203	7,475	27,962
	%age	3.8	0.9	3.8	3.6	3.5
4	Villupuram	4,152	111	172	4,435	16,093
	%age	2.2	0.7	3.2	2.1	2
5	Cuddalore	11,885	1,498	703	14,086	48,705
	%age	6.4	9.4	13.1	6.8	6.2
6	Nagapattinam	22,470	932	139	23,541	91,415
	%age	12.1	5.8	2.6	11.4	11.6
7	Thiruvarur	2,550	948	42	3,540	11,827
	%age	1.4	5.9	0.8	1.7	1.5

Sl. No.	Districts	Full Time	Part Time	Occasional	Total	Fisherfolk Population
(1)	(2)	(3)	(4)	(5)	(6)	(7)
8	Thanjavur	6,842	1,010	86	7,938	30,482
	%age	3.7	6.3	1.6	3.8	3.9
9	Pudukkottai	7,638	12	20	7,670	29,921
	%age	4.1	0.1	0.4	3.7	3.8
10	Ramanathapuram	35,174	3,066	652	38,892	1,75,421
	%age	19	19.2	12.2	18.8	22.2
11	Tuticorin	20,565	844	204	21,613	78,487
	%age	11.1	5.3	3.8	10.4	9.9
12	Tirunelveli	4,651	50	59	4,760	19,615
	%age	2.5	0.3	1.1	2.3	2.5
13	Kanyakumari	39,128	1,265	1,536	41,929	1,48,539
	%age	21.1	7.9	28.7	20.3	18.8
Total		**1,85,603**	**15,954**	**5,351**	**2,06,908**	**7,90,408**
%age		100	100	100	100	100

Source: Fisheries Census 2005

Occupational profile

The occupational profile of fisherfolks in Tamil Nadu is presented in Table 4.5. The total active fisher folks in Tamil Nadu, was 206,908. Marketing of fish was done by 36126 people, out of this total, the highest proportion of fisher folks engaged in fish marketing was in Nagapattinam (20.6 percent), followed by Kanchipuram (14.9 percent) and Cuddalore (14.5 percent).

The lowest number was in Tirunelveli (0.7 percent). 19,051 fishermen were involved in making/repairing of net. 22.0 percent, out the total, were in Pudukkottai (22.0 percent), followed by Cuddalore (21.7 percent) and Nagapattinam (15.3 percent), 0.1 percent each fishermen were making/ repairing net in Tirunelveli and Villupuram respectively.

In Tamil Nadu 6,250 fisherfolks were engaged in curing and processing. Out of this total, mostly were in Cuddalore (28.9 percent), followed by Nagapattinam (25.8 percent), and Ramanathapuram (11.5 percent).

The lowest number of fishermen in curing/processing of fish was in Pudukkottai (0.2 percent), Tirunelveli (0.4 percent) and Kanchipuram (0.8 percent).

The total number of fisherfolks in peeling activity, in Tamil Ndu was 2,107.

The maximum number of fishermen in fish peeling was in Ramanathapuram (27.1 percent), followed by Cuddalore (23.4 percent) and Nagapattinam (11.7 percent).

The total number of labourer in fishing related works, was 25,657 in Tamil Nadu.

The highest proportion of these labourers was in Ramanathapuram (35.0 percent), followed by Nagapattinam (22.4 percent) and Chennai (12.8 percent).

The lowest number was in Thiruvarur (0.0 percent), followed by Villupuram (0.2 percent) and Kanchipuram (0.6 percent).

Among the other workers (15,318), the maximum number was in Kanyakumari (28.5 percent), followed by Nagapattinam (13.2 percent) and Tuticorin (11.3 percent) and Ramanathapuram (11.3 percent)

In the category of 'other than fishing the total number of workers, were 12,817 in Tamil Nadu. Out of the total, the highest proportion was in Kanyakumari (28.5 percent), followed by Thiruvallur (12.4 percent), and Chennai (12.1 percent).

The lowest number of these workers was in Pudukkottai (0.4 percent), followed by Thanjavur (0.9 percent) and Villupuram (1.0 percent).

Table : 4.5
Occupation Profile: Tamil Nadu

Sl. No.	Districts	No. of members involved in fishing and allied activities								Other than fishing	Total occupied	Fisherfolk Population
		Active Fishermen	Marketing of fish	Making/ Repairing Net	Curing/ Processing	Peeling	Labourer	Others	Total			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Thiruvallur	12,221	2,818	47	217	21	665	669	4,437	1,584	18,242	36,775
	%age	5.9	7.8	0.2	3.5	1	2.6	4.4	4.2	12.4	5.6	4.7
2	Chennai	18,808	4,853	2,372	153	207	3,287	2,011	12,883	1,551	33,242	75,166
	%age	9.1	13.4	12.5	2.4	9.8	12.8	13.1	12.3	12.1	10.3	9.5
3	Kanchipuram	7,475	5,367	1,463	51	7	166	526	7,580	519	15,574	27,962
	%age	3.6	14.9	7.7	0.8	0.3	0.6	3.4	7.3	4	4.8	3.5

Sl. No.	Districts	No. of members involved in fishing and allied activities								Other than fishing	Total occupied	Fisherfolk Population
		Active Fishermen	Marketing of fish	Making/ Repairing Net	Curing/ Processing	Peeling	Labourer	Others	Total			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
4	Villupuram	4,435	1,539	21	322	3	59	236	2,180	129	6,744	16,093
	%age	2.1	4.3	0.1	5.2	0.1	0.2	1.5	2.1	1	2.1	2
5	Cuddalore	14,086	5,242	4,142	1,806	494	1,395	1,195	14,274	481	28,841	48,705
	%age	6.8	14.5	21.7	28.9	23.4	5.4	7.8	13.7	3.8	8.9	6.2
6	Nagapattinam	23,541	7,434	2,923	1,614	246	5,752	2,027	19,996	1,388	44,925	91,415
	%age	11.4	20.6	15.3	25.8	11.7	22.4	13.2	19.1	10.8	13.9	11.6
7	Thiruvarur	3,540	190	52	328	10	3	41	624	282	4,446	11,827
	%age	1.7	0.5	0.3	5.2	0.5	0	0.3	0.6	2.2	1.4	1.5
8	Thanjavur	7,938	1,192	135	206	92	1,369	140	3,134	109	11,181	30,482
	%age	3.8	3.3	0.7	3.3	4.4	5.3	0.9	3	0.9	3.4	3.9
9	Pudukkottai	7,670	1,802	4,195	15	0	373	141	6,526	57	14,253	29,921
	%age	3.7	5	22	0.2	0	1.5	0.9	6.2	0.4	4.4	3.8
10	Ramanatha-puram	38,892	2,048	1,784	721	570	8,974	1,729	15,826	1,350	56,068	1,75,421
	%age	18.8	5.7	9.4	11.5	27.1	35	11.3	15.1	10.5	17.3	22.2
11	Tuticorin	21,613	1,127	187	176	310	1,667	1,732	5,199	1,100	27,912	78,487
	%age	10.4	3.1	1	2.8	14.7	6.5	11.3	5	8.6	8.6	9.9
12	Tirunelveli	4,760	237	17	24	4	438	503	1,223	619	6,602	19,615
	%age	2.3	0.7	0.1	0.4	0.2	1.7	3.3	1.2	4.8	2	2.5
13	Kanyakumari	41,929	2,277	1,713	617	143	1,509	4,368	10,627	3,648	56,204	1,48,539
	%age	20.3	6.3	9	9.9	6.8	5.9	28.5	10.2	28.5	17.3	18.8
Total		**2,06,908**	**36,126**	**19,051**	**6,250**	**2,107**	**25,657**	**15,318**	**1,04,509**	**12,817**	**3,24,234**	**7,90,408**
%age		100	100	100	100	100	100	100	100	100	100	100

Source: Fisheries Census 2005

Gender-wise fishing allied activities in Tamil Nadu is given in Table 4.6. The total number of males and females involved in marketing of fish, in Tamil Nadu, was 5,107 and 31,019 respectively.

The highest proportion of males in fish marketing was in Pudukkottai (23.9 percent), followed by Ramanathapuram (20.2 percent) and Chennai (11.4 percent).

The female proportion in marketing of fish was maximum in Nagapattinam (23.5 percent), followed by Cuddalore (16.4 percent), and Kanchipuram (15.6 percent).

The lowest number of women workers in marketing of fish activity was in Tirunelveli (0.5 percent). In making/repairing of net, in all there were 16,775 males and 2,276 females.

The highest proportion of male workers in such occupations was in Pudukkottai (25.0 percent), followed by Cuddalore (24.4 percent) and Channai.

The lowest proportion of males in marketing was in Tirunelveli (0.1 percent), followed by Thiruvarur (0.1 percent) and Thiruvallur (0.2 percent).

Out of the total women workers in fish marketing, the maximum number was in Ramanathapuram (54.0 percent) and in Kanyakumari (18.8 percent).

The lowest number of women workers was in Thiruvallur (0.3 percent) followed by Tirunelveli and Thanjavur (0.4 percent each).

In curing/processing of fish, the total number of male workers were 760 and 5,490 were female workers.

The highest proportion of male workers was in Ramanathapuram (34.7 percent), followed by Nagapattinam (14.1 percent) and Cuddalore (12.4 percent).

The minimum number of male workers in curing and processing, was in Villupuram (0.1 percent).

The maximum number of women workers engaged in curing/processing, was in Cuddalore (31.2 percent) followed by Nagapattinam (27.4 percent) and Kanyakumari (10.2 percent).

The lowest proportion of women workers in this occupation was in Tirunelveli (0.3 percent), Kanchipuram (0.8 percent) and Chennai (1.0 percent).

In the peeling activity the total number of males and females were 680 and 1,427 respectively. Out of the total males, engaged in peeling activity, the highest proportion was in Tuticorin (30.1 percent), followed by Chennai (21.6 percent) and Nagapattinam (17.9 percent).

The lowest number of male workers in peeling was in Kanyakumari (1.0 percent), followed by Kanchipuram (0.7 percent) and Cuddalore (5.1 percent).

The maximum number of women workers in peeling was in Cuddalore (32.2 percent) next was Ramanathapuram (31.4 percent).

The lowest proportion of such women workers was in Kanchipuram

(0.1 percent), followed by Villupuram (0.2 percent) and Tirunelveli (0.3 percent).

In the labour category the total males were 22,627 and females were 3,030.

The highest proportion of males, out the total, was in Ramanathapuram (33.6 percent), followed by Nagapattinam (21.5 percent) and Chennai (14.1 percent).

The lowest number of males laboures was in Villupuram (0.2 percent), followed by Pudukkottai (1.3 percent) and Kanchipuram (0.6 percent).

The highest proportion of women labour was in Ramanathapuram (45.2 percent), next was Nagapattinam (29.5 percent).

The lowest number was in Thiruvarur (0.1 percent), followed by Villupuram (0.3 percent) and Kanchipuram (1.1 percent).

In the other workers category the total number of males and females were 9,328 and 5,990 respectively.

Among the males, the maximum number was in Kanyakumari (28.1 percent), followed by Chennai (18.5 percent), and Tuticorin (13.3 percent).

The minimum number of males was in Thiruvarur (0.2 percent), followed by Pudukkottai (1.2 percent) and Villupuram (1.5 percent).

The highest proportion of females was in Kanyakumari (29.1 percent), followed by Nagapattinam (15.7 percent) and Ramanathapuram (15.3 percent).

The lowest proportion of females was in Thiruvarur and Pudukkottai (0.4 percent each) followed by Thanjavur (1.4 percent).

The total number of workers related to fishery activities was 104,509. Out of which, 55,277 were males and 49,232 were females.

Table : 4.6
Gender-wise fishing allied activities: Tamil Nadu

Sl. No.	Districts	Marketing of fish		Making/ Repairing Net		Curing/ Processing		Peeling		Total M+F	Fisherfolk Population
(1)	(2)	(3)		(4)		(5)		(6)		(7)	(8)
		M	F	M	F	M	F	M	F	M+F	
1	Thiruvallur	43	2,775	41	6	7	210	0	21	4437	36,775
	%age	0.8	8.9	0.2	0.3	0.9	3.8	0	1.5	4.2	4.7
2	Chennai	583	4,270	2,218	154	97	56	147	60	12883	75,166
	%age	11.4	13.8	13.2	6.8	12.8	1	21.6	4.2	12.3	9.5

Sl. No.	Districts	Marketing of fish		Making/ Repairing Net		Curing/ Processing		Peeling		Total M+F	Fisherfolk Population
(1)	(2)	(3)		(4)		(5)		(6)		(7)	(8)
		M	F	M	F	M	F	M	F	M+F	
3	Kanchipuram	541	4,826	1,439	24	5	46	5	2	7580	27,962
	%age	10.6	15.6	8.6	1.1	0.7	0.8	0.7	0.1	7.3	3.5
4	Villupuram	20	1,519	10	11	1	321	0	3	2180	16,093
	%age	0.4	4.9	0.1	0.5	0.1	5.8	0	0.2	2.1	2
5	Cuddalore	158	5,084	4,086	56	94	1,712	35	459	14274	48,705
	%age	3.1	16.4	24.4	2.5	12.4	31.2	5.1	32.2	13.7	6.2
6	Nagapattinam	139	7,295	2,847	76	107	1,507	122	124	19996	91,415
	%age	2.7	23.5	17	3.3	14.1	27.4	17.9	8.7	19.1	11.6
7	Thiruvarur	78	112	13	39	4	324	0	10	624	11,827
	%age	1.5	0.4	0.1	1.7	0.5	5.9	0	0.7	0.6	1.5
8	Thanjavur	527	665	45	90	29	177	37	55	3134	30,482
	%age	10.3	2.1	0.3	4	3.8	3.2	5.4	3.9	3	3.9
9	Pudukkottai	1,221	581	4,186	9	13	2	0	0	6526	29,921
	%age	23.9	1.9	25	0.4	1.7	0	0	0	6.2	3.8
10	Ramanatha-puram	1,032	1,016	556	1,228	264	457	122	448	15826	1,75,421
	%age	20.2	3.3	3.3	54	34.7	8.3	17.9	31.4	15.1	22.2
11	Tuticorin	336	791	41	146	77	99	205	105	5199	78,487
	%age	6.6	2.6	0.2	6.4	10.1	1.8	30.1	7.4	5	9.9
12	Tirunelveli	81	156	9	8	7	17	0	4	1223	19,615
	%age	1.6	0.5	0.1	0.4	0.9	0.3	0	0.3	1.2	2.5
13	Kanyakumari	348	1,929	1,284	429	55	562	7	136	10627	1,48,539
	%age	6.8	6.2	7.7	18.8	7.2	10.2	1	9.5	10.2	18.8
Total		**5,107**	**31,019**	**16,775**	**2,276**	**760**	**5,490**	**680**	**1,427**	**104509**	**7,90,408**
%age		100	100	100	100	100	100	100	100	100	100

Source: Fisheries Census 2005

Distribution of mechanized craft

The figures in Table 4.7 (A) highlights the distribution of mechanized craft owned by fisher-folk in Tamil Nadu. It can be noted that Trawlers with 30 feet in size were 294 (5.5 percent), followed by the Trawlers with 30-35 feet in size, which were 1,019 (19.0 percent), Trawlers with 36-40 feet in size, were 1,114 (20.8 percent), Trawlers above 40 feet in size, were 847 (15.8 percent). The number of purse-seiners less than 40 feet in size were 30 (0.6 percent), followed by Purse Seniers which were more than 40 feet in size were 6 (0.1 percent).

The total number of Gill netters, which were less than 30 feet in size was 249 (4.6 percent) and Gill netters with above 30 feet in size were 171 (3.2 percent).

Table : 4.7 (A)
Mechanized Craft Owned by Fisherfolk: Tamil Nadu

Sl. No.	Districts	TRAWLERS				PURSE SEINERS		GILL NETTERS	
		Trawlers (<30')	Trawlers (<30'-35')	Trawlers (<36'-40')	Trawlers (>40')	Purse Seiners (<40')	Purse Seiners (>40')	Gill netter (<30')	Gill netter (>30')
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Thiruvallur	2	7	1	2	0	0	0	0
	%age	15.4	53.8	7.7	15.4	-	-	-	-
2	Chennai	0	11	21	39	0	0	2	14
	%age	-	12.6	24.1	44.8	-	-	2.3	16.1
3	Kanchipuram	0	0	4	0	0	0	0	0
	%age	-	-	10.3	-	-	-	-	-
4	Villupuram	0	2	3	2	0	0	0	0
	%age	-	28.6	42.9	28.6	-	-	-	-
5	Cuddalore	75	34	134	77	29	2	218	14
	%age	9.3	4.2	16.5	9.5	3.6	0.2	26.9	1.7
6	Nagapattinam	5	33	173	447	0	0	5	105
	%age	0.3	1.8	9.4	24.3	-	-	0.3	5.7
7	Thiruvarur	0	0	0	0	0	0	0	0
	%age	-	-	-	-	-	-	-	-
8	Thanjavur	0	111	0	0	0	0	2	0
	%age	-	98.2	-	-	-	-	1.8	-
9	Pudukkottai	0	482	41	0	0	0	0	0
	%age	-	92.2	7.8	-	-	-	-	-
10	Ramanathapuram	144	256	626	12	0	3	0	0
	%age	13.8	24.5	60	1.2	-	0.3	-	-
11	Tuticorin	4	46	64	75	1	0	2	24
	%age	1.8	20.9	29.1	34.1	0.5	-	0.9	10.9
12	Tirunelveli	0	0	0	0	0	0	0	0
	%age	-	-	-	-	-	-	-	-
13	Kanyakumari	64	37	47	193	0	1	20	14
	%age	9.6	5.6	7.1	29	-	0.2	3	2.1
Total		**294**	**1,019**	**1,114**	**847**	**30**	**6**	**249**	**171**
%age		5.5	19	20.8	15.8	0.6	0.1	4.6	3.2

Source: Fisheries Census 2005

Table 4.7 (B) details out the distribution of mechanized craft owned by Fisherfolks in Tamil Nadu. The figures depict that the total number of Dol Netters with less than 30 feet in size, was 2 (0.04 percent) and more than 30 feet sized Dol netters were 5 (0.1 percent).

The total number of Ring Seniers with less than 40 feet in size, was 34 (0.6 percent) and more than 40 feet sized Ring-Seniers were 18 (0.3 percent).

In all there were 267 (5.0 percent) Liners in less that 30 feet size and in above 30 feet size, there was 460 Liners in 2005, the total number of carriers to Purse in less than 30 feet size, was 9 (0.2 percent) and more than 30 feet in size, there were 22 carriers to Purse (0.4 percent). The total numbers other crafts were 813 (15.2 percent).

Table : 4.7 (B)
Mechanized Craft Owned by Fisher-folk: Tamil Nadu

Sl. No.	Districts	Dol Netters		Ring Seiners		Liners		Purse Seiner Carriers		OTHERS	TOTOAL MECHANIZED
		Dol Netters (<30')	Dol Netters (>30')	Ring Seiners (<40')	Ring Seiners (>40')	Liners (<30')	Liners (>30')	Carriers to Purse seiners (<30')	Carriers to Purse seiners (>30')		
(1)	(2)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1	Thiruvallur	1	0	0	0	0	0	0	0	0	13
	%age	7.7	-	-	-	-	-	-	-	-	100
2	Chennai	0	0	0	0	0	0	0	0	0	87
	%age	-	-	-	-	-	-	-	-	-	100
3	Kanchipuram	0	0	31	4	0	0	0	0	0	39
	%age	-	-	79.5	10.3	-	-	-	-	-	100
4	Villupuram	0	0	0	0	0	0	0	0	0	7
	%age	-	-	-	-	-	-	-	-	-	100
5	Cuddalore	0	0	3	0	105	89	8	22	0	810
	%age	-	-	0.4	0	13	11	1	2.7	-	100
6	Nagapattinam	1	5	0	14	138	105	0	0	809	1,840
	%age	0.1	0.3	0	0.8	7.5	5.7	-	-	44	100

Sl. No.	Districts	Dol Netters		Ring Seiners		Liners		Purse Seiner Carriers		OTHERS	TOTOAL MECHANIZED
		Dol Netters (<30')	Dol Netters (>30')	Ring Seiners (<40')	Ring Seiners (>40')	Liners (<30')	Liners (>30')	Carriers to Purse seiners (<30')	Carriers to Purse seiners (>30')		
(1)	(2)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
7	Thiruvarur	0	0	0	0	0	0	0	0	0	0
	%age	-	-	-	-	-	-	-	-	-	-
8	Thanjavur	0	0	0	0	0	0	0	0	0	113
	%age	-	-	-	-	-	-	-	-	-	100
9	Pudukkottai	0	0	0	0	0	0	0	0	0	523
	%age	-	-	-	-	-	-	-	-	-	100
10	Ramanathapuram	0	0	0	0	1	0	0	0	1	1,043
	%age	-	-	-	-	0.1	-	-	-	0.1	100
11	Tuticorin	0	0	0	0	0	0	1	0	3	220
	%age	-	-	-	-	-	-	0.5	-	1.4	100
12	Tirunelveli	0	0	0	0	0	0	0	0	0	0
	%age	-	-	-	-	-	-	-	-	-	-
13	Kanyakumari	0	0	0	0	23	266	0	0	0	665
	%age	-	-	-	-	3.5	40	-	-	-	100
Total		**2**	**5**	**34**	**18**	**267**	**460**	**9**	**22**	**813**	**5,360**
%age		0.04	0.1	0.6	0.3	5	8.6	0.2	0.4	15.2	100

Source: Fisheries Census 2005

Motorized crafts

The distribution of motorized craft owned by fisherfolk in Tamil Nadu, is presented in Table 4.7 (C). The data indicate that total number of Dugouts were 12 (0.1 percent), followed by 5,366 Catamarans (28.8 percent), 3,285 (17.6 percent) were Plank-built and 214 (1.1 percent) Ring Seiners. In the year 2005, in Tamil Nadu, the total number of Fiber Glass was 9,616 (51.6 percent), followed by 4 (0.0 percent), Ferrocement and 146 (0.8 percent) other crafts.

The district wise distribution of motorized crafts could be seen in Table.

Table : 4.7 (C)
Motorized Craft Owned by Fisherfolk: Tamil Nadu

Sl. No.	Districts	MOTORIZED							
		Dugout	Catama-rans	Plank-built	Ring Seiner	Fiber Glass	Ferro Cement	Others	Total
(1)	(2)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
1	Thiruvallur	0	254	0	1	1,589	0	0	1,844
	%age	0	13.8	0	0.1	86.2	0	0	100
2	Chennai	0	606	2	0	401	0	0	1,009
	%age	0	60.1	0.2	0	39.7	0	0	100
3	Kanchipuram	0	851	0	3	1,129	2	0	1,985
	%age	0	42.9	0	0.2	56.9	0.1	0	100
4	Villupuram	0	134	0	0	370	0	0	504
	%age	0	26.6	0	0	73.4	0	0	100
5	Cuddalore	0	69	1	1	632	0	0	703
	%age	0	9.8	0.1	0.1	89.9	0	0	100
6	Nagapattinam	4	1,336	5	2	2,002	2	0	3,351
	%age	0.1	39.9	0.1	0.1	59.7	0.1	0	100
7	Thiruvarur	0	1	0	0	50	0	0	51
	%age	0	2	0	0	98	0	0	100
8	Thanjavur	0	0	2	0	356	0	0	358
	%age	0	0	0.6	0	99.4	0	0	100
9	Pudukkottai	4	0	337	68	33	0	1	443
	%age	0.9	0	76.1	15.3	7.4	0	0.2	100
10	Ramanathapuram	1	2	1,650	18	44	0	12	1,727
	%age	0.1	0.1	95.5	1	2.5	0	0.7	100
11	Tuticorin	0	298	1,242	56	686	0	9	2,291
	%age	0	13	54.2	2.4	29.9	0	0.4	100
12	Tirunelveli	1	478	0	0	513	0	97	1,089
	%age	0.1	43.9	0	0	47.1	0	8.9	100
13	Kanyakumari	2	1,337	46	65	1,811	0	27	3,288
	%age	0.1	40.7	1.4	2	55.1	0	0.8	100
Total		**12**	**5,366**	**3,285**	**214**	**9,616**	**4**	**146**	**18,643**
%age		0.1	28.8	17.6	1.1	51.6	0	0.8	100

Source: Fisheries Census 2005

Non-motorized craft

Table 4.7 (D) illustrates the distribution of non-motorized craft owned by fisherfolks in Tamil Nadu. The figurers show that there were 399 Dugouts. in Tamil Nadu, followed by 14,716 non-motorized Catamarans, 8,122, Plank built and 257 other non-motorized crafts.

Table : 4.7 (D)
Non-motorized Craft Owned by Fisherfolk: Tamil Nadu

Sl. No.	Districts	NON-MOTORIZED				
		Dugout	Catamarans	Plank-built	Others	Total
(1)	(2)	(29)	(30)	(31)	(32)	(33)
1	Thiruvallur	2	846	0	0	848
	%age	0.5	5.7	-	-	3.6
2	Chennai	1	274	1	0	276
	%age	0.3	1.9	0	-	1.2
3	Kanchipuram	27	1,752	24	4	1,807
	%age	6.8	11.9	0.3	1.6	7.7
4	Villupuram	0	860	20	0	880
	%age	-	5.8	0.2	-	3.7
5	Cuddalore	309	1,493	123	24	1,949
	%age	77.4	10.1	1.5	9.3	8.3
6	Nagapattinam	4	2,864	258	0	3,126
	%age	1	19.5	3.2	-	13.3
7	Thiruvarur	0	0	56	0	56
	%age	-	-	0.7	-	0.2
8	Thanjavur	0	116	844	1	961
	%age	-	0.8	10.4	0.4	4.1
9	Pudukkottai	0	113	1,427	0	1,540
	%age	-	0.8	17.6	-	6.6
10	Ramanathapuram	1	1,209	5,130	2	6,342
	%age	0.3	8.2	63.2	0.8	27
11	Tuticorin	0	363	52	222	637
	%age	-	2.5	0.6	86.4	2.7
12	Tirunelveli	1	249	4	0	254
	%age	0.3	1.7	0	-	1.1
13	Kanyakumari	54	4,577	183	4	4,818
	%age	13.5	31.1	2.3	1.6	20.5
Total		**399**	**14,716**	**8,122**	**257**	**23,494**
%age		100	100	100	100	100

Source: Fisheries Census 2005

All type of fishing crafts

Table 4.7 (E) shows the distribution of all type of crafts owned by fisherfolks in Tamil Nadu. It can be noted that the total number of mechanized craft was 5,360 (11.3 percent), followed by total motorized crafts, which was 18,643 (39.3 percent) and total non-motorized crafts were 23,494 (49.5 percent). The total crafts in Tamil Nadu were 47,497 (100.0 percent).

Table : 4.7 (E)
All type of crafts Owned by Fisher-folk: Tamil Nadu

Sl. No.	Districts	GRAND TOTAL			
		Total Mechanized	Total Motorized	Total Non-Motorized	Total
(1)	(2)	(34)	(35)	(36)	(37)
1	Thiruvallur	13	1,844	848	2,705
	%age	0.5	68.2	31.3	100
2	Chennai	87	1,009	276	1,372
	%age	6.3	73.5	20.1	100
3	Kanchipuram	39	1,985	1,807	3,831
	%age	1	51.8	47.2	100
4	Villupuram	7	504	880	1,391
	%age	0.5	36.2	63.3	100
5	Cuddalore	810	703	1,949	3,462
	%age	23.4	20.3	56.3	100
6	Nagapattinam	1,840	3,351	3,126	8,317
	%age	22.1	40.3	37.6	100
7	Thiruvarur	0	51	56	107
	%age	0	47.7	52.3	100
8	Thanjavur	113	358	961	1,432
	%age	7.9	25	67.1	100
9	Pudukkottai	523	443	1,540	2,506
	%age	20.9	17.7	61.5	100
10	Ramanathapuram	1,043	1,727	6,342	9,112
	%age	11.4	19	69.6	100
11	Tuticorin	220	2,291	637	3,148
	%age	7	72.8	20.2	100
12	Tirunelveli	0	1,089	254	1,343
	%age	0	81.1	18.9	100
13	Kanyakumari	665	3,288	4,818	8,771
	%age	7.6	37.5	54.9	100
Total		**5,360**	**18,643**	**23,494**	**47,497**
%age		11.3	39.3	49.5	100

Source: Fisheries Census 2005

Fishing gears

Fishing gears are important aspect of fishing industry. It is fish workers life line. Table 4.8 (A) provides the distribution of gears owned by fisher-folk in Tamil Nadu.

The figures show the total number of Trawl-net in Tamil Nadu was 17,011 (1.0 percent), followed by 79 (0.0 percent) Purse Seine, 2872 (0.2 percent) Boat seine and 1,357 (0.1 percent) were Fixed bag net. Further the total number of Drift net in the year 2005, was 36,705 (2.1 percent), followed

by total Gill Net pieces, which were 1,410,975 (81.0 percent), 140,069 (8.0 percent) were Hooks and lines and 12,079 (0.7 percent) were Troll lines.

Table : 4.8 (A)
Gears owned by fisherfolk: Tamil Nadu

Sl. No.	Districts	Gears							
		Trawl net	Purse seine	Boat seine	Fixed bag net	Drift net	Total Gillnet pieces	Hooks and lines	Troll lines
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Thiruvallur	41	0	0	1	0	54,212	4,937	0
	%age	0.2	-	-	0.1	-	3.8	3.5	-
2	Chennai	223	0	0	6	112	14,452	570	8
	%age	1.3	-	-	0.4	0.3	1	0.4	0.1
3	Kanchipuram	5	3	29	638	16	1,62,107	27,847	1,387
	%age	0	3.8	1	47	0	11.5	19.9	11.5
4	Villupuram	8	2	1	0	35	50,035	2,370	659
	%age	0	2.5	0	-	0.1	3.5	1.7	5.5
5	Cuddalore	1,180	44	137	96	2,639	44,611	5,931	877
	%age	6.9	55.7	4.8	7.1	7.2	3.2	4.2	7.3
6	Nagapattinam	4,239	20	41	76	0	1,78,395	7,656	689
	%age	24.9	25.3	1.4	5.6	-	12.6	5.5	5.7
7	Thiruvarur	3	1	0	0	38	34,565	40	0
	%age	0	1.3	-	-	0.1	2.4	0	-
8	Thanjavur	675	0	178	243	1,664	1,05,375	787	0
	%age	4	-	6.2	17.9	4.5	7.5	0.6	-
9	Pudukkottai	3,508	9	1,720	0	99	93,982	2,958	0
	%age	20.6	11.4	59.9	-	0.3	6.7	2.1	-
10	Ramanatha-puram	4,655	0	383	0	30,875	2,19,200	165	45
	%age	27.4	-	13.3	-	84.1	15.5	0.1	0.4
11	Tuticorin	856	0	108	0	524	1,60,909	8,882	0
	%age	5	-	3.8	-	1.4	11.4	6.3	-
12	Tirunelveli	0	0	0	0	12	1,19,133	190	1
	%age	-	-	-	-	0	8.4	0.1	0
13	Kanyakumari	1,618	0	275	297	691	1,73,999	77,736	8,413
	%age	9.5	-	9.6	21.9	1.9	12.3	55.5	69.6
Total		**17,011**	**79**	**2,872**	**1,357**	**36,705**	**14,10,975**	**1,40,069**	**12,079**
%age		1	0	0.2	0.1	2.1	81	8	0.7

Source: Fisheries Census 2005

Long-lines etc.

In Tamil Nadu, in 2005, the total number of Long lines was 80,287 (4.6 percent) as shown in Table 4.8 (B).

The total number of Ring seine was 235 (0.0 percent), followed by 5690 (0.3 percent) Shore seiners, 7,823 (0.4 percent) were Scoop net, 2,057 (0.1 percent) Traps were 2057 (0.1 percent) and 25702 (1.5 percent) were other gears.

Table : 4.8 (B)
Gears owned by fisherfolk: Tamil Nadu

Sl. No.	Districts	Gears						
		Long lines	Ring seine	Shore seines	Scoop net	Traps	Others	Total
(1)	(2)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1	Thiruvallur	1,006	0	0	4,884	0	0	65,081
	%age	1.3	-	-	6.2	-	-	3.7
2	Chennai	523	1	19	706	0	0	16,620
	%age	0.7	0.4	0.3	0.9	-	-	1
3	Kanchipuram	1,296	0	10	0	0	17	1,93,355
	%age	1.6	-	0.2	-	-	0.1	11.1
4	Villupuram	2,160	1	16	1,332	14	0	56,633
	%age	2.7	0.4	0.3	1.7	0.7	-	3.2
5	Cuddalore	2,181	7	266	0	0	743	58,712
	%age	2.7	3	4.7	-	-	2.9	3.4
6	Nagapattinam	1,687	217	1,176	0	0	30	1,94,226
	%age	2.1	92.3	20.7	-	-	0.1	11.1
7	Thiruvarur	0	0	36	0	0	0	34,683
	%age	-	-	0.6	-	-	-	2
8	Thanjavur	56	0	1,645	0	0	307	1,10,930
	%age	0.1	-	28.9	-	-	1.2	6.4
9	Pudukkottai	82	0	1,563	0	118	1,354	1,05,393
	%age	0.1	-	27.5	-	5.7	5.3	6
10	Ramanatha-puram	241	0	545	0	1,813	23,037	2,80,959
	%age	0.3	-	9.6	-	88.1	89.6	16.1
11	Tuticorin	15,292	0	86	74	0	0	1,86,731
	%age	19	-	1.5	0.1	-	-	10.7
12	Tirunelveli	513	0	0	0	0	0	1,19,849
	%age	0.6	-	-	-	-	-	6.9
13	Kanyakumari	55,250	9	328	827	112	214	3,19,769
	%age	68.8	3.8	5.8	1.1	5.4	0.8	18.3
Total		**80,287**	**235**	**5,690**	**7,823**	**2,057**	**25,702**	**17,42,941**
%age		4.6	0	0.3	0.4	0.1	1.5	100

Source: Fisheries Census 2005.il

Craft and gear ownership

Table 4.9 presents the distribution of number of families involved in fishing having craft and gear or no craft and gear. The figures indicate that the total number of families, engaged in fishing in Tamil Nadu was 192,152. Out of the total families, 109,085 did not have fishing crafts, followed by 94,566 families who did not have gear and 88,979 families had neither. It can be noted that 2,138 families who were not involved in fishing had craft and 2,548 families had gear.

8,681 women were engaged in fishing allied activities. District wise distribution could be seen in Table 4.12

Table : 4.9
Additional information: Tamil Nadu
(district-wise distribution of families)

Sl. No.	Districts	Total Families	Involved in fishing			Not involved in fishing		Only women engaged in fishing allied activities
			No craft	No gear	Neither	Having craft	Having gear	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Thiruvallur	9,630	5,667	5,010	4,809	49	75	276
	%age	5	5.2	5.3	5.4	2.3	2.9	3.2
2	Chennai	18,809	14,589	14,681	14,508	50	50	891
	%age	9.8	13.4	15.5	16.3	2.3	2	10.3
3	Kanchipuram	7,723	896	594	444	240	223	831
	%age	4	0.8	0.6	0.5	11.2	8.8	9.6
4	Villupuram	4,416	1,327	1,241	1,174	43	49	266
	%age	2.3	1.2	1.3	1.3	2	1.9	3.1
5	Cuddalore	12,840	4,686	4,750	4,136	305	354	996
	%age	6.7	4.3	5	4.6	14.3	13.9	11.5
6	Nagapattinam	22,643	9,509	8,336	7,378	798	764	1,721
	%age	11.8	8.7	8.8	8.3	37.3	30	19.8
7	Thiruvarur	2,956	2,787	119	115	0	13	32
	%age	1.5	2.6	0.1	0.1	-	0.5	0.4
8	Thanjavur	7,087	5,333	2,324	2,277	21	85	151
	%age	3.7	4.9	2.5	2.6	1	3.3	1.7
9	Pudukkottai	6,791	3,980	1,629	1,580	22	63	90
	%age	3.5	3.6	1.7	1.8	1	2.5	1

Sl. No.	Districts	Total Families	Involved in fishing			Not involved in fishing		Only women engaged in fishing allied activities
			No craft	No gear	Neither	Having craft	Having gear	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
10	Ramanathapuram	38,800	23,071	18,872	18,376	127	399	630
	%age	20.2	21.1	20	20.7	5.9	15.7	7.3
11	Tuticorin	18,671	13,747	12,000	11,794	75	88	536
	%age	9.7	12.6	12.7	13.3	3.5	3.5	6.2
12	Tirunelveli	4,381	1,419	1,646	1,119	68	55	176
	%age	2.3	1.3	1.7	1.3	3.2	2.2	2
13	Kanyakumari	37,405	22,074	23,364	21,269	340	330	2,085
	%age	19.5	20.2	24.7	23.9	15.9	13	24
Total		**1,92,152**	**1,09,085**	**94,566**	**88,979**	**2,138**	**2,548**	**8,681**
%age		100	100	100	100	100	100	100

Source: Fisheries Census 2005ll

Educational Institutions

The district-wise distribution of education institutions in fishing villages of Tamil Nadu is highlighted in Table 4.10 (A). The data show that in 2005 the total number of fishing villages was 581, and total number of families was 192,152.

In 581 villages there were 483 primary school, followed by 170 secondary schools, 17 colleges and 21 technical institutions.

Table : 4.10 (A)
Education Institutions : Tamil Nadu

Sl. No.	Districts	No. of villages	No. of Families	Primary	Secondary	College	Technical Institutions	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Thiruvallur	30	9,630	19	2	0	0	21
	%age	5.2	5	3.9	1.2	-	-	3
2	Chennai	43	18,809	12	1	0	0	13
	%age	7.4	9.8	2.5	0.6	-	-	1.9

Sl. No.	Districts	No. of villages	No. of Families	Primary	Secondary	College	Technical Institutions	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
3	Kanchipuram	42	7,723	35	6	1	0	42
	%age	7.2	4	7.2	3.5	5.9	-	6.1
4	Villupuram	19	4,416	13	3	0	0	16
	%age	3.3	2.3	2.7	1.8	-	-	2.3
5	Cuddalore	47	12,840	45	17	2	1	65
	%age	8.1	6.7	9.3	10	11.8	4.8	9.4
6	Nagapattinam	56	22,643	35	35	1	4	75
	%age	9.6	11.8	7.2	20.6	5.9	19	10.9
7	Thiruvarur	13	2,956	18	9	0	0	27
	%age	2.2	1.5	3.7	5.3	-	-	-
8	Thanjavur	31	7,087	16	9	0	0	25
	%age	5.3	3.7	3.3	5.3	-	-	3.6
9	Pudukkottai	33	6,791	31	6	0	0	37
	%age	5.7	3.5	6.4	3.5	-	-	5.4
10	Ramanathapuram	180	38,800	150	27	6	4	187
	%age	31	20.2	31.1	15.9	35.3	19	27.1
11	Tuticorin	31	18,671	48	25	6	4	83
	%age	5.3	9.7	9.9	14.7	35.3	19	12
12	Tirunelveli	9	4,381	12	5	1	3	21
	%age	1.5	2.3	2.5	2.9	5.9	14.3	3
13	Kanyakumari	47	37,405	49	25	0	5	79
	%age	8.1	19.5	10.1	14.7	-	23.8	11.4
Total		**581**	**1,92,152**	**483**	**170**	**17**	**21**	**691**
%age		100	100	69.9	24.6	2.5	3	100

Source: Fisheries Census 2005Na

Housing conditions

Table 4.10 (B) highlights the housing condition of fishermen's living places in Tamil Nadu. The figures show that in 581 fishing villages 31.45 percent were kutcha and 68.53 percent were pucca houses.

Table : 4.10 (B)
Housing condition: Tamil Nadu

Sl. No.	Districts	No. of villages	No. of Families	Kutcha Houses (%)	Pucca Houses (%)	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Thiruvallur	30	9,630	44.96	55.04	8,439
	%age	5.2	5			5
2	Chennai	43	18,809	19.81	80.19	16,482
	%age	7.4	9.8			9.8
3	Kanchipuram	42	7,723	17.86	82.14	6,767
	%age	7.2	4			4
4	Villupuram	19	4,416	23.37	76.63	3,870
	%age	3.3	2.3			2.3
5	Cuddalore	47	12,840	34.16	65.84	11,251
	%age	8.1	6.7			6.7
6	Nagapattinam	56	22,643	36.86	63.14	19,841
	%age	9.6	11.8			11.8
7	Thiruvarur	13	2,956	58.93	41.07	2,590
	%age	2.2	1.5			1.5
8	Thanjavur	31	7,087	58.39	41.61	6,210
	%age	5.3	3.7			3.7
9	Pudukkottai	33	6,791	26.81	73.19	5,951
	%age	5.7	3.5			3.5
10	Ramanathapuram	180	38,800	53.13	46.87	33,999
	%age	31	20.2			20.2
11	Tuticorin	31	18,671	20.28	79.72	16,361
	%age	5.3	9.7			9.7
12	Tirunelveli	9	4,381	17.69	82.31	3,839
	%age	1.5	2.3			2.3
13	Kanyakumari	47	37,405	11.74	88.26	32,777
	%age	8.1	19.5			19.5
Total		**581**	**1,92,152**	**31.47**	**68.53**	**1,68,377**
%age		100	100			100

Source: Fisheries Census 2005

Infrastructure facilities in fishing villages

The infrastructure facilities available for fishermen in Tamil Nadu is given in Table 4.11 (A). As could be observed, in 581 fishing villages, there were 967 cooperative societies, followed by 234 community centres, 933 local festival and 56 cinema theaters.

Table : 4.11 (A)
Infrastructure/Facilities: Tamil Nadu

Sl. No.	Districts	No. of villages	Co-operative societies	Community Centers	Local festivals	Cinema theatres
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Thiruvallur	30	53	8	95	0
	%age	5.2	9.1	1.4	16.4	0
2	Chennai	43	53	24	79	2
	%age	7.4	9.1	4.1	13.6	0.3
3	Kanchipuram	42	42	16	126	3
	%age	7.2	7.2	2.8	21.7	0.5
4	Villupuram	19	191	3	45	25
	%age	3.3	32.9	0.5	7.7	4.3
5	Cuddalore	47	56	10	74	3
	%age	8.1	9.6	1.7	12.7	0.5
6	Nagapattinam	56	48	35	49	1
	%age	9.6	8.3	6	8.4	0.2
7	Thiruvarur	13	6	0	16	0
	%age	2.2	1	0	2.8	0
8	Thanjavur	31	25	6	15	0
	%age	5.3	4.3	1	2.6	0
9	Pudukkottai	33	30	15	41	4
	%age	5.7	5.2	2.6	7.1	0.7
10	Ramanathapuram	180	348	67	233	13
	%age	31	59.9	11.5	40.1	2.2
11	Tuticorin	31	57	16	98	5
	%age	5.3	9.8	2.8	16.9	0.9
12	Tirunelveli	9	14	3	6	0
	%age	1.5	2.4	0.5	1	0
13	Kanyakumari	47	44	31	56	0
	%age	8.1	7.6	5.3	9.6	0
Total		**581**	**967**	**234**	**933**	**56**
%age		100	166.4	40.3	160.6	9.6

Source: Fisheries Census 2005

*percentage from total villages 581

Other facilities

The infrastructure facilities present in the fishing villages of Tamil Nadu are shown in Table 4.11 (B). It can be seen that among 581 fishing villages of thirteen districts, 564 villages were electrified, followed by 538 villages, which were connected by road, 411 villages had bus stop/stand. 181 villages from the total, had hospitals and 93 villages had banks.

Table: 4.11 (B)
Infrastructure/Facilities: Tamil Nadu

Sl. No.	Districts	No. of villages	Villages Electrified	Villages connected by road	Villages having bus stop/stand	Hospitals	Banks
(1)	(2)	(3)	(8)	(9)	(10)	(11)	(12)
1	Thiruvallur	30	30	19	18	1	0
	%age	5.2	5.2	3.3	3.1	0.2	-
2	Chennai	43	43	43	43	7	0
	%age	7.4	7.4	7.4	7.4	1.2	-
3	Kanchipuram	42	42	42	23	6	11
	%age	7.2	7.2	7.2	4	1	1.9
4	Villupuram	19	19	19	0	0	0
	%age	3.3	3.3	3.3	-	-	-
5	Cuddalore	47	47	47	41	22	11
	%age	8.1	8.1	8.1	7.1	3.8	1.9
6	Nagapattinam	56	50	49	45	24	5
	%age	9.6	8.6	8.4	7.7	4.1	0.9
7	Thiruvarur	13	13	13	11	5	0
	%age	2.2	2.2	2.2	1.9	0.9	-
8	Thanjavur	31	31	31	31	5	4
	%age	5.3	5.3	5.3	5.3	0.9	0.7
9	Pudukkottai	33	32	32	32	37	5
	%age	5.7	5.5	5.5	5.5	6.4	0.9
10	Ramanathapuram	180	176	160	88	28	24
	%age	31	30.3	27.5	15.1	4.8	4.1
11	Tuticorin	31	29	31	29	5	23
	%age	5.3	5	5.3	5	0.9	4
12	Tirunelveli	9	8	8	7	41	1
	%age	1.5	1.4	1.4	1.2	7.1	0.2
13	Kanyakumari	47	44	44	43	0	9
	%age	8.1	7.6	7.6	7.4	-	1.5
Total		**581**	**564**	**538**	**411**	**181**	**93**
%age		100	97.1	92.6	70.7	31.2	16

Source: Fisheries Census 2005

*percentage from total villages 581

Fishery related infrastructure

Table 4.12 highlights the fishery related infrastructure in Tamil Nadu. The figures who that in thirteen fishing districts of Tamil Nadu, there were 29 boat yards, 101 ice factories, 8 cold storages, 4 freezing plant, 9 curing yards, 30 peeling sheds and 2 fishmeal plants.

Table: 4. 12
Infrastructure - Fishery related (in the villages): Tamil Nadu

Sl. No.	Districts	Boat yards	Ice factories	Cold storages	Freezing plants	Canning plants	Curing yards	Peeling sheds	Fishmeal plants
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Thiruvallur	1	0	0	0	0	0	0	0
	%age	*3.4*	-	-	-	-	-	-	-
2	Chennai	0	7	0	0	0	0	0	0
	%age	-	*6.9*	-	-	-	-	-	-
3	Kanchipuram	0	1	0	0	0	0	0	0
	%age	-	*1*	-	-	-	-	-	-
4	Villupuram	2	1	0	0	0	2	0	0
	%age	*6.9*	*1*	-	-	-	*22.2*	-	-
5	Cuddalore	3	23	0	0	0	1	5	0
	%age	*10.3*	*22.8*	-	-	-	*11.1*	*16.7*	-
6	Nagapattinam	0	16	0	0	0	0	0	0
	%age	-	*15.8*	-	-	-	-	-	-
7	Thiruvarur	0	0	0	0	0	0	0	0
	%age	-	-	-	-	-	-	-	-
8	Thanjavur	0	0	0	0	0	0	0	0
	%age	-	-	-	-	-	-	-	-
9	Pudukkottai	1	13	0	0	0	0	6	0
	%age	*3.4*	*12.9*	-	-	-	-	*20*	-
10	Ramanathapuram	4	17	2	1	0	0	9	0
	%age	*13.8*	*16.8*	*25*	*25*	-	-	*30*	-
11	Tuticorin	1	7	1	1	0	6	0	2
	%age	*3.4*	*6.9*	*12.5*	*25*	-	*66.7*	-	*100*
12	Tirunelveli	3	1	1	1	0	0	0	0
	%age	*10.3*	*1*	*12.5*	*25*	-	-	-	-
13	Kanyakumari	14	15	4	1	0	0	10	0
	%age	*48.3*	*14.9*	*50*	*25*	-	-	*33.3*	-
Total		**29**	**101**	**8**	**4**	**0**	**9**	**30**	**2**
%age		*100*	*100*	*100*	*100*	*0*	*100*	*100*	*100*

Source: Fisheries Census 2005d

Chapter Five

Ground Realities: Tamil Nadu

Introduction

Many studies have been conducted to examine the conditions of the fish workers at grassroots level. The present study, however, attempts to explore the whole economy, society and environment of two selected villages inhabited by people majority of whom solely depend on fishing as a source of their livelihood.

5.1: Respondents' profile

Table 5.1 highlights the distribution of total respondents from two villages of Nagapattinam. There were 296 respondents from Keechankuppam and 304 from Akkaraipettai.

Table: 5.1
Village Profile: Tamilnadu

Sl. No.	Name of Villages	No. of Respondents	%age
1	Keechankuppam	296	49.3
2	Akkaraipettai	304	50.7
	Total	**600**	100.0

Source : Survey by Author, 2010

5.2: Religion

The figures in Table 5.2 show the religion-wise distribution of respondents. It can be noted that in Nagapattinam, all the respondents belonged to Hindu religion.

Table: 5.2
Distribution of respondents by their religion

Sl. No.	Religion	No. of Respondents	%age
1	Hindu	600	100.0
2	Muslim	0	0.0
3	Sikh	0	0.0
4	Christian	0	0.0
	Total	**600**	**100.0**

Source : Survey by Author, 2010

5.3: Caste profile

The caste-wise distribution of the respondents is highlighted in Table 5.3. The figures indicate that all the respondents (100.0 percent) belonged to the most backward class. Generally, fish workers are from scheduled caste, scheduled tribe and other backward caste in India. The data from two villages of Nagapattinam, Tamil Nadu reconfirms the fact.

Table: 5.3
Caste-wise distribution of respondents

Sl. No.	Category	No. of Respondents	%age
1	Most Backward Class	600	100.0
2	SC/ST	0	0.0
3	General	0	0.0
4	OBC	0	0.0
	Total	**600**	**100.0**

Source : Survey by Author, 2010

5.4: Gender profile

The gender-wise distribution of respondents is given in Table 5.4. As could be observed in the Table, out of the total, 85.0 percent were males and 15.0 percent were females. Fish harvesting is a male dominated activity women workers are mostly engaged in allied activities related to fishing.

Table: 5.4
Gender-wise distribution of the respondents' population

Sl. No.	Gender	No. of Respondents	Percentage
1.	Male	510	85.0
2.	Female	90	15.0
	Total	**600**	**100.0**

Source : Survey by Author, 2010

5.5: Age profile

Table 5.5 presents the distribution of respondents by age. The highest proportion of respondents (32.7 percent) were within the age group 36 to 45 years, followed by 29.5 percent, who were in the age group 26 to 35 and 17.3 percent in the age group of 46 to 55. The majority of the respondents were in age group 26-45 years.

Table: 5.5
Age-wise distribution of respondents

Sl. No.	Age-group	No. of Respondents			
		Male	Female	Total	%age
1	16 to 25	40	3	43	7.2
2	26 to 35	165	12	177	29.5
3	36 to 45	167	29	196	32.7
4	46 to 55	82	22	104	17.3
5	56 to 65	38	16	54	9.0
6	Above 65	18	8	26	4.3
	Total	**510**	**90**	**600**	**100.0**

Source : Survey by Author, 2010

5.6: Marital status

The distribution of respondents by marital status is presented in Table 5.6. The figurers show that 77.2 percent, out of the total, were married. 14.7 percent respondents were widow/widower and 7.7 percent were single.

Table: 5.6
Marital status of the respondents

Sl. No.	Marital Status	No. of Respondents			
		Male	Female	Total	%age
1	Single	40	6	46	7.7
2	Married	440	23	463	77.2
3	Widow/er	30	58	88	14.7
4	Separated	0	2	2	0.3
5	Divorcee	0	1	1	0.2
	Total	**510**	**90**	**600**	**100.0**

Source : Survey by Author, 2010

5.7: Educational profile

Table 5.7 illustrates the educational profile of respondents of two villages in Tamil Nadu. It can be seen that 24.5 percent respondents, out of the total, were illiterate. 32.0 percent had education upto primary level, followed by 19.5 percent, who were educated upto middle level, 9.3 percent knew to read and write and 8.0 percent were educated upto high school. 1.7 percent respondents were educated upto graduation level. 0.2 percent each had BBA, Engineering and M.Phil degree. Most of the fishermen are illiterate and poorly educated.

Table: 5.7
Education profile of the respondents

Sl. No.	Education Level	No. of Respondents			
		Male	Female	Total	%age
1	Illiterate	84	63	147	24.5
2	Can read & writer	45	11	56	9.3
3	Primary	183	9	192	32.0
4	Middle	114	3	117	19.5
5	High school	48	0	48	8.0
6	Secondary	17	1	18	3.0
7	Graduation	8	2	10	1.7
8	Post Graduation	2	0	2	0.3
9	MBA	2	1	3	0.5
10	DME	2	0	2	0.3
11	ITI	2	0	2	0.3
12	BBA	1	0	1	0.2
13	Engineering	1	0	1	0.2
14	M. Phil	1	0	1	0.2
	Total	**510**	**90**	**600**	**100.0**

Source : Survey by Author, 2010

5.8: Occupational profile

Table 5.8 shows the occupational profile of respondents of two villages of Nagapattinam, Tamil Nadu. It can be seen that 51.8 percent respondents were coolie (associated with fishery work) followed by 17.3 percent who were the fish harvesters, 13.0 percent were involved in fish selling and 6.8 percent were engaged in fishing. 5.8 percent were pensioners, 1.8 percent were labour 0.7 percent each were auto driver, doing private job and shop keeper. The fishermen have limited options for alternative employment. The employment in fishery sector is not very promising as the fish workers are unable to meet their needs adequately.

Table: 5.8
Occupational profile of the respondents

Sl. No.	Occupation	No. of Respondents			%age
		Male	Female	Total	
1	Coolie	311	0	311	51.8
2	Fish catching	104	0	104	17.3
3	Fish selling	19	59	78	13.0
4	Fishing	41	0	41	6.8

5	Pension	13	22	35	5.8
6	Labour	8	3	11	1.8
7	Auto Driver	4	0	4	0.7
8	Private job	2	2	4	0.7
9	Shopkeeper	0	4	4	0.7
10	Teacher	2	0	2	0.3
11	Mechanic	2	0	2	0.3
12	Business	2	0	2	0.3
13	Milkman	1	0	1	0.2
14	Govt. servant	1	0	1	0.2
	Total	**510**	**90**	**600**	**100.0**

Source : Survey by Author, 2010

5.9: Income profile

The distribution of respondents by monthly income is presented in Table 5.9. The highest proportion of respondents (35.5 percent) monthly income was between 1001-2000, followed by 20.5 percent, who whose income was between 501-1000 and 19.7 percent earned between 2001-3000. 11.0 percent respondents were earning upto 500, 6.2 percent respondents' income was between 4001-5000, 3.7 percent earned Rs.3001-4000 and 3.5 percent earned more than Rs.5000/-. The income profile of the respondents indicate that majority of them are poverty stricken. Due to the meager income the fishery workers are deprived of adequate shelter, nutritious food, quality education and proper medical care.

Table: 5.9
Income-wise distribution of respondents

Sl. No.	Respondent's per month income (in Rs.)	No. of Respondents			
		Male	Female	Total	%age
1	Upto 500	29	37	66	11.0
2	501 - 1000	93	30	123	20.5
3	1001 - 2000	201	12	213	35.5
4	2001- 3000	112	6	118	19.7
5	3001 - 4000	21	1	22	3.7
6	4001-5000	36	1	37	6.2
7	More than 5000	18	3	21	3.5
	Total	**510**	**90**	**600**	**100.0**

Source : Survey by Author, 2010

5.10: Family size

Table 5.10 reveals the distribution of respondents by family size. Out of the total respondents, 47.2 percent had 4-5 members in their family, followed by 32.2 percent who had 1-3 members, 12.8 percent had 6-7 members and 6.2 percent were single. 1.7 percent respondents had 7-9 members in their families.

Table: 5.10
Distribution of population among surveyed families

Sl. No.	Family Size	No. of Response	%age
1	Single	37	6.2
2	1 - 3	193	32.2
3	4 - 5	283	47.2
4	6 - 7	77	12.8
5	7 - 9	10	1.7
	Total	**600**	**100.0**

Source : Survey by Author, 2010

5.11: Age profile

Table 5.11 illustrates the distribution of family members of the respondents by age 28.3 percent family members from the total, were in the age group 16 to 25, followed by 16.4 percent, who were in 26 to 35 age group, 14.6 percent family members were in 6 to 15 age group and 14.0 percent were in 36 to 45 age group. 11.5 percent were below 6 years and 2.3 percent were above 65.

Table: 5.11
Distribution of population among surveyed households

Sl. No.	Age-group (family)	No. of Respondents			
		Male	Female	Total	%age
1	Below 6	132	141	273	11.5
2	6 to 15	180	166	346	14.6
3	16 to 25	353	320	673	28.3
4	26 to 35	222	168	390	16.4
5	36 to 45	175	158	333	14.0
6	46 to 55	102	91	193	8.1
7	56 to 65	62	52	114	4.8
8	Above 65	26	28	54	2.3
	Total	**1252**	**1124**	**2376**	**100.0**

Source : Survey by Author, 2010

5.12: Family characteristics

The distribution of family members of the respondents is given in Table 5.12. The figures show that 42.3 percent members were married, 26.1 percent were children and 25.1 percent were single. 6.3 percent were widow/widower, followed by 0.2 members who were separated from spouse and 0.1 percent were divorcee.

Table: 5.12
Education profile of the family members of surveyed households

Sl. No.	Marital Status (family)	No. of Respondents			
		Male	Female	Total	*%age*
1	Below 16	312	307	619	*26.1*
2	Married	507	498	1005	*42.3*
3	Single	387	210	597	*25.1*
4	Widow/er	44	105	149	*6.3*
5	Separated	1	3	4	*0.2*
6	Divorcee	1	1	2	*0.1*
	Total	**1252**	**1124**	**2376**	**100.0**

Source : Survey by Author, 2010

5.13: Educational profile

The educational profile of family members of respondents is shown in Table 5.13. Out of the total, 18.64 percent had education upto primary, followed by 16.92 percent who had education upto middle level. 16.79 percent were illiterate, 11.83 were high school and 9.47 percent knew to read and write, 5.60 percent had education upto secondary and 4.21 percent were educated upto graduation. A small number of family members were MBA, B.Tech. Chartered Accountant, pursuing computer course and other courses. However, a large number of fish workers' family members were illiterate. The number of women was higher in the illiterate category.

Table: 5.13
Occupational profile of the members of surveyed households

Sl. No.	Education Level (family)	No. of Respondents			
		Male	Female	Total	%age
1	Below 6	132	141	273	11.49
2	Illiterate	133	266	399	16.79
3	Can read & write	124	101	225	9.47

Sl. No.	Education Level (family)	No. of Respondents			
		Male	Female	Total	%age
4	Primary	280	163	443	18.64
5	Middle	242	160	402	16.92
6	High school	141	140	281	11.83
7	Secondary	66	67	133	5.60
8	Graduation	51	49	100	4.21
9	Post Graduation	7	7	14	0.59
10	BE	15	6	21	0.88
11	Diploma	13	1	14	0.59
12	B.Ed	5	8	13	0.55
13	BCA	5	5	10	0.42
14	ITI	9	0	9	0.38
15	Mech	7	0	7	0.29
16	BBA	0	5	5	0.21
17	Engineering	5	0	5	0.21
18	M.Phill	3	2	5	0.21
19	MCA	5	0	5	0.21
20	DME	2	0	2	0.08
21	DTI	2	0	2	0.08
22	MBA	0	2	2	0.08
23	Polytechnic	2	0	2	0.08
24	B.Tech	1	0	1	0.04
25	Charted Accounted	1	0	1	0.04
26	Computer Course	1	0	1	0.04
27	Nursing course	0	1	1	0.04
	Total	**1252**	**1124**	**2376**	**100.00**

Source : Survey by Author, 2010

5.14: Occupational profile

The occupational profile of family members of the respondents is presented in Table 5.14. The figures show that 17.51 percent members of the total, worked as coolie, followed by 5.60 percent who were involved in fish selling, 5.39 percent were engaged in fish catching and 2.48 percent were in fishing. 23.57 percent were students and 22.31 percent were engaged in domestic work. (for details, see table) The major proportion of people were working as coolie, which is a low paid job.

Table: 5.14
Occupational profile of family members of respondents' households

Sl. No.	Occupation (family)	No. of Respondents			
		Male	Female	Total	%age
1	Coolie	416	0	416	17.51
2	Fish Selling	26	107	133	5.60
3	Fish catching	128	0	128	5.39
4	Pensioner	23	40	63	2.65
5	Fishing	58	1	59	2.48
6	Labour	12	14	26	1.09
7	Private Job	8	5	13	0.55
8	Abroad	11	0	11	0.46
9	Auto Driver	7	0	7	0.29
10	Teacher	3	4	7	0.29
11	Shopkeeper	1	5	6	0.25
12	Mechanic	3	0	3	0.13
13	Boating	3	0	3	0.13
14	Fishing Agent	2	0	2	0.08
15	Business	2	0	2	0.08
16	Boat watch	2	0	2	0.08
17	Tailor	1	1	2	0.08
18	Govt. Servant	1	1	2	0.08
19	Washer man	1	0	1	0.04
20	Milkman	1	0	1	0.04
21	Agriculture	1	0	1	0.04
22	Student	302	258	560	23.57
23	House work	0	530	530	22.31
24	Below 6	132	141	273	11.49
25	Unemployed	104	0	104	4.38
26	above 65	3	14	17	0.72
27	Handicap	1	3	4	0.17
		1252	1124	2376	100.00

Source : Survey by Author, 2010

5.15: Income Profile

Table 5.15 shows the distribution of family members of the respondents by their monthly income. 29.5 percent out of the total, were earning between Rs.1001-2000, followed by 21.5 percent whose monthly income was Rs.2001-3000, 14.2 percent earned Rs.501-1000 and 7.8 percent family members income was upto Rs.500. 7.5 percent earned between 4001-

5000 and 2.5 percent members' income was 5001-6000. 2.7 percent family members earned more than 10,000 in a month. The family income of fish workers' was also very low, with confirms their poor economic status.

Table: 5.15
Distribution of family income of respondents' households

Sl. No.	Family income per month (in Rs.)	No. of Response	
		Total	%age
1	Upto 500	47	7.8
2	501 – 1000	85	14.2
3	1001 – 2000	177	29.5
4	2001- 3000	129	21.5
5	3001 – 4000	53	8.8
6	4001-5000	45	7.5
7	5001-6000	15	2.5
8	6001-7000	13	2.2
9	7001-8000	4	0.7
10	8001-9000	5	0.8
11	9001-10,000	11	1.8
12	More than 10,000	16	2.7
	Total	**600**	**100.0**

Source : Survey by Author, 2010

5.16: Dwelling houses

The distribution of respondents by the type of dwelling is presented in Table 5.16. It can be noted that out of the total 76.3 percent respondents had independent houses. 15.7 percent lived in flats, followed by 6.8 percent who were living in Jhuggi/Tin-shed, 1.0 percent were in rented accommodation and one respondent did not have house.

Table: 5.16
Type of dwelling of respondents households

Sl. No.	Dwelling place	No. of Response	%age
1	Independent House	458	76.3
2	Flat	94	15.7
3	Jhuggi/Tin shed	41	6.8
4	Rented House	6	1.0
5	No house	1	0.2
	Total	**600**	**100.0**

Source : Survey by Author, 2010

5.17: Type of houses

Table 5.17 illustrates the distribution of respondents by the type of building. The figures reveal that 41.2 percent out of the total, had Kutcha houses, followed by 28.5 percent had semi pucca houses and 25.0 percent had pucca houses. 5.2 percent respondents were living in thatched houses. It can be noted that majority of the fish workers possessed kutcha houses, which indicates the causes of their poverty. Majority of the fisher workers do not have ownership rights over their houses, as found during the field survey.

Table: 5.17
Type of building of respondents' households

Sl. No.	Type of Building	No. of Response	%age
1	Kutcha	247	41.2
2	Semi pucca	171	28.5
3	Pucca	150	25.0
4	Thatch	31	5.2
5	No house	1	0.2
	Total	**600**	**100.0**

Source : Survey by Author, 2010

5.18: Facilities

The distribution of respondents by the type of facilities in their accommodation is shown in Table 5.18. The data indicate that out of the total respondents, 547 had electricity in their houses, followed by 247 who had drinking water and 117 respondents had toilet facility 32 respondents had no facility.

Table 5.18
Source of drinking water

Sl. No.	Facilities in house	No. of Frequencies	%age
1	Light	547	91.2
2	Drinking Water	207	34.5
3	Toilet	117	19.5
4	No facility	32	5.3
5	No house	1	0.2

Source : Survey by Author, 2010

5.19: Sources of drinking water

The figures in Table 5.19 highlight the distribution of respondents by the sources of drinking water. As could be observed 422 respondents from the total, had tap water facility and 364 persons took water from Hand Pump.

Table: 5.19
Source of drinking water

Sl. No.	Source of drinking water	No. of Frequencies	%age
1	Tap water	422	70.3
2	Hand-pump	364	60.7

Source : Survey by Author, 2010

5.20: Types of fuels used

The data in Table 5.20 presents that out of the total respondents, 317 used firewood for cooking, followed by 42.8 percent who were using LPG and 6.8 percent respondents used kerosene. Still, a substantial number of respondents were using traditional method of cooking.

Table: 5. 20
Mode of cooking

Sl. No.	Medium of cooking	No. of Frequencies	%age
1	Firewood	317	52.8
2	LPG	257	42.8
3	Kerosene	41	6.8

Source : Survey by Author, 2010

5.21: Household durables

Table 5.21 shows the distribution of respondents by the household durables. The figures show that 515 respondents had television followed by 475 percent 469 respondents had fan and 264 had table. 209 had cots 205 respondents had Almirah, 112 had bicycle, 106 had motor bike and 54 respondents had plank. One person had fridge. The majority, however, did not have anything worth.

Table: 5.21
Household durables

Sl. No.	Household durables	No. of response					
		Yes	%age	No	%age	Total	%age
1	Television	515	85.8	85	14.2	600	100.0
2	Chair	475	79.2	125	20.8	600	100.0

Sl. No.	Household durables	No. of response					
		Yes	%age	No	%age	Total	%age
3	Fan	469	78.2	131	21.8	600	100.0
4	Table	264	44.0	336	56.0	600	100.0
5	Cots	209	34.8	391	65.2	600	100.0
6	Almirah	205	34.2	395	65.8	600	100.0
7	Bicycle	112	18.7	488	81.3	600	100.0
8	Motor bike	106	17.7	494	82.3	600	100.0
9	Plank	54	9.0	546	91.0	600	100.0
10	Radio	29	4.8	571	95.2	600	100.0
11	Auto	1	0.2	599	99.8	600	100.0
12	Fridge	1	0.2	599	99.8	600	100.0
	Total	**2440**	**33.9**	**4760**	**66.1**	**7200**	**100.0**

Source : Survey by Author, 2010

5.22: Livestock

The distribution of respondents by the livestock is given in Table 5.22. It can be seen that only a small proportion of respondents had live stock in the two villages of Nagapattinam. Maximum number of respondents did not have any livestock.

Among the livestocks, goats were higher in number. It was found during the survey that livestock was not much developed in Nagapattinam.

Table: 5.22
Distribution of livestock among respondents' households

Sl.No.	Livestock	No. of response					
		Yes	%age	No	%age	Total	%age
1	Goats	63	10.5	537	89.5	600	100.0
2	Poultry birds	6	1.0	594	99.0	600	100.0
3	Dogs	6	1.0	594	99.0	600	100.0
4	Pigs	1	0.2	599	99.8	600	100.0
	Total	**76**	**3.2**	**2324**	**96.8**	**2400**	**100.0**

Source : Survey by Author, 2010

5.23: Fishing craft

Table 5.23 illustrates the distribution of respondents by fishing crafts. 46 respondents, out of the total, had motor boat, followed by 33, who had net, 32 respondents has trawlers and 24 persons had traditional boats. 7

respondents had purse-seiners, 6 had catamarans and 2 had Gill Netter. Major proportion of people did not have any craft.

Majority of the fishermen did not have any craft, thus deprived of source of employment.

Table: 5.23
Distribution of fishing crafts among respondents' households

Sl. No.	Fishing crafts	No. of response					
		Yes	%age	No	%age	Total	%age
1	Motor Boat (4)*	46	7.7	554	92.3	600	100.0
2	Net	33	5.5	567	94.5	600	100.0
3	Trawlers	32	5.3	568	94.7	600	100.0
4	Traditional Boat (4)**	24	4.0	576	96.0	600	100.0
5	Purse seiners	7	1.2	593	98.8	600	100.0
6	Catamarans	6	1.0	594	99.0	600	100.0
7	Gill netter	2	0.3	598	99.7	600	100.0
	Total	**150**	**3.6**	**4050**	**96.4**	**4200**	**100.0**

Note: (4)* 4 fishermen have motor boat in sharing

(4)** 4 fishermen have traditional boat in sharing

Source : Survey by Author, 2010

5.24: Work duration

Table 5.24 shows the distribution of respondents by the period of work. The figures reveal that 53.3 percent of the total respondents worked for 4-7 months followed by 20.2 percent who worked for 8-11 months, 2.3 percent worked for 1-3 months and 0.2 percent for 12 months.

24.0 percent respondents were engaged in other occupations. The employment in fishery sector is quite inadequate. During the lean period workers mostly sit idle, because other options for work are very less.

Table: 5.24
Period of work in fishing

Sl. No.		No. of Frequencies	%age
1	1 - 3 Months	14	2.3
2	4 - 7 Months	320	53.3
3	8 - 11 Months	121	20.2
4	12 Months	1	0.2
5	Other occupation	144	24.0
	Total	**600**	**100.0**

Source : Survey by Author, 2010

5.25: Number of days spent in sea

Table 5.25 presents the distribution of respondents by the number of days they spent in the sea in connection with fish harvesting. The figures show that 35.0 percent respondents from the total, spent5-6 days in the sea, followed by 18.7 percent who were away in the sea for 3-4 days, 10.3 percent remained in the sea for 7-8 days, 5.5 percent for 9-10 days and 2.7 percent for more than 11 days spent in the sea for fishing.

Table: 5.25
Distribution of respondents by their time spent in sea

Sl. No.	No. of days	No. of Response	%age
1	1 - 2 days	23	3.8
2	3 - 4 days	112	18.7
3	5 - 6 days	210	35.0
4	7 - 8 days	62	10.3
5	9 - 10 days	33	5.5
6	More than 11 days	16	2.7
7	Other occupation	144	24.0
	Total	**600**	**100.0**

Source : Survey by Author, 2010

The distribution of respondents by the type of facilities they received during the fish harvesting period in Table 5.26. It can be noted that the majority of the respondents reported that they did not receive any facility during fish harvesting. Some said that navy was put around to keep a watch on the fish harvesters. Four fish workers stated that cooking facility was provided on the boat.

A significant number of fish workers do not get any facility. Their work is very risky and dangerous. The fishermen put their life at state to earn their living. They should be provided all measures of safety and security.

Table: 5.26
Facilities during the fishing period

Sl. No.	Facilities during fish harvesting period	No. of Frequencies	%age
1	We are not receiving any type of facility	424	70.7
2	Navy's are put around the sea to watch over us	28	4.7
3	Cooking facility in the boat	4	0.7

Source : Survey by Author, 2010

5.27: Safely measures availed

Table 5.27 highlights the distribution of the respondents by whether they got any safety measure during fishing in the sea. Out of the total, 49.3 percent reported that no safety measure was given to them during fishing in the sea. 26.7 percent respondents expressed that they got some safety measures at the time of fishing. Again, the findings confirm that majority of the fish workers did not get any safety gear.

Table: 5.27
Accessibility to safety measures

Sl. No.	Safety measures	No. of Response	%age
1	Yes	160	26.7
2	No	296	49.3
3	Other occupation	144	24.0
	Total	**600**	**100.0**

Source : Survey by Author, 2010

5.28: Type of safety measures received

The distribution of respondents by the type of safety measures is given in Table 5.28. The figures show that 22.8 percent out of the total respondents, reported that they received water tube jacket during fishing, followed by 2.0 percent who mentioned that they got safety belt and water tube jacket and 1.2 percent said they got only safety belt.

Table: 5.28
Types of safety measures

Sl. No.	Safety measures	No. of response	%age
1	Water tube jacket	137	22.8
2	Safety belt & Water tube jacket	12	2.0
3	Safety belt only	7	1.2
4	Life jacket only for boat owner	2	0.3
5	Emergency boat and life jacket	2	0.3
6	No safety	296	49.3
7	Other occupation	144	24.0
	Total	**600**	**100.0**

Source : Survey by Author, 2010

5.29: Medical facilities

Table 5.29 reveals the distribution of respondents by whether they got any medical facilities. The data indicate that 39.7 percent from the total

respondents, reported that they never got any medical facility while 36.3 percent said that they received medical facilities. Majority of the fishermen are deprived of medical facilities. Health is everything for the mankind. It's negligence is violation of human rights.

Table: 5.29
Accessibility to medical facilities

Sl. No.	Medical facilities	No. of Response	%age
1	Yes	218	36.3
2	No	238	39.7
3	Other occupation	144	24.0
	Total	**600**	**100.0**

Source : Survey by Author, 2010

5.30: Type of Medical Aid

The figures in Table 5.30 show the distribution of respondents by the type of medical aid. As could be observed, 32.3 percent respondents, from the total, reported that they had first aid box, followed by 2.7 percent who mentioned that they got some tablets and 1.3 percent informed that they got some ointment during the time of fishing.

Table: 5.30
Types of medical facilities

Sl. No.	Medical facilities	No. of Response	%age
1	First aid box	194	32.3
2	Some tablets	16	2.7
3	Some ointment	8	1.3
4	No facility	238	39.7
5	Other occupation	144	24.0
	Total	**600**	**100.0**

Source : Survey by Author, 2010

5.31: Saving pattern

Table 5.31 illustrates the distribution of respondents by whether they saved some amount every month. It can be noted that out of the total respondents, 38.3 percent reported that they did some saving every month, while 61.7 percent said they could not save anything.

It found during the survey that major preponderance of fish workers were not able to do any saving. Since their income is quite meager, it is difficult for them to survive decently, saving prospect becomes out of question.

Table: 5.31
Saving profile

Sl. No.	Per month savings	No. of Response	%age
1	Yes	230	38.3
2	No	370	61.7
	Total	**600**	**100.0**

Source : Survey by Author, 2010

5.32 Mode of saving

The distribution of respondents by the mode of saving is shown in Table 5.32. It could be observed that out of the total respondents, 17.7 percent saved through self help group, followed by 9.5 percent who saved in the bank, 6.8 percent respondents had LIC policy and 3.8 percent were keeping the saving with some specific NGO. 0.5 percent saved at home.

Table: 5.32
Mode of saving

Sl. No.	Mode of Saving	No. of Response	%age
1	Self Help Group	106	17.7
2	In bank	57	9.5
3	Insurance (LIC)	41	6.8
4	NGO	23	3.8
5	In home	3	0.5
6	No Saving	370	61.7
	Total	**600**	**100.0**

Source : Survey by Author, 2010

5.33 Indebtedness

Table 5.33 highlights the distribution of respondents by whether they had taken any loan from anyone. The figures show that out of the total, 66.5 percent respondents reported that they had not taken any loan, while 33.5 percent expressed that they had taken loan.

Table: 5.33
Household indebtedness

Sl. No.	Loan	No. of Response	%age
1	Yes	201	33.5
2	No	399	66.5
	Total	**600**	**100.0**

Source : Survey by Author, 2010

5.34: Purposes of taking loan

Fish workers take loan for various purposes. The distribution of respondents by the purpose of taking loan is given in Table 5.34. The figures indicate 60 respondents took loan for educational purposes, followed by 42 who took loan for meeting the household needs, 38 respondents for marriage purpose and 33 persons for business.

18 respondents took loan in their sickness and 11 respondents took loan for purchasing/repairing their boats.

The fishermen cannot satisfy their basic needs through their income and thus take loan to make their two ends meet.

Table: 5.34
Purpose of taking loan

Sl. No.	Purpose of taking loan	No. of Frequencies	%age
1	Education	60	10.0
2	Household needs	42	7.0
3	Marriage	38	6.3
4	Business	33	5.5
5	Sickness	18	3.0
6	Boat purchasing/ repairing	11	1.8
7	Legal Expenses	3	0.5
8	To build house	2	0.3
9	Land purchasing	1	0.2

Source : Survey by Author, 2010

5.35: Sources of taking loan

The figures in Table 5.35 highlight the distribution of respondents by source of taking loan. Out of the total, 72 respondents took loan from boat owners, followed by 54 who took loan from money lender, 35 respondents took loan from the bank and 25 workers from Self Help group.

5 respondents took loan from cooperative society and 4 from the contractor. Majority of the fish workers had taken loan from either the boat owners or the money lender. They pay high rate of interest on the loan.

Table: 5.35
Source of getting loan

Sl. No.	Loan source	No. of Frequencies	%age
1	Boat owners	72	12.0
2	Money Lender	54	9.0

3	From bank	35	5.8
4	Self Help Group	25	4.2
5	Co-Operative Society	5	0.8
6	From contractor	4	0.7
7	LIC of India	3	0.5
8	Finance company	2	0.3

Source : Survey by Author, 2010

5.36: Rate of Interest on loan

Table 5.36 presents the distribution of respondents by the rate of interest. It can be noted that 21.7 percent respondents out of the total, were paying interest on monthly basis, followed by 8.5 percent who paid interest annually and 3.3 percent did not pay any interest.

Most of the fishermen paid monthly interest, the rate being pretty high. Thus, they lead economically tough life.

Table: 5.36
Rate of interest on debt

Sl. No.	Rate of Interest	No of response	%age
1	Monthly	130	21.7
2	Annual	51	8.5
3	No interest	20	3.3
4	No Loan taken	399	66.5
	Total	**600**	**100.0**

Source : Survey by Author, 2010

5.37: Awareness about labour laws

Table 5.37 reveals the distribution of respondents by their awareness about the labour laws. The data show that 25.3 percent respondents from the total, were aware about the Payment of Wages Act, 1936, followed by 24.5 percent and 24.3 percent respondents knew about The Inter-State Migrant Workers Act, 1979 and Workmen's Compensation Act, 1926.

On the contrary, 74.7 percent respondents were not aware about the Payment of Wages Act, 1936, 75.5 percent did not know about the Inter-State Migrant Act, 1979, and 75.7 were unaware about Workmen's Compensation Act, 1923. 79.8 percent respondents were not about the Trade Union Act. A large number of fishermen are illiterate and they are also unaware about the labour laws.

Table: 5.37
Awareness about labour laws

Sl. No	Awareness about Acts	No. of Response					
		Yes	%age	No	%age	Total	%age
1	The Payment of Wages Act, 1936	152	25.3	448	74.7	**600**	**100.0**
2	The Inter-State Migrant Workers Act, 1979	147	24.5	453	75.5	600	100.0
3	Workmen's Compensation Act, 1923	146	24.3	454	75.7	**600**	**100.0**
4	Trade Union Act, 1926	121	20.2	479	79.8	**600**	**100.0**

Source : Survey by Author, 2010

5.38: Awareness about welfare schemes

The distribution of respondents by their awareness about the welfare schemes could be seen in Table 5.38. As could be observed, 47.3 percent respondents out of the total, knew about the 'Group Accident Insurance for Active Fishermen, followed by 35.2 percent were aware about Development of Model Fishermen Villages, 24.0 percent respondents knew about Saving-cum-Relief, and 18.2 percent were aware about 'Training Extension'. Majority of the respondents were not aware about these welfare schemes.

Table: 5.38
Awareness about welfare schemes and programmes

Sl. No	Knowledge about Welfare Schemes	No. of Response					
		Yes	%age	No	%age	Total	%age
1	Group Accident Insurance for Active Fishermen	284	47.3	316	52.7	600	100.0
2	Development of Model Fishermen Villages	211	35.2	389	64.8	600	100.0
3	Saving-cum-Relief	144	24.0	456	76.0	600	100.0
4	Training Extension	109	18.2	491	81.8	600	100.0

Source : Survey by Author, 2010

The fish workers were grossly unaware about their own welfare schemes.

5.39: Beneficiary profile

Table 5.39 illustrates the distribution of respondents by whether they had received any benefit from the welfare schemes. The figures show that 8.0 percent respondents, out of the total, reported that they got benefit from the welfare schemes, while 92.0 percent had not received any benefit.

The findings show that majority of the fish workers had not received any benefit from the welfare schemes.

Table: 5.39
Distribution of beneficiaries

Sl. No.	Benefit form any scheme	No. of Response	%age
1	Yes	48	8.0
2	No	552	92.0
	Total	**600**	**100.0**

Source : Survey by Author, 2010

5.40: Source of getting benefit

Table 5.40 shows the distribution of respondents by the scheme from which they got benefit. It can be seen that out of the total, 7.2 percent received benefit from 'Saving-cum-Relief' scheme, followed by 0.3 percent each got benefit from 'Group Accident Insurance for Active Fishermen' and 'Training Extension' and 0.2 percent respondents received benefit from 'Development of Model Fishermen Villages'.

Table: 5.40
Source of benefit

Sl. No.	Name of schemes	No. of Response	%age
1	Saving-cum-Relief	43	7.2
2	Group Accident Insurance for Active Fishermen	2	0.3
3	Training Extension	2	0.3
4	Development of Model Fishermen Villages	1	0.2
5	No benefit	552	92.0
	Total	600	100.0

Source : Survey by Author, 2010

5.41: Amount of benefit obtained

The distribution of respondents by the amount of benefit is highlighted in Table 5.41. It can be noticed that out of the total, 5.3 percent respondents got Rs.800 annually, followed by 1.3 percent who received Rs.1200 per annum, 0.7 percent got Rs.500 every year and 0.3 percent got Rs.1000 in a year.

It can also be observed that the amount of benefit which the respondents received was not very beneficial.

Table: 5.41
Amount of benefit

Sl. No.	Monetary benefit from scheme	No. of Response	%age
1	500 (annual)	4	0.7
2	800 (annual)	32	5.3
3	1000 (annual)	2	0.3
4	1200 (annual)	8	1.3
5	No money (Training Extension)	2	0.3
6	No benefit	552	92.0
	Total	**600**	**100.0**

Source : Survey by Author, 2010

5.42: Aware about development schemes

The figures in Table 5.42 illustrate the distribution of respondents by their awareness about development scheme. 92.7 percent respondents from the total, knew about MGNRES, followed by 84.7 percent who were aware about 'Annapurna', 56.0 percent knew about 'National Old Age Pension Scheme' and 32.7 percent knew about 'National Family Benefit Scheme'. 30.2 percent were aware about National Maternity Benefit Scheme. Majority of the respondents were unaware about many of the development schemes. This calls for number of awareness programmes.

Table: 5.42
Awareness about various schemes

Sl. No.	Name of Scheme	No. of Response					
		Yes	%age	No	%age	Total	%age
1	Mahatma Gandhi National Rural Employment Scheme	556	92.7	44	7.3	600	100.0
2	Annapurna	508	84.7	92	15.3	600	100.0
3	National Old Age Pension Scheme	336	56.0	264	44.0	600	100.0
4	National Family Benefit Scheme	196	32.7	404	67.3	600	100.0
5	National Maternity Benefit Scheme	181	30.2	419	69.8	600	100.0
6	Janshree Bima Yojana	137	22.8	463	77.2	600	100.0
7	Indira Awaas Yojana	134	22.3	466	77.7	600	100.0
8	Swajaldhara	60	10.0	540	90.0	600	100.0
9	Sampurna Grameen Rojgar Yojana (SGRY)	42	7.0	558	93.0	600	100.0

Source : Survey by Author, 2010

5.43: Benefit profile

Table 5.43 presents the distribution of respondents by whether they received benefit from development schemes. It can be noted that only 16.2 percent respondents from the total, received some benefit, while 83.8 percent did not get any benefit from these schemes.

Table: 5.43
Distribution of respondents got benefit from any scheme

Sl. No.	Benefited form any scheme	No. of Response	%age
1	Yes	97	16.2
2	No	503	83.8
	Total	**600**	**100.0**

Source : Survey by Author, 2010

5.44: Benefit obtained

Table 5.44 projects the distribution of respondents by the benefit. The figures show that 9.8 percent respondents out the total, received benefit from 'National Old Age Pension Scheme' followed by 4.0 percent who got benefit from 'Mahatma Gandhi National Rural Employment Guarantee Scheme, 2.7 percent received benefit from 'Annapurna' and 0.7 percent received 'boat' from the scheme.

Table 5.44
Source of getting benefits

Sl. No.	Name of scheme	No. of Frequencies	%age
1	National Old Age Pension Scheme	59	9.8
2	Mahatma Gandhi National Rural Employment Scheme	24	4.0
3	Annapurna	16	2.7
4	Boat	4	0.7

Source : Survey by Author, 2010

Chapter Six

Statistical Profile: Orissa

Introduction

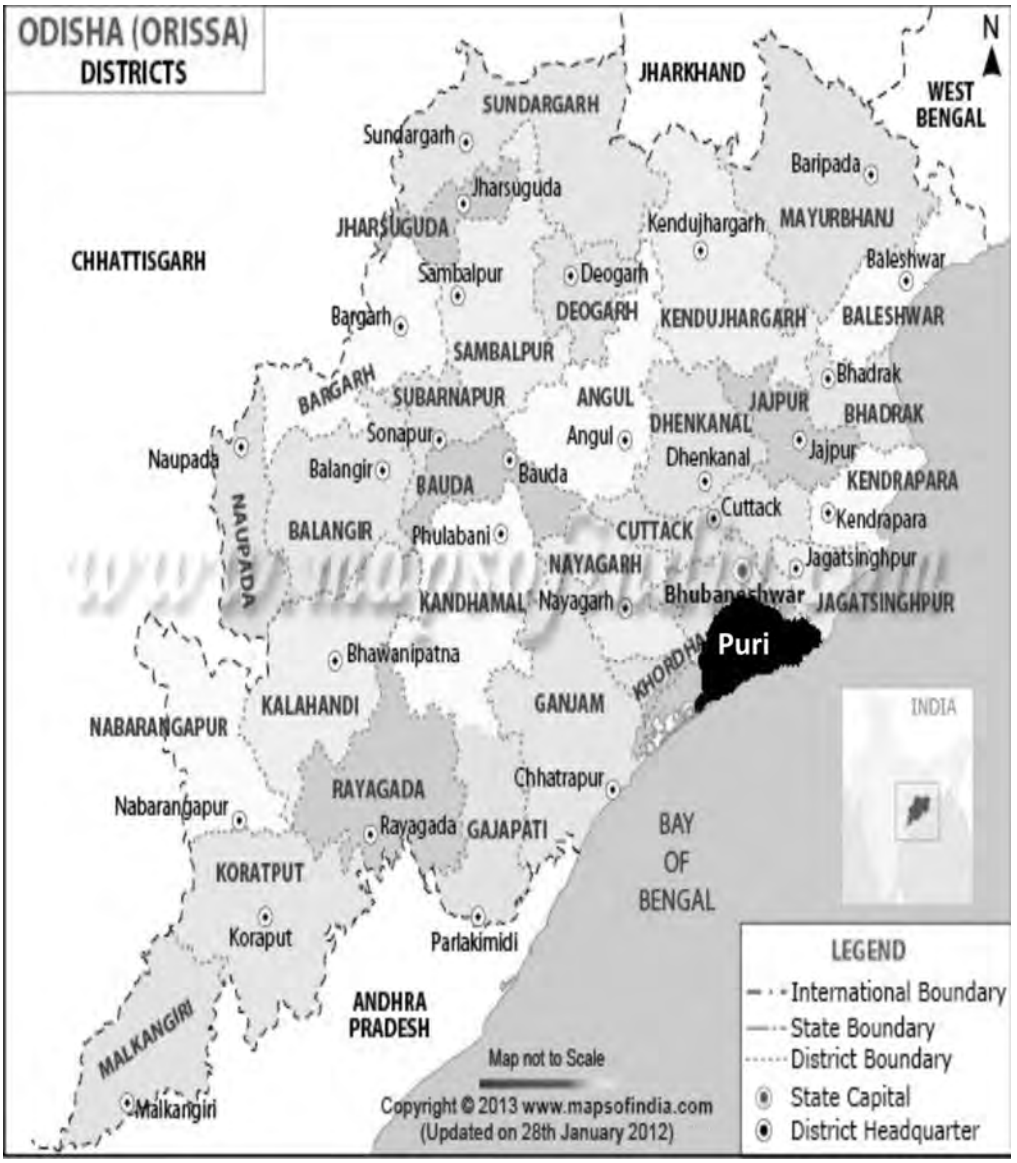
Fishing is an important trade in Orissa. Fish harvesting is mostly found in districts Balasore, Bhadrak, Kendrapara, Jagatsingpur, Puri and Ganjam. Orissa is inhabitated by traditional and mechanized fish workers. The fish workers who catch the fish by traditional methods are the poorest of the poor. Their life in sea is at great risk. It is the profession of life and death. The probability of accidents is also high.

In off-shore fishing activities significant proportion of women workers are engaged. Some of them also sell the fish in the local market. Fish is used for consumption as well as for selling. The fish production by mechanized fishing is substantially high in Orissa state compared to traditional fishing. In the following Tables information about mechanized craft in fishery is presented.

Fishing crafts

In Table 6.1 the details of fishing craft in fishery in the six districts of Orissa is shown. It can be noticed that among the purse seiners which were less than 40 feet in size, 8 were found in Balasore district.

Among the purse Seiners which were more that 40 feet in size, two were in Balasore, five in Bhadrak and one in Kendra Para.



Note: District Puri was selected in Orissa for the Study

Table: 6.1
Fishing craft (total Mechanized boats) in the fishery

Sl. No.	Craft	Balasore	Bhadrak	Kendrapara	Jagatsingpur	Puri	Ganjam	Total
	Mechanized							
1	**Purse Seiners (<40')**							
	<25%	8	0	0	0	0	0	**8**
	Percentage	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	25-50%	0	0	0	0	0	0	**0**
	Percentage	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	50-75%	0	0	0	0	0	0	**0**
	Percentage	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	<75%	0	0	0	0	0	0	**0**
	Percentage	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total	**8**	**0**	**0**	**0**	**0**	**0**	**8**
	Percentage	**100.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**100.0**
2	**Purse Seiners (>40')**							
	<25%	0	3	0	0	0	0	**0**
	Percentage	0.0	60.0	0.0	0.0	0.0	0.0	0.0
	25-50%	2	5	1	0	0	0	**8**
	Percentage	100.0	100.0	100.0	0.0	0.0	0.0	100.0
	50-75%	0	0	0	0	0	0	**0**
	Percentage	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	<75%	0	0	0	0	0	0	**0**
	Percentage	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total	**2**	**5**	**1**	**0**	**0**	**0**	**8**
	Percentage	**100.0**	**100.0**	**100.0**	**0.0**	**0.0**	**0.0**	**100.0**
	Total	**10**	**5**	**1**	**0**	**0**	**0**	**16**
	Percentage	**100.0**	**100.0**	**100.0**	**0.0**	**0.0**	**0.0**	**100.0**

Source: GOI (2005), *Marine Fisheries Census 200, Ministry of Agriculture, Dept. of Fisheries,* New Delhi

Housing Profile

Table 6.2 shows the distribution of families by Infrastructure (Housing). As could be seen that 41.1 percent families in Balasore had housing facility, followed by 15.4 percent in Jagatsingpur, 12.7 percent in Bhadrak and 11.5 percent in Puri had houses. 95.15 percent families in Kendrapara possessed Kutcha houses, followed by 86.05 percent in Balasore, 79.3 percent in Bhadrak and 68.24 percent families in Puri had Kutcha houses. The highest proportion of families who had pucca houses were in Kendrapara followed by 40.47 percent in Ganjam, 31.76 in Puri and 20.70 percent families in Bhadrak had pucca houses.

Table 6.2
Infrastructure (Housing)

Sl. No.	District	Housing				Total
		No. of village	No. of families	Kutcha house (%)	Pucca house (%)	
1	Balasore	276	35478	86.05	13.95	34669
	%age	43.1	41.1			41.1
2	Bhadrak	79	10945	79.3	2070	10696
	%age	12.3	12.7			12.7
3	Kendrapara	109	8068	95.15	4.85	7884
	%age	17.0	9.3			9.3
4	Jagatsinghpur	116	13330	32.57	67.43	13026
	%age	18.1	15.4			15.4
5	Puri	35	9972	68.24	31.76	9745
	%age	5.5	11.5			11.5
6	Ganjam	26	8559	59.53	40.47	8364
	%age	4.1	9.9			9.9
	Total	**641**	**86352**	**73.11**	**26.89**	**84384**
	%age	**100.0**	**100.0**	**100.0**		**100.0**

Source: GOI (2005), *Marine Fisheries Census 200, Ministry of Agriculture, Dept.* of Fisheries, New Delhi

Education Profile

Table 6.3 provides additional information of education. The data indicate that 49.1 percent fishermen in Balasore had education upto primary level. 15.3 percent fishing population in Bhadrak were educated up to primary, followed by 15.1 percent in Jagatsingpur and 11.8 percent in Kendrapara, also had education upto primary level.

41.0 percent fishermen in Balasore were educated upto secondary level, followed by 24.8 percent in Bhadrak, and 14.5 each in Kendrapara and Jagatsingpur, who had education upto secondary level.

In Balasore 45.5 percent fishermen had education upto college level, followed by 22.7 percent in Jagatsingpur and 18.2 percent people in Bhadrak were educated upto college level.

33.3 percent fisher folks each in Balasore and Jagatsingpur had technical education followed by 16.7 percent each in kendrapara and Ganjam districts had technical education.

Table 6.3
Additional Information (Education)

Sl. No.	District	Education			Technical Institution	Total
		Primary	Secondary	College		
1	Balasore	312	96	10	2	418
	%age	49.1	41.0	45.5	33.3	46.9
2	Bhadrak	97	58	4	0	159
	%age	15.3	24.8	18.2	0.0	17.8
3	Kendrapara	75	34	2	1	111
	%age	11.8	14.5	9.1	16.7	12.4
4	Jagatsinghpur	96	34	5	2	135
	%age	15.1	14.5	22.7	33.3	15.1
5	Puri	31	5	0	0	36
	%age	4.9	2.1	0.0	0.0	4.0
6	Ganjam	25	7	1	1	33
	%age	3.9	3.0	4.5	16.7	3.7
	Total	**636**	**234**	**22**	**6**	**892**
	Percentage	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: GOI (2005), *Marine Fisheries Census 200, Ministry of Agriculture, Dept. of Fisheries, New Delhi*

Electricity

Table 6.4 depicts Infrastructure – fishery related (in the villages). It can be noted that 2.0 percent village in Bhadrak had electricity, followed by 1.7 percent villages in Balasore, 1.3 percent in Jagatsingpur and 0.7 percent villages in Puri had electricity.

0.9 percent villages in Jagatsingpur were connected with road and 0.4 percent villages in Bhadrak were connected by road. 4.6 percent villages in Jagatsingpur and 3.1 percent in Puri have Bus stand/stop.

None of the fishing districts in Orissa had hospitals.

14.0 percent villages in Jagatsingpur and 11.6 percent in Bhadrak had banks. 1.8 percent villages each in Bhadrak and Jagatsingpur had cooperative societies.

None of the districts had community centres.

Table 6.4
Infrastructure-fishery related (in the villages)

Sl. No.		Balasore	Bhadrak	Kendrapara	Jagatsingpur	Puri	Ganjam	Total
1	No. of villages	0	2	7	3	0	0	**12**
	%age	0.0	0.3	1.1	0.5	0.0	0.0	1.9
2	Electrified (V)	8	9	1	6	3	0	**27**
	%age	1.7	2.0	0.2	1.3	0.7	0.0	5.9
3	Connected by road	0	2	0	4	0	0	**6**
	%age	0.0	0.4	0.0	0.9	0.0	0.0	1.3
4	Bus stand/ stop	0	0	0	3	2	0	**5**
	%age	0.0	0.0	0.0	4.6	3.1	0.0	7.7
5	Hospitals	0	0	0	0	0	0	0
	%age	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	Banks	0	5	0	6	0	0	11
	%age	0.0	11.6	0.0	14.0	0.0	0.0	25.6
7	Co-0p Societies	0	3	0	3	0	0	6
	%age	0.0	1.8	0.0	1.8	0.0	0.0	3.5
8	Community centres	0	0	0	0	0	0	0
	%age	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: GOI (2005), *Marine Fisheries Census 200, Ministry of Agriculture, Dept. of Fisheries, New Delhi*

Table 6.5(a) highlights the distribution of fishing craft in Fishery in Orissa. It can be noticed that 44.0 percent Trawlers were in district Balasore followed by 37.5 percent in Jagatsingpur, 10.8 percent in Bhadrak and 5.4 percent in Puri district. Among the purse seiners 40.9 percent were in Balasore followed by 36.4 percent in Bhadrak district, 22.7 percent in Kendrapara.

The highest number of Gillnetters were in Balasore (39.6 percent) followed by Kendrapara (23.6 percent), Bhadrak (17.8 percent) and Puri (12.7 percent).

56.8 percent Dolnetters were in Balasore and 39.4 percent were in Bhadrak. Among the Liners, 67.9 percent were in Balasore, followed by 14.3 percent in Bhadrak and 10.7 percent in Kendrapara.

In the category of 'others' fishing craft 82.1 percent were in Balasore, followed by 6.9 percent in Bhadrak and 6.4 percent in Puri.

Total mechanized crafts were 44.9 percent in Balasore, followed by 17.2 percent in Jagatsinghpur, 16.4 percent in Bhadrak and 12.9 percent in Kendrapara.

Among the motorized crafts the highest proportion was in Balasore (31.4 percent) followed by 24.6 percent in Puri, 17.4 percent in Kendrapara and 11.8 percent in Jagatsingpur.

It can also be noted that among the non-motorized crafts 39.9 percent were in Jagatsingpur, followed by 16.2 percent which was in Kendrapara, 13.8 percent in Ganjam district, 12.5 percent in Balasore and 10.6 percent in Puri.

Table: 6.5(a):
Fishing craft in the fishery

Sl. No.	District	Balasore	Bhadrak	Kendrapara	Jagatsingpur	Puri	Ganjam	Total
1	Trawlers	589	145	31	503	72	0	**1340**
	%age	44.0	10.8	2.3	37.5	5.4	0.0	100.0
2	Purse-seiners	9	8	5	0	0	0	**22**
	%age	40.9	36.4	22.7	0.0	0.0	0.0	100.0
3	Gillnetters	697	313	416	111	223	0	**1760**
	%age	39.6	17.8	23.6	6.3	12.7	0.0	100.0
4	Dolnetters	150	104	0	0	0	0	**264**
	%age	56.8	39.4	0.0	0.0	0.0	0.0	100.0
5	Liners	19	4	3	0	2	0	**28**
	%age	67.9	14.3	10.7	0.0	7.1	0.0	100.0
6	Others	142	12	8	0	11	0	**173**
	%age	82.1	6.9	4.6	0.0	6.4	0.0	100.0
7	Total Mechanized	1606	586	463	614	308	0	**3577**
	%age	44.9	16.4	12.9	17.2	8.6	0.0	100.0
8	Motorized	1481	261	820	559	1162	436	**4719**
	%age	31.4	5.5	17.4	11.8	24.6	9.2	100.0
9	Non-motorized	1932	1070	2504	6167	1642	2129	**15444**
	%age	12.5	6.9	16.2	39.9	10.6	13.8	100.0
	Total	**5019**	**1917**	**3787**	**7340**	**3112**	**2565**	**23740**
	Percentage	**21.1**	**8.1**	**16.0**	**30.9**	**13.1**	**10.8**	**100.0**

Source: GOI (2005), *Marine Fisheries Census 200, Ministry of Agriculture, Dept. of Fisheries, New Delhi*

Table 6.5(b) illustrates the district wise distribution of fishing craft (mechanized) in Orissa. It can be seen that Balasore district has highest proportion of Trawlers (30.7 percent) followed by Bhadrak (28.6 percent), Jagatsingpur (23.0 percent) and Puri (13.4 percent).

Among the purse-seiners, 38.9 percent were in Balasore followed by 33.3 percent in Bhadrak and 27.8 percent in Kendrapara.

In Balasore 80.3 percent mechanized Gillnetters were there, followed by Bhadrak (17.9 percent) and Kendrapara (1.1 percent). Among the Dolnetters, 59.8 percent were in Balasore and 38.1 percent in Bhadrak district.

There were 50.0 percent ring sieners each in Balasore and Bhadrak districts. In Balasore and Bhadrak districts each 50.0 percent liners existed.

The Purse-sieners carriers were only found in Balasore (100.0 percent). Among the Ring Sieners carriers 34.6 percent each was found in Bhadrak and Puri districts, followed by Kendrapara (30.8 percent).

Among the 'others' 86.8 percent fishing craft was in Balasore, followed by 7.9 percent in Bhadrak and 5.3 percent in Puri.

Table 6.5 (b)
Fishing craft in the fishery (Mechanized)

Sl. No.	District	Balasore	Bhadrak	Kendrapara	Jagatsingpur	Puri	Ganjam	Total
1	Trawlers	144	134	20	108	63	0	**469**
	%age	30.7	28.6	4.3	23.0	13.4	0.0	100.0
2	Purse-seiners	7	6	5	0	0	0	**18**
	%age	38.9	33.3	27.8	0.0	0.0	0.0	100.0
3	Gillnetters	1201	268	17	10	0	0	**1496**
	%age	80.3	17.9	1.1	0.7	0.0	0.0	100.0
4	Dolnetters	146	93	0	0	0	0	**244**
	%age	59.8	38.1	0.0	0.0	0.0	0.0	100.0
5	Ring Sieners	6	6	0	0	0	0	**12**
	%age	50.0	50.0	0.0	0.0	0.0	0.0	100.0
6	Liners	7	7	0	0	0	0	**14**
	%age	50.0	50.0	0.0	0.0	0.0	0.0	100.0
7	Purse Sieners Carriers	109	0	0	0	0	0	**109**
	%age	100.0	0.0	0.0	0.0	0.0	0.0	100.0

Sl. No.	District	Balasore	Bhadrak	Kendrapara	Jagatsingpur	Puri	Ganjam	Total
8	Ring Sieners Carriers	0	9	8	0	9	0	**26**
	%age	0.0	34.6	30.8	0.0	34.6	0.0	100.0
9	Others	33	3	0	0	2	0	**38**
	%age	86.8	7.9	0.0	0.0	5.3	0.0	100.0
	Total Mechanized	**1653**	**531**	**50**	**118**	**74**	**0**	**2426**
	Percentage	**68.1**	**21.9**	**2.1**	**4.9**	**3.1**	**0.0**	**100.0**

The distribution of fishing craft (total boats) used in Fishery sector is presented in Table 6.5 (c). The data indicate that the highest number of mechanized boats were in Balasore district (33.7 percent), followed by 29.3 percent boats in Bhadrak and 3.1 percent in Puri.

As far as the motorized boats were concerned, the maximum number was in Puri district (39.5 percent), followed by 28.9 percent in Balasore, 23.6 percent in Kendrapara and 15.1 percent in Ganjam.

Among the non-motorized boats, the highest number was in Ganjam district (84.9 percent), followed by 74.9 percent in Kendrapara, 57.4 percent in Puri 57.1 percent in Bhadrak and 37.4 percent in Balasore.

Table 6.5 (d) shows distribution of 25 fishing craft (total mechanized boats) in State of Orissa. The data indicate that among the mechanized Trawlers, which were less than 30 feet, 90.5 percent were in Puri district, followed by Balasore (36.1 percent) and Bhadrak (30.6 percent). Among the 30-35 feet mechanized Trawlers, 34.3 percent were in Bhadrak, followed by 24.1 percent in Jagatsingpur and 23.6 percent in Balasore Trawlers with 36-40 feet size were maximum in Bhadrak (31.3 percent), followed by 19.4 percent in Jagatsingpur and 15.0 percent in Kendrapara.

Among the mechanized Trawlers, which were more than 40 feet in size, the highest number was in Kendrapara (85.0 percent), followed by Jagatsingpur (54.6 percent) and Balasore (37.5 percent).

As far as Purse-Sieners are concerned, it can be noted that among less than 40 feet Purse-Sieners, 85.7 percent were in Balasore. It did not exist in any other districts.

Among the purse-sieners which were more than 40 feet in size, 100.00 percent each were in Bhadrak and Kendrapara districts followed by 14.3 percent in Balasore.

As can be seen, that highest number of Gill Nettes which were less than 30 feet in size, were in Balasore (70.1 percent) followed by Jagatsingpur (60.0 percent) and Bhadrak (50.7 percent).

Gill netters that were more than 30 feet in size, were found in Kendrapara (100.00 percent), followed by Bhadrak (49.3 percent), Jagatsingpur (40.0 percent) and Balasore (29.9 percent).

Dol Netters which were less than 30 feet in size were concentrated in Bhadrak (100.0 percent) followed by Balasore (49.3 percent).

The Dol Netters, which were more than 30 feet in size, were only found in Balasore district (50.7 percent). Among the Ring Seiners which were less than 40 feet in size, 100.0 percent were found in Balasore and 3.5 percent were in Bhadrak.

The Ring Sieners, which were more than 40 feet in size, were not available in any district of Orissa.

Table 6.5 (d)
Fishing craft (total Mechanized boats) in the fishery

Sl. No.		Balasore	Bhadrak	Kendra-para	Jagatsingpur	Puri	Ganjam	Total
1	**Mechanized**							
	Trawler (<30′)	52	41	0	2	57	0	**152**
	%age	36.1	30.6	0.0	1.9	90.5	0.0	32.4
	Trawler (30′-35′)	34	46	0	26	6	0	**112**
	%age	23.6	34.3	0.0	24.1	9.5	0.0	23.9
	Trawler (36′-40′)	4	42	3	21	0	0	**70**
	%age	2.8	31.3	15.0	19.4	0.0	0.0	14.9
	Trawler (>40)	54	5	17	59	0	0	**135**
	%age	37.5	3.7	85.0	54.6	0.0	0.0	28.8
	Total	**144**	**134**	**20**	**108**	**63**	**0**	**469**
	Percentage	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**0.0**	**100.0**
2	**Purse Seiners**	0.4	1.1	10.0	0.0	0.0	0.0	0.7
	Purse Seiners (<40′)	6	0	0	0	0	0	**6**
	%age	85.7	0.0	0.0	0.0	0.0	0.0	33.3

Sl. No.		Balasore	Bhadrak	Kendra-para	Jagatsingpur	Puri	Ganjam	Total
	Purse Seiners (>40′)	1	6	5	0	0	0	**12**
	%age	14.3	100.0	100.0	0.0	0.0	0.0	66.7
	Total	**7**	**6**	**5**	**0**	**0**	**0**	**18**
	Percentage	**100.0**	**100.0**	**100.0**	**0.0**	**0.0**	**0.0**	**100.0**
3	**Gill Netters**	72.7	50.5	34.0	8.5	0.0	0.0	61.7
	Gill Netters (<30)	842	136	0	6	0	0	**984**
	%age	70.1	50.7	0.0	60.0	0.0	0.0	65.8
	Gill Netters (<30)	359	132	17	4	0	0	**512**
	%age	29.9	49.3	100.0	40.0	0.0	0.0	34.2
	Total	**1201**	**268**	**17**	**10**	**0**	**0**	**1496**
	Percentage	**100.0**	**100.0**	**100.0**	**100.0**	**0.0**	**0.0**	**100.0**
4	**Dol Netter**	8.8	18.5	0.0	0.0	0.0	0.0	10.1
	Dol Netters (<30)	72	98	0	0	0	0	170
	%age	49.3	100.0	0.0	0.0	0.0	0.0	69.7
	Dol Netters (<30)	74	0	0	0	0	0	74
	%age	50.7	0.0	0.0	0.0	0.0	0.0	30.3
	Total	**146**	**98**	**0**	**0**	**0**	**0**	**244**
	Percentage	**100.0**	**100.0**	**0.0**	**0.0**	**0.0**	**0.0**	**100.0**
5	**Ring Seiners**	**0.4**	**1.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**
	Ring Seiners (<40′)	6	6	0	0	0	0	**12**
	%age	100.0	3.5	0.0	0.0	0.0	0.0	100.0
	Ring Seiners (>40′)	0	0	0	0	0	0	**0**
	%age	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total	**6**	**6**	**0**	**0**	**0**	**0**	**12**
	Percentage	**100.0**	**100.0**	**0.0**	**0.0**	**0.0**	**0.0**	**100.0**
6	**Liners**	**0.4**	**1.3**	**0.0**	**0.0**	**0.0**	**0.0**	**0.6**
	Liners (<30′)	5	7	0	0	0	0	12
	%age	71.4	**100.0**	0.0	0.0	0.0	0.0	**85.7**
	Liners (>30′)	2	0	0	0	0	0	2
	%age	28.6	0.0	0.0	0.0	0.0	0.0	**14.3**
	Total	**7**	**7**	**0**	**0**	**0**	**0**	**14**
	Percentage	**100.0**	**100.0**	**0.0**	**0.0**	**0.0**	**0.0**	**100.0**

Sl. No.		Balasore	Bhadrak	Kendra-para	Jagatsingpur	Puri	Ganjam	Total
7	**Carriers to Purse Seiners**	**6.6**	**0.0**	**16.0**	**0.0**	**0.0**	**0.0**	**4.5**
	Carriers to Purseseiners (<30′)	109	0	8	0	0	0	**109**
	%age	100.0	0.0	100.0	0.0	0.0	0.0	100.0
	Carriers to Purseseiners (>30′)	0	0	0	0	0	0	**0**
	%age	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total	**109**	**0**	**8**	**0**	**0**	**0**	**109**
	Percentage	**100.0**	**0.0**	**100.0**	**0.0**	**0.0**	**0.0**	**100.0**
8	**Carriers to Ringseiners**	**0.0**	**1.7**	**16.0**	**0.0**	**12.2**	**0.0**	**1.1**
	Carriers to Ringseiners (<30′)	0	9	8	0	9	0	26
	%age	0.0	100.0	100.0	0.0	100.0	0.0	100.0
	Carriers to Ringseiners (>30′)	0	0	0	0	0	0	0
	%age	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total	**0**	**9**	**8**	**0**	**9**	**0**	**26**
	Percentage	**0.0**	**100.0**	**100.0**	**0.0**	**100.0**	**0.0**	**100.0**
9	**Others**							
	Others	33	3	0	0	2	0	**38**
	%age	100.0	100.0	0.0	0.0	100.0	0.0	100.0
	Total	33	3	0	0	2	0	38
	%age	100.0	100.0	0.0	0.0	100.0	0.0	100.0
	Total Mechanized	**1653**	**531**	**50**	**118**	**74**	**0**	**2426**
	Percentage	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**0.0**	**100.0**

Source: GOI (2005), *Marine Fisheries Census 200, Ministry of Agriculture, Dept. of Fisheries, New Delhi*

It can be seen that among the mechanized Trawlers, the maximum number was found in Balasore (30.7 percent) followed by Bhadrak (28.6 percent), Jagat singpur (23.0 percent) and Puri (13.4 percent).

The highest number of Purse-Sieners were in Balasore (38.9 percent), followed by Bhadrak (33.3 percent) and Kendrapara (27.8 percent). The major proportion of Gill Netters was in Balasore district (80.3 percent), followed by Bhadrak (17.9 percent) and Kendrapara (1.1 percent).

Among the Dol Netters, 59.8 percent were in Balasore and 40.2 percent in Bhadrak. The Ring Sieners existed in Balasore (50.0 percent) and Badrak (50.0 percent) districts. Balasore and Bhadrak districts had equal number of Liners i.e 50.0 percent each.

The maximum number of carriers to purse-seiners was in Balasore (100.0 percent), followed by Kendrapara (7.3 percent).

Among the carriers to Ring Seiners, 34.6 percent each was in Bhadrak and Puri district, followed by Kendrapara (30.8 percent).

Among the 'others' mechanized boats, 86.8 percent were in Balasore, followed by 7.9 percent in Bhadrak and 5.3 percent in Puri district.

Table 6.5 (e)
Fishing craft (total Mechanized boats) in the fishery

Sl. No.	Craft	Balasore	Bhadrak	Kendrapara	Jagatsingpur	Puri	Ganjam	Total
1	**Mechanized Trawlers**							
	Trawlers	144	134	20	108	63	0	469
	%age	30.7	28.6	4.3	23.0	13.4	0.0	100.0
	Purse Seiners	7	6	5	0	0	0	18
	%age	38.9	33.3	27.8	0.0	0.0	0.0	100.0
	Gill Netters	1201	268	17	10	0	0	1496
	%age	80.3	17.9	1.1	0.7	0.0	0.0	100.0
	Doll Netter	146	98	0	0	0	0	244
	%age	59.8	40.2	0.0	0.0	0.0	0.0	100.0
	Ring Seiners	6	6	0	0	0	0	12
	%age	50.0	50.0	0.0	0.0	0.0	0.0	100.0
	Liners	7	7	0	0	0	0	14
	%age	50.0	50.0	0.0	0.0	0.0	0.0	100.0
	Carriers to Purse Seiners	109	0	8	0	0	0	109
	%age	100.0	0.0	7.3	0.0	0.0	0.0	100.0
	Carriers to Ringseiners	0	9	8	0	9	0	26
	%age	0.0	34.6	30.8	0.0	34.6	0.0	100.0
	Others	33	3	0	0	2	0	38
	%age	86.8	7.9	0.0	0.0	5.3	0.0	100.0
	Total Mechanized	**1653**	**531**	**50**	**118**	**74**	**0**	**2426**
	Percentage	**68.1**	**21.9**	**2.1**	**4.9**	**3.1**	**0.0**	**100.0**

Source: GOI (2005), *Marine Fisheries Census 200, Ministry of Agriculture, Dept. of Fisheries, New Delhi*

Table 6.5(f) highlights the distribution of fishing craft (total motorized boats) in fishery. The data show that the highest number of Dugout was in Balasore (89.3 percent), followed by Bhadrak (8.0 percent), Kendrapara (1.2 percent) and Jagatsingpur (1.2 percent). The majority of catamarans was in Puri (81.1 percent), followed by Balasore (10.7 percent), Jagatsingpur (6.0 percent) and Bhadrak (2.1 percent). The plank-built boats were maximum in Balasore (46.6 percent), followed by Kendrapara (36.5 percent), Jagatsingpur (9.1 percent) and Bhadrak (7.3 percent).

Among the Ring Seiners, 48.9 percent were in Bhadrak and 47.8 percent in Balasore.

The highest number of fiber glass were in Puri (52.4 percent), followed by Ganjam (26.2 percent) and Jagatsingpur (21.3 percent).

Among the 'others' category, 50.0 percent were in Kendrapara, followed by 39.3 percent in Balasore and 10.7 percent in Bhadrak district.

Table 6.5 (f)
Fishing craft (total Motorized boats) in the fishery

Sl. No.	Craft	Balasore	Bhadrak	Kendrapara	Jagatsingpur	Puri	Ganjam	Total
1	Dugout	369	33	5	5	1	0	413
	%age	89.3	8.0	1.2	1.2	0.2	0.0	100.0
2	Catamarans	25	5	0	14	189	0	**233**
	%age	10.7	2.1	0.0	6.0	81.1	0.0	100.0
3	Plank-built	970	152	760	189	11	0	**2082**
	%age	46.6	7.3	36.5	9.1	0.5	0.0	100.0
4	Ring seiner	43	44	3	0	0	0	**90**
	%age	47.8	48.9	3.3	0.0	0.0	0.0	100.0
5	Fibre glass	1	0	0	300	740	370	**1411**
	%age	0.1	0.0	0.0	21.3	52.4	26.2	100.0
6	Ferrow cement	0	9	0	0	0	0	9
	%age	0.0	100.0	0.0	0.0	0.0	0.0	**100.0**
7	Others	11	3	14	0	0	0	28
	%age	39.3	10.7	50.0	0.0	0.0	0.0	**100.0**
	Total	**1419**	**246**	**782**	**508**	**941**	**370**	**4266**
	Percentage	**33.3**	**5.8**	**18.3**	**11.9**	**22.1**	**8.7**	**100.0**

Table 6.5(g) presents the distribution of fishing craft (total non-motorized boats) in the fishery. The data indicate that major proportion of Dugout

was in Puri district (51.8 percent), followed by Bhadrak (24.9 percent) and Balasore (18.6 percent).

The majority of catamarans was in Ganjam district (74.0 percent), followed by Puri (24.8 percent) and Bhadrak (0.8 percent). The number of plank-built boats were highest in Jagatsingpur (45.2 percent), followed by Kendrapara (26.2 percent) and Balasore (17.7 percent).

Among the 'other boats' 84.5 percent were in Jagatsingpur, followed by 7.0 percent in Puri and 5.6 percent in Bhadrak.

Table 6.5 (g)
Fishing craft (total Non-motorized boats) in the fishery

Sl. No.	Craft	Balasore	Bhadrak	Kendrapara	Jagatsingpur	Puri	Ganjam	Total
1	Dugout	157	210	24	16	437	0	844
	%age	18.6	24.9	2.8	1.9	51.8	0.0	100.0
2	Catamarans	0	20	0	12	643	1917	2592
	%age	0.0	0.8	0.0	0.5	24.8	74.0	100.0
3	Plank-built	1665	714	2459	4239	173	135	9385
	%age	17.7	7.6	26.2	45.2	1.8	1.4	100.0
4	Others	10	90	0	1350	112	35	1597
	%age	0.6	5.6	0.0	84.5	7.0	2.2	100.0
	Total	**1832**	**1034**	**2483**	**5617**	**1365**	**2087**	**14418**
	Percentage	**12.7**	**7.2**	**17.2**	**39.0**	**9.5**	**14.5**	**100.0**

Source: GOI (2005), *Marine Fisheries Census 200, Ministry of Agriculture, Dept. of Fisheries, New Delhi*

Chapter Seven

Ground Realities: Orissa

Gender

Table 7.1 presents the distribution of respondents by gender. It can be noticed that out of the total, 97.3 percent were males and only 2.7 percent were females. Generally, fish harvesting is done by men and women are involved in fishery allied activities.

Table: 7.1
Gender Profile of the Respondents' Family Members)

Sl. No.	Gender	No. of Respondents	%age
1.	Male	506	97.3
2.	Female	**14**	2.7
	Total	**520**	100.0

Source: Survey by the authors

Religion

The data in table 7.2 shows the distribution of respondents by religion. As could be seen the majority were Hindus (86.9 percent), followed by 12.7 percent, who were Christians and 0.4 percent respondents were practicing Islamic religion.

Table: 7.2
Religious Profile of Respondents

Sl. No.	Religion	No. of Respondents	%age
1.	Hindu	452	86.9
2.	Christian	66	12.7
3.	Muslim	2	0.4
	Total	**520**	100.0

Source: Survey by the authors

Caste Profile

The caste category wise distribution of respondents in district Puri is highlighted in Table 7.3.The data indicate that out of the total, 74.8 percent respondents belonged to 'others' category, followed by 21.9 percent, who were from OBC, and 3.3 percent respondents were from SC/ST caste categories.

Table: 7.3
Caste Profile of the respondents

Sl. No.	Category	No. of Respondents	%age
1.	General	**0**	0.0
2.	SC/ST	17	3.3
3.	OBC	**114**	21.9
4.	Others	**389**	74.8
	Total	**520**	100.0

Source : Survey by the Authors

Age Profile

Table 7.4 projects the age wise distribution of respondents in Puri district. The data show that majority of the respondents (32.9 percent) were in 36 to 45 years age-group followed by 26.7 percent who were in age group 46 to 55, and 19.8 percent were in the age group 26 to 35. 11.7 percent respondents were in age-group 56 to 65 years, 3.1 percent were above 65 and 5.8 percent below 25 years.

Table: 7.4
Gender Profile of Respondents'

Sl. No.	Age-group	No. of Respondents			
		Male	Female	Total	%age
1.	16 to 25	30	0	**30**	5.8
2.	26 to 35	99	4	**103**	19.8
3.	36 to 45	168	3	**171**	32.9
4.	46 to 55	138	1	**139**	26.7
5.	56 to 65	59	2	**61**	11.7
6.	Above 65	12	4	**16**	3.1
	Total	**506**	**14**	**520**	100.0

Source: Survey by the authors

Age Profile of Family Members

The age wise family profile of the surveyed respondents is presented in Table 7.5. It can be noticed that the total number of family members of 520 respondents was 2720. Out of the total, 24.7 percent were in 6 to 15age groups, followed by 20.0 percent who were in 16 to 25 years age group. 15.3 percent respondents' were in age group 26 to 35. (for details, see Table)

Table: 7.5
Age Family Profile Families

Sl. No.	Age-group (family)	No. of Family Members			
		Male	Female	Total	%age
1.	Below 6	117	137	**254**	9.3
2.	6 to 15	335	338	**673**	24.7
3.	16 to 25	308	237	**545**	20.0
4.	26 to 35	191	224	**415**	15.3
5.	36 to 45	190	167	**357**	13.1
6.	46 to 55	153	122	**275**	10.1
7.	56 to 65	76	69	**145**	5.3
8.	Above 65	29	27	**56**	2.1
	Total	**1399**	**1321**	**2720**	100.0

Source: Survey by the authors

Marital Status

Table 7.6 highlights the marital status of respondents. The data indicate that 93.5 percent out of the total respondents, were married followed by 2.3 percent who were widow/widower and 4.2 percent were single.

Table: 7.6
Marital Status of respondents'

Sl. No.	Marital Status	No. of Respondents			
		Male	Female	Total	%age
1.	Single	22	0	**22**	4.2
2.	Married	479	7	**486**	93.5
3.	Widow/er	5	7	**12**	2.3
	Total	**506**	**14**	**520**	100.0

Source: Survey by the authors

Marital Status of Family

The distribution of family members of the total respondents (520), is given in Table 7.7. It can be observed that 47.7 percent family members were married, followed by 14.3 percent who were single and 3.9 percent were widow/ widower. The table also shows that 34.1 percent were below 16 years.

Table: 7.7
Marital Status of family members

Sl. No.	Marital Status (family)	No. of Family Members			
		Male	Female	Total	*%age*
1.	Below 16 Years	452	475	**927**	34.1
2.	Married	665	632	**1297**	47.7
3.	Single	263	126	**389**	14.3
4.	Widow/er	19	88	**107**	3.9
	Total	**1399**	**1321**	**2720**	100.0

Source: Survey by the authors

Education Profile of Respondents'

Table 7.8 reveals the distribution of respondents by education. The data show that out of the total, 81.9 percent respondents were illiterate. Among the illiterates, 413 were males and 13 were females. 8.7 percent respondents had education upto primary level, followed by 6.9 percent who could read and write (for details see table 5.8).

Table: 7.8
Education Profile of respondents

Sl. No.	Education Level	No. of Respondents			
		Male	Female	Total	%age
1.	Illiterate	413	13	426	81.9
2.	Can read & write	35	1	36	6.9
3.	Primary	45	0	45	8.7
4.	Middle	6	0	6	1.2
5.	High school	6	0	6	1.2
6.	Secondary	1	0	1	0.2
7.	Graduation	0	0	0	0.0
	Total	**506**	**14**	**520**	100.0

Source : Survey by the authors

Education Profile of Population

The distribution of the family members of the respondents, by their educational level is highlighted in Table 7.9. It can be noticed that out of the total, 52.50 were illiterates. Gender wise breakup shows and among the illiterates the number of males (737) was higher than that of females (691). 18.57 percent family members knew to read and write. 11.29 percent had primary education.

Table: 7.9
Education Profile of Population

Sl. No.	Education Level (family)	No. of Family Members			
		Male	Female	Total	%age
1.	Infant	117	137	**254**	9.34
2.	Illiterate	737	691	**1428**	52.50
3.	Can read & write	270	235	**505**	18.57
4.	Primary	171	136	**307**	11.29
5.	Middle	58	68	**126**	4.63

Sl. No.	Education Level (family)	No. of Family Members			
		Male	Female	Total	%age
6.	High school	32	47	**79**	2.90
7.	Secondary	9	5	**14**	0.51
8.	Diploma	2	1	**3**	0.11
9.	Engineering	3	1	**4**	0.15
	Total	**1399**	**1321**	**2720**	100.00

Source : Survey by the authors

Occupational Profile

The distribution of respondents by their occupation is presented in Table 7.10. The data indicate that out of the total, 97.1 percent respondents were engaged in fish harvesting and 2.9 percent were involved in fish selling. The number of women was higher is fish selling.

Table: 7.10
Occupational Profile of the Respondents'

Sl. No.	Occupation	No. of Respondents			%age
		Male	Female	Total	
1.	Fishing	505	0	**505**	97.1
2.	Fish selling	1	14	**15**	2.9
	Total	**506**	**14**	**520**	100.0

Source: Survey by the authors

Family Occupation

Table 7.11 shows the occupation wise distribution of family members of the respondents. As could be observed 31.62 percent from the total, were engaged in fishing, followed by 49.38 percent, who were either in old age, unemployed or busy in household works. 3.7 percent were in construction work, 2.57 percent were engaged in fish selling and 1.54 percent was hotel maid. In all these occupations mostly women played active role.

Table: 7.11
Occupational Profile of the Population

Sl. No.	Occupation (family)	No. of Family Members			
		Male	Female	Total	%age
1.	Fishing	860	0	**860**	31.62
2.	Construction work	4	97	**101**	3.71
3.	Fish Selling	2	68	**70**	2.57
4.	Hotel Maid	0	42	**42**	1.54

Sl. No.	Occupation (family)	No. of Family Members			
		Male	Female	Total	%age
5.	Tailoring	3	18	**21**	0.77
6.	Street Vending	6	11	**17**	0.63
7.	Private job	3	1	**4**	0.15
8.	Loading Unloading	0	4	**4**	0.15
9.	Shop keeping	1	1	**2**	0.07
10.	Wall Painting	1	0	**1**	0.04
11.	Welding	1	0	**1**	0.04
12.	Old age, Unemployed or Busy in household works	401	942	**1343**	49.38
13.	Infant	117	137	**254**	9.34
	Total	**1399**	**1321**	**2720**	100.0

Source : Survey by the authors

Income

The data in Table 7.12 highlights the distribution of respondents by their monthly income. It can be noted that 39.8 percent respondents earned Rs.2001-3000 per month, followed by 19.0 percent whose income was 1001-2000 and 13.3 percent respondents who earned Rs. 9001-10000.

Table: 7.12
Income Profile (monthly) of Respondents'

Sl. No.	Respondent's per month income (in Rs.)	No. of Respondents			
		Male	Female	Total	%age
1.	Upto 1000	1	6	**7**	1.3
2.	1001 - 2000	94	5	**99**	19.0
3.	2001- 3000	203	3	**206**	39.6
4.	3001 - 4000	30	0	**30**	5.8
5.	4001- 5000	14	0	**14**	2.7
6.	5001- 6000	0	0	**0**	0.0
7.	6001- 7000	0	0	**0**	0.0
8.	7001- 8000	16	0	**16**	3.1
9.	8001- 9000	28	0	**28**	5.4
10.	9001- 10,000	69	0	**69**	13.3
11.	More than 10,000	51	0	**51**	9.8
	Total	**506**	**14**	**520**	100.0

***Source** : Survey by the authors*

Family members' income

The distribution of family members of the respondents by their income per month is projected in Table 7.13. Out of the total, 14.9 percent family members earned Rs.2001 to 3000 every month, followed by 12.9 percent

whose monthly income was 1001-2000, and 4.6 percent respondent's monthly income was Rs. 501 to 1000.

Table: 7.13
Family Members' Income Profile

Sl. No.	Family member's per month income (in Rs.)	No. of Family Members			
		Male	Female	Total	%age
1.	Upto 500	2	17	**19**	0.7
2.	501 - 1000	31	93	**124**	4.6
3.	1001 - 2000	250	101	**351**	12.9
4.	2001- 3000	377	29	**406**	14.9
5.	3001 - 4000	38	2	**40**	1.5
6.	4001-5000	14	0	**14**	0.5
7.	5001-6000	0	0	**0**	0.0
8.	6001-7000	0	0	**0**	0.0
9.	7001-8000	17	0	**17**	0.6
10.	8001-9000	28	0	**28**	1.0
11.	9001-10000	71	0	**71**	2.6
12.	More than 10,000	53	0	**53**	1.9
13.	Not working	518	1079	**1597**	58.7
	Total	**1399**	**1321**	**2720**	100.0

Source: Survey by the authors

Activity Profile

Table 7.14 highlights the distribution of women by their involvement in fishery allied activities. It can be noted, they are mostly engaged in fish selling (68), fish loading/unloading (4) other works (170) and household work (361). In Puri district of Odisha, sources of alternative employment for workers in general, and women works in particular, are very limited.

Table 7.14
Activities Profile of Female Members in Fishing

Sl. No.	Women activities in fishing	No. of Frequencies	%age
1.	Fish Selling	**68**	13.1
2.	Loading Unloading	**4**	0.8
3.	No engagement in Fishing	**170**	32.7
4.	House work	**361**	69.4

Source : Survey by the Authors

Employment Scenario of Women

The data in Table 7.15 show the distribution of women workers by the source of alternative employment. Majority of the women worked in construction industry when their men folks were away in sea (97). They were also engaged in hotels as maids, tailoring, street vending and shop keeping etc.

Table 7.15
Other Alternative Employments for Female Members'

Sl. No.	Women activities except fishing sector	No. of Frequencies	%age
1.	Construction	**97**	18.7
2.	Hotel maid	**42**	8.1
3.	Tailoring	**18**	3.5
4.	Street vending	**11**	2.1
5.	Shop keeping	**1**	0.2
6.	Private Job	**1**	0.2
7.	House work	**361**	69.4

Source : Survey by the Authors

Household Needs

The distribution of respondents by the fulfillment of households needs through alternative employment is illustrated in Table 7.16. As could be observed, 14.4 percent respondents out of the total, reported that they could educate their children through alternative employment, followed by 12.7 percent, according to whom they could take care of their health and 3.5 percent could meet the expenses related to education and health.

Table: 7.16
Household Needs Fulfilled by Alternative Employment

Sl. No.	Heads	No. of Response	%age
1.	Children education	75	14.4
2.	Health	66	12.7
3.	Education and Health	18	3.5
4.	No alternative work (House work)	361	69.4
	Total	**520**	100.0

Source: Survey by the Authors

Activities Profile during Ban

The data in Table 7.17 projects the distribution of respondents by the information about the activities in which they were engaged during the ban period. It can be noticed that only 1.2 percent respondents did fishing throughout the year and 98.8 percent respondents remained unemployed during the ban period.

Table: 7.17
Activities for Males during Ban Period

Sl. No.	Activities during ban period	No. of Response	%age
1.	Fishing throughout the year	**6**	1.2
2.	Unemployed	**514**	98.8
	Total	**520**	100.0

Source : Survey by the Authors

Family Size

Table 7.18 presents the distribution of the respondents by family size. The data indicate that out of the total, 52.5 percent respondents had 4-5 members in their families. 24.8 percent had 6-7 members in their families, followed by 12.7 percent respondents who had 2-3 members, 2.1 percent had 10-11 members and 1.3 percent respondents had more than 11 members in their families.

Table: 7.18
Family Size

Sl. No.	Family Size (members)	No. of Response	%age
1.	Single	3	0.6
2.	2 – 3	66	12.7
3.	4 – 5	273	52.5
4.	6 – 7	129	24.8
5.	8 – 9	31	6.0
6.	10-11	11	2.1
7.	above 11	7	1.3
	Total	520	100.0

Source : Survey by the Author

Source of Residential and

Table 7.19 highlights the distribution of respondents by the sources through which they acquired land to construct their houses. Out of the total, 77.9 percent respondents got land from the government to build their houses. 18.5 percent constructed their houses on their own land and 2.5 percent purchased land.

Table: 7.19
Sources of Getting Land for House Building

Sl. No.	Type of Land	No. of Response	%age
1.	Government Land	**405**	77.9
2.	Own Land	**96**	18.5
3.	Purchased Land	**13**	2.5
4.	Patta Land	**4**	0.8
5.	Rent	**2**	0.4
	Total	**520**	100.0

Source: Survey by the Authors

Type of Dwelling

The distribution of respondents by the type of dwelling, is shown in Table 7.20. The data indicate that 50.2 percent respondents from the total, had independent houses whereas 49.8 percent lived in Jhuggies or Tin sheds.

The fishermen live in poorly constructed houses, having bare minimum facilities.

Table: 7.20
Type of dwelling

Sl. No.	Dwelling place	No. of Response	%age
1.	Independent House	**261**	50.2
2.	Jhuggi/Tin shed	**259**	49.8
	Total	**520**	100.0

Source: Survey by the Authors

Type of Building

Table 7.21 illustrates the distribution of the respondents by the type of building. It can be noted that 51.3 percent respondents from the total, had thatched houses, followed by 38.8 percent who possessed semi pucca houses, 7.9 percent had pucca houses and 1.9 percent respondents had kutcha houses.

Table: 7.21
Type of building

Sl. No.	Type of Building	No. of Response	%age
1.	Thatch	**267**	51.3
2.	Semi pucca	**202**	38.8
3.	Pucca	**41**	7.9
4.	Kutcha	**10**	1.9
	Total	**520**	100.0

Source : Survey by the Authors

Household Facilities

The data in Table 7.22 highlights the distribution of the respondents by the facilities in their houses. It could be seen that 68.8 percent respondents out the total, had electricity in their houses, followed by 11.2 percent who reported that they had toilet facilities in their dwellings, 6.2 percent respondents expressed that they had drinking water in their houses, and 29.0 percent respondents has no facilities.

Table: 7.22
Type of Facilities in available in House

Sl. No.	Facilities in house	No. of Frequencies	%age
1.	Light	**358**	68.8
2.	Toilet	**58**	11.2
3.	Drinking Water	**32**	6.2
4.	No facility	**151**	29.0

Source: Survey by the Authors

Sanitation

The distribution of respondents by whether they had sanitation facilities in their houses is presented in Table 7.23. As reported by 84.8 percent respondents, out of the total, they used jungle as a place of toilet. 8.7 percent used sea and 11.2 percent had toilets in their houses. It can be noted that majority of the fish workers did have sanitation facilities.

Table: 7.23
Type of sanitation facilities

Sl. No.	Toilet Facilities	No. of Frequencies	%age
1.	In Jungle	**441**	84.8
2.	In Sea	**45**	8.7
3.	Toilet	**58**	11.2

Source : Survey by the Authors

Drinking Water

Table 7.24 presents the distribution of respondents by the sources of drinking water. The data indicate that out of the total respondents, 50.8 percent had tap water facility, while 54.8 percent reported that they got their drinking water from hand-pump.

Table 7.24
Source of drinking water

Sl. No.	Source of drinking water	No. of Frequencies	%age
1.	Tap water	**264**	50.8
2.	Hand-pump	**285**	54.8

Source: Survey by the Authors

Mode of Cooking

The data in Table 7.25 projects the distribution of respondents by the medium of cooking. As could be observed, 92.7 percent respondents out of the total, reported that they used firewood for cooking, followed by 12.1 percent who used LPG and 6.5 percent respondents utilized kerosene, as reported.

Table: 7.25
Medium of cooking

Sl. No.	Medium of cooking	No. of Frequencies	%age
1.	Firewood	**482**	92.7
2.	LPG	**63**	12.1
3.	Kerosene	**34**	6.5

Source: Survey by the Authors

Household Durables

Table 7.26 illustrates the distribution of respondents by their household durables. Majority of the respondents (39.9 percent) reported that they had fans in their houses, followed by 31.9 percent who owned chairs and 31.5 percent respondents expressed that they had televisions. A large segment of fish workers were deprived of such durables.

Table: 7.26
Household durables

Sl. No.	Household durables	No. of response					
		Yes	%age	No	%age	Total	%age
1.	Fan	206	39.6	314	60.4	**520**	100.0
2.	Chair	166	31.9	354	68.1	**520**	100.0
3.	Television	164	31.5	356	68.5	**520**	100.0
4.	Table	107	20.6	413	79.4	**520**	100.0
5.	Cots	47	9.0	473	91.0	**520**	100.0
6.	Bicycle	21	4.0	499	96.0	**520**	100.0
7.	Plank	11	2.1	509	97.9	**520**	100.0
8.	Almirah	11	2.1	509	97.9	**520**	100.0
9.	Motor bike	5	1.0	515	99.0	**520**	100.0
10.	Radio	0	0.0	520	100.0	**520**	100.0

Source: Survey by the Authors

Livestock

The data in Table 7.27 reveal the distribution of respondents by whether they had any livestock. It can be seen that a small number of respondents (6.3 percent each) out of the total, had ducks and poultry birds. The major proportion of fish harvesters did not own any livestock, as reported.

Table: 7.27
Livestock

Sl. No.	Livestock	No. of response					
		Yes	%age	No	%age	Total	%age
1.	Ducks	**33**	6.3	**487**	93.7	**520**	100.0
2.	Poultry birds	**33**	6.3	**487**	93.7	**520**	100.0

Source: Survey by the Authors

Craft

Table 7.28 projects the distribution of respondents by whether they owned any fishing craft. It can be noted that 42.1 percent respondents from the total, reported that they had fishing net, followed by 30.0 percent, who had motor boats, 12.1 percent possessed traditional boats and 0.2 percent respondents had purse seiners. Maximum number of surveyed fish workers did not own any fishing craft.

Table: 7.28
Fishing Crafts

Sl. No.	Fishing crafts	No. of response					
		Yes	%age	No	%age	Total	%age
1.	Net	**219**	42.1	**301**	57.9	**520**	100.0
2.	Motor Boat	**156**	30.0	**364**	70.0	**520**	100.0
3.	Traditional Boat	**63**	12.1	**457**	87.9	**520**	100.0
4.	Purse Seiners	**1**	*0.2*	**519**	99.8	**520**	100.0
5.	Gill netter	**0**	*0.0*	***520***	*100.0*	***520***	*100.0*
6.	Catamarans	**0**	*0.0*	**520**	100.0	**520**	100.0
7.	Carriers to Purse Seiners	**0**	*0.0*	**520**	100.0	**520**	100.0
8.	Trawlers	**0**	*0.0*	**520**	100.0	**520**	100.0

Source: Survey by the Authors

Type of Work

The data in Table 7.29 highlights the distribution of respondents by the type of work in fishing, they were engaged. Out of the total, 42.1 percent respondents were boat owners, followed by 55.0 percent who were crew members and 2.9 percent were involved in fish selling.

Table: 7.29
Engagement of Respondents in Fishing Industry

Sl. No.		No. of response	%age
1.	Boat Owner	**219**	42.1
2.	Crew Member	**286**	55.0
3.	Fish selling	**15**	2.9
	Total	**520**	100.0

Source: Survey by the Authors

Time-Period

The distribution of respondents by the time period for which they get work in fishery industry, is given in Table 7.30. The data indicate that 90.6 percent respondents got work in fishery for 8-11 months. 5.2 percent worked for 4-7 months and 4.2 percent remained engaged in fishing work for 12 months.

Table: 7.30
Employment in a Year by Respondents' in Fishing Sector (in months)

Sl. No.		No. of response	%age
1.	1 - 3 Months	**0**	0.0
2.	4 - 7 Months	**27**	5.2
3.	8 - 11 Months	**471**	90.6
4.	12 Months	**22**	4.2
	Total	**520**	100.0

Source: Survey by the Authors

Tenure

Table 7.31 reflects the distribution of respondents by their total tenure in fishing sector. As could be observed the majority of the respondents (99.2 percent) had been working in fishing industry, for more than 9 years. A few fishermen worked for 0-2, 3-5 and 6-8 years.

Table: 7.31
Experience in Fishing Sector (in years)

Sl. No.		No. of Response	%age
1.	0 - 2 years	**1**	0.2
2.	3 - 5 years	**2**	0.4
3.	6 - 8 years	**1**	0.2
4.	9 & above years	**516**	99.2
	Total	**520**	100.0

Source: Survey by the Authors

Facilities during Fishing

The data in Table 7.32 presents the distribution of respondents by whether they received any facilities during the fish harvesting. As could be seen that all the respondents reported that they did not get any facilities during fish harvesting.

Table: 7.32
Type of Facilities received by the Respondents' during the Fishing

Sl. No.	Facilities during fish harvesting period	No. of Response	%age
1.	We are not receiving any type of facility.	520	100.0

Source: Survey by the Authors

Availability of Safety Measures

Table 7.33 shows distribution of respondents by whether they got safety measures during fishing. 89.0 percent respondents out of the total, reported that they did not get any safety measures during fishing in the sea. 8.1 percent reported they received some safety measures.

Table: 7.33
Whether Safety Measures are Provided during the Fishing

Sl. No.	Safety measures	No. of Response	%age
1.	Yes	42	8.1
2.	No	463	89.0
3.	Fish selling	15	2.9
	Total	520	100.0

Source: Survey by the Authors

Types of Safety Measures

Table 7.34 reflects the distribution of respondents by the type of safety measures they got during fishing in the sea. It can be noted that out of the total, 89.0 percent respondents reported that they did not receive any safety measures.

4.4 percent expressed that they followed the guidelines stipulated by the fishery department, followed by 3.7 percent who received message on their cell phones, from their families.

Table: 7.34
Types of Safety Measures Provided

Sl. No.	Safety Measures	No. of response	%age
1.	No safety	**463**	89.0
2.	Follow the guidelines of fishery department	**23**	4.4
3.	Cell phone message from home only	**19**	3.7
4.	Fish selling	**15**	2.9
	Total	**520**	100.0

Source: Survey by the Authors

Medical Aid

Table 7.35 presents the distribution of respondents by whether they received any medical facility. It can be noticed that 96.3 percent expressed that they did not get any medical facility, whereas only 0.3 percent respondents were receiving some medical facility.

Table: 7.35
Availability of Medical facilities

Sl. No.	Medical facilities	No. of Response	%age
1.	Yes	**4**	0.8
2.	No	**501**	96.3
3.	Fish selling	**15**	2.9
	Total	**520**	100.0

Source: Survey by the Authors

Type of Medical AID

The data in Table 7.36 illustrates the distribution of respondents by the type of medical aid they received. 0.3 percent out of total, expressed that they got first aid box.

Table: 7.36
Type of Medical Aid Provided

Sl. No.	Medical facilities	No. of Response	%age
1.	First aid box	**4**	0.8
2.	No medical facility	**501**	96.3
3.	Fish selling	**15**	2.9
	Total	**520**	100.0

Source: Survey by the Authors

Mode of Payment

Table 7.37 highlights the distribution of respondents by the mode of payment. It can be noted that all respondents (100.0 percent) were paid in cash.

Table: 7.37
Mode of Payment of Salary

Sl. No.	Mode of Payment	No. of Response	%age
1.	Cash	**520**	100.0
2.	Kind	**0**	0.0
	Total	**520**	100.0

Source: Survey by the Authors

Frequency of Payment

The data in Table 7.38 presents the distribution of respondents by the frequency of payment. It could be seen that out of the total, 83.3 percent respondents got their wages on the weekly basis, while 16.7 percent received their wages daily.

Table: 7.38
Frequency of payment

Sl. No.	Frequency of payment	No. of Response	%age
1.	Weekly	**433**	83.3
2.	Daily	**87**	16.7
3.	Monthly	**0**	0.0
	Total	**520**	100.0

Source : Survey by the Authors

Location of Fish Market

The data in Table 7.39 focus upon the distribution of respondents by the distance at which the fish market is located. As could be observed, 53.8 percent respondents from the total, informed that the fish market was 2 Km. from the work place, followed by 22.3 percent who reported that the market for fish selling was at the distance of 1km and 13.8 percent respondents expressed that their market was 2.5 K.m. away from the site of fish loading-unloading. 5.2 percent intimated that distance of the market from work place was 3 K.m.

Table: 7.39
Distance between Fish Market and Sea

Sl. No.	Distance (in Kms)	No. of Response	%age
1.	1 Km	116	22.3
2.	1.5 Kms	25	4.8
3.	2 Kms	280	53.8
4.	2.5 Kms	72	13.8
5.	3 Kms	27	5.2
	Total	**520**	**100.0**

Source: Survey by the Authors

Transportation

Table 7.40 projects the distribution of respondents by the mode of transportation. The data indicate that 68.7 respondents, out of the total,

reported that they were carrying the fish catch from the sea shore to the market, by trolley and also manually. 31.3 percent respondents carried their fish catch by trolley.

Table: 7.40
What is the mode of transportation from the sea shore to the market?

Sl. No.	Mode of Transportation	No. of Response	%age
1.	Trolley	163	31.3
2.	Trolley and Manual	357	68.7
	Total	**520**	**100.0**

Source: Survey by the Authors

Problems in Transportation

The distribution of respondents by the problems they faced in transportation of fish from sea shore to the market is highlighted in Table 7.41. It can be noted that 77.1 percent respondents from the total, reported that they faced problems and 22.9 percent did not experience any problem.

Table 7.41
Problem in Transportation of Fish from Landing Centre to the Market

Sl. No.	Problem in Transporting	No. of Response	%age
1.	Yes	401	77.1
2.	No	119	22.9
	Total	**520**	100.0

Source: Survey by the Authors

Saving

Table 7.42 illustrates the distribution of respondents by whether they could save some money. 97.1 percent respondents intimated that they were unable to save any thing, whereas only 2.9 percent could do some saving.

Table 7.42
Saving per month

Sl. No.	Saving	No. of Response	%age
1.	Yes	15	2.9
2.	No	505	97.1
	Total	**520**	**100.0**

Source : Survey by the Authors

Mode of Payment

The data in Table 7.43 focus upon the distribution of participants by the mode of saving. It could be seen that 2.5 percent respondents out of total, reported that they saved their money in bank and 0.4 percent saved in their homes.

Table.: 7.43
Mode of Savings

Sl. No.	Mode of savings	No. of Response	%age
1.	Bank	13	2.5
2.	In Home	2	0.4
3.	No saving	505	97.1
	Total	**520**	100.0

Source : Survey by the Authors

Loan

Table 7.44 highlights the distribution of respondents by whether they had taken any loan. As could be observed 63.1 percent respondents, out of the total, reported that they had taken loan from others and 36.9 percent had not taken any loan.

Table: 7.44
Indebtedness Profile

Sl. No.	Loan	No. of Response	%age
1.	Yes	328	63.1
2.	No	192	36.9
	Total	**520**	100.0

Source : Survey by the Authors

Commission Agent

Table 7.45 presents the distribution of respondents by whether they had an agreement with any commission agent. The data indicate that 60.2 percent from the total respondents' expressed that they did not have an agreement with commission agent and 2.9 percent said they had agreement with commission agent.

Table: 7.45
Whether Any Agreement Took Place with any Commission Agent

Sl. No.	Loan agreement	No. of Response	%age
1.	Yes	**15**	2.9
2.	No	**313**	60.2
3.	No loan	**192**	36.9
	Total	**520**	100.0

Source : Survey by the Authors

Amount of Loan

Table 7.46 highlights the distribution of respondents by the loan amount. It can be noted that 21.5 percent respondents had taken loan of Rs.10,001 to 30,000, followed by 19.8 percent who had taken Rs.30,001 to 50,000 loan, and 10.2 percent respondents had taken a loan of Rs.90,001 to 1,10,000 (for other details see table)

Table: 7.46
Loan Amount

Sl. No.	Loan amount	No. of Response	%age
1.	Upto 10,000	6	1.2
2.	10,001 to 30,000	112	21.5
3.	30,001 to 50,000	103	19.8
4.	50,001 to 70,000	25	4.8
5.	70,001 to 90,000	8	1.5
6.	90,001 to 1,10,000	53	10.2
7.	1,10,001 to 1,30,000	3	0.6
8.	1,30,001 to 1,50,000	11	2.1
9.	Above 1,50,000	7	1.3
10.	No Loan	192	36.9
	Total	**520**	100.0

Source: Survey by the Authors

Purpose of Loan

The distribution of respondents by the purpose of taking loan is given in Table 7.47. The data show that 60.8 percent respondents took loan to repay their earlier debts, followed by 18.8 percent who took loan for business, 8.3 percent took for meeting expenses related to sickness and 7.5 percent respondents borrowed money for marriage purpose.

Table: 7.47
Purpose of Borrowing

Sl. No.	Purpose of taking loan	No. of Frequencies	%age
1.	Repayment of Debts	**316**	60.8
2.	Business	**98**	18.8
3.	Sickness	**43**	8.3
4.	Marriage	**39**	7.5
5.	Education	**13**	2.5
6.	Household Needs	**3**	0.6
7.	Legal Expenses	**1**	0.2

Source: Survey by the Authors

Source of Loan

Table 7.48 presents the distribution of respondents by source of loan. As could be seen 33.3 percent respondents, from the total, took loan from boat owners, followed by 25.6 percent who borrowed money from the contractors, 6.5 percent took loan from private institutions and 1.0 percent from the bank.

Table: 7.48
Source of Loan

Sl. No.	Loan source	No. of Frequencies	%age
1.	Boat Owners	**173**	33.3
2.	From Contractor	**133**	25.6
3.	Private	**34**	6.5
4.	From Bank	**5**	1.0

Source : Survey by the Authors

Interest Rate

The data in Table 7.49 illustrates the distribution of respondents by the rate of interest. It can be seen that out of the total respondents, 6.5 percent paid monthly interest and 1.0 percent paid annual interest. 9.8 percent respondents did not pay any interest.

Table: 7.49
Rate of interest

Sl. No.	Rate of Interest	No. of Frequencies	%age
1.	Monthly	34	6.5
2.	Annual	5	1.0
3.	No Interest	51	9.8
4.	No Loan	192	36.9
5.	No Response	238	45.8

Source : Survey by the Authors

Children's Involvement

Table 7.50 highlights the distribution of respondents by whether the children were engaged in fishing activities. 28.3 percent respondents from the total, reported that their children were also engaged in fishing activities whereas 69.4 percent expressed in negative.

Table: 7.50
Whether children are also engaged in fishing activities

Sl. No.		No. of Response	%age
1.	Yes	147	28.3
2.	No	361	69.4
3.	Other work	12	2.3
	Total	**520**	100.0

Source : Survey by the Authors

Type of Activities and Children's Involvement

Table data in Table 7.50 focus upon the distribution of respondents by the activities in which children were engaged. 27.3 percent out of the total, reported that their children were involved in Fishing, followed by 2.3 percent whose children were engaged in artificial ornament vending and 1.0 percent helped in net repairing.

Table: 7.50
Types of Activities in which Children are Engaged

Sl. No.	Activities	No. of Response	%age
1.	Fishing	142	27.3
2.	Artificial ornament vending	12	2.3
3.	Net repairing	5	1.0
4.	No work	361	69.4
	Total	**520**	100.0

Source: Survey by the Authors

Education of Girl Children

The data in Table 7.51 projects the distribution of respondents by whether they were sending their girl child to school. As could be observed that 73.8 percent respondents expressed that they were sending their girl children to schools, while 26.2 percent said that they did not send their girl children to school.

Table: 7.51
Whether Girl Child are Sent to the School

Sl. No.	Response	No. of Response	%age
1.	Yes	384	73.8
2.	No	136	26.2
	Total	**520**	100.0

Source : Survey by the Authors

Awareness

Table 7.52 reveals the distribution of respondents by their awareness about different Acts. It can be noticed that only 23.1 percent respondents out of the total, knew about Orissa State Co-operative Act, 1962. All other respondents were totally unaware about the labour laws enlisted in the Table.

Table: 7.52
Awareness about Labour Laws

Sl. No	Awareness about Acts	No. of Response					
		Yes	%age	No	%age	Total	%age
1.	Orissa State Co-operative Act, 1962	120	23.1	400	76.9	**520**	100.0
2.	Workmen's Compensation Act, 1923	0	0.0	520	100.0	**520**	100.0
3.	Trade Union Act, 1926	0	0.0	520	100.0	**520**	100.0
4.	The Payment of Wages Act, 1936	0	0.0	520	100.0	**520**	100.0
5.	TheIndustrialEmployment (Standing Orders) Act, 1947	0	0.0	520	100.0	**520**	100.0
6.	The Minimum Wages Act, 1948	0	0.0	520	100.0	**520**	100.0

Source : Survey by the Authors

Awareness about Schemes for Fishermen

The data in Table 7.53 show the distribution of respondents by their awareness about the welfare schemes, announced for the fishermen. 41.3 percent respondents from the total, knew about the 'Saving-cum-Relief' Scheme, followed by 21.9 percent who were aware about 'Group Accident Insurance for Active Fishermen, 1.0 percent had knowledge about 'Development of Model Fishermen Villages' and 0.2 percent knew about 'Training and Extension' Scheme. Still, the majority of the fishermen were unaware about the schemes.

Table: 7.53
Awareness about Welfare Schemes

Sl. No	Knowledge about Welfare Schemes	No. of Response					
		Yes	%age	No	%age	Total	%age
1.	Saving-cum-Relief	215	41.3	305	58.7	**520**	100.0
2.	Group Accident Insurance for Active Fishermen	114	21.9	406	78.1	**520**	100.0

Sl. No	Knowledge about Welfare Schemes	No. of Response					
		Yes	%age	No	%age	Total	%age
3.	Development of Model Fishermen Villages	5	1.0	515	99.0	**520**	100.0
4.	Training and Extension	1	0.2	519	99.8	**520**	100.0

Source : Survey by the Authors

Benefit

Table 7.54 illustrates the distribution of respondents by whether they got any benefit from the government schemes. The data indicate that 41.3 percent respondents got the benefit and 58.7 percent respondents did not get any benefit.

Table: 7.54
Whether Availed Benefited from any Govt. Scheme

Sl. No.	Benefit form any scheme	No. of Response	%age
1.	Yes	215	41.3
2.	No	305	58.7
	Total	**520**	100.0

Source : Survey by the Authors

Source of Benefit

The distribution of respondents by the schemes, from which they received benefit, is shown in Table 55. As could be seen 41.3 percent respondents out of the total, got benefit from Saving-cum Relief, Scheme Rest (58.7 percent) got no benefit.

Table: 7.55
Question No.49 If yes, than from which scheme?

Sl. No.	Name of schemes	No. of Response	%age
1.	Saving-cum-Relief	215	41.3
2.	No benefit	305	58.7
	Total	**520**	100.0

Source : Survey by the Authors

Amount of Benefit

Table 7.56 highlights the distribution of respondents by the amount of benefit received. The data show that 23.1 percent respondents received Rs.1200 annually and 18.3 percent got Rs.1550 annually.

Table: 7.56
Benefit Amount (in rupees)

Sl. No.	Monetary benefit from scheme	No. of Response	%age
1.	Rs. 1200 (annual)	120	23.1
2.	Rs. 1550 (annual)	95	18.3
3.	No benefit	305	58.7
	Total	**520**	100.0

Source : Survey by the Authors

Awareness about Schemes for Workers

The data in Table 7.57 projects the distribution of respondents by their awareness about other schemes. 22.1 percent respondents from the total, were aware about BPL ration card, followed by 6.3 percent who knew about 'National Old Age Pension Scheme', and 1.3 percent had knowledge about 'Annapurna Scheme'. There was gross unawareness among the fishermen about the schemes.

Table: 7.57
Awareness about schemes

Sl. No.	Name of Scheme	No. of Response					
		Yes	%age	No	%age	Total	%age
1.	BPL Ration Card	115	22.1	405	77.9	**520**	100.0
2.	National Old Age Pension Scheme	33	6.3	487	93.7	**520**	100.0
3.	Annapurna	7	1.3	513	98.7	**520**	100.0
4.	Mahatma Gandhi National Rural Employment Scheme	0	0.0	520	100.0	**520**	100.0
5.	National Maternity Benefit Scheme	0	0.0	520	100.0	**520**	100.0
6.	National Family Benefit Scheme	0	0.0	520	100.0	**520**	100.0
7.	Swajaldhara	0	0.0	520	100.0	**520**	100.0
8.	Janshree Bima Yojana	0	0.0	520	100.0	**520**	100.0
9.	Indira Awaas Yojana	0	0.0	520	100.0	**520**	100.0
10.	Sunami Relief Scheme	0	0.0	520	100.0	**520**	100.0
11.	Rashtriya Swasthya Bima Yojana	0	0.0	520	100.0	**520**	100.0

Source: Survey by the Authors

Benefit

Table 7.58 illustrates the distribution about respondents by whether they got benefit from the schemes. 28.5 percent respondents out of the total, received benefit from the schemes, while 71.5 percent got no benefit.

Table: 7.58
Benefit from schemes

Sl. No.	Benefited form any scheme	No. of Response	%age
1.	Yes	148	28.5
2.	No	372	71.5
	Total	520	100.0

Source: Survey by the Authors

Source of Benefit

The data in Table 7.59 presents the distribution of the respondents by the scheme from which they got benefit. It could be noticed that 22.1 percent of the total respondents, received rice under BPL category for Rs.2/- , followed by 5.6 percent who got benefit from National Old Age Pension Scheme and 0.4 percent each respondents received benefit from Handicap and Widow Pension Schemes respectively.

Table: 7.59
Name of the Scheme from which Benefits are Received

Sl. No.	Name of scheme	No. of Frequencies	%age
1.	Rs. 2/- per kg rice under BPL Category	115	22.1
2.	National Old Age Pension Scheme	29	5.6
3.	Handicap Pension	2	0.4
4	Widow Pension	2	0.4

Source: Survey by the Authors

Chapter Eight

Research Findings

Research Findings: Some Highlights

The study was conducted in district Nagapattinam in Tamil Nadu and district Puri in Orissa. The sample size was 1020 households fishermen and women. The overall objective of the study was to examine the marine fish workers' existing situation and explore ways and means for enhancemant of their employment and raising their living conditions.

I. Living and working conditions of marine fishers in Tamil Nadu and Orissa.

- Most of the fish workers belonged to 'Most Backward' and other backward castes. The social discrimination and plight of people belonging to lower caste hierarchy is a well known fact. We found the fish workers were in the disadvantaged position. The caste discrimination was prevalent in Tamil Nadu and Orissa. The fish workers remained confined to their world. There was not much interaction with other community people.
- The gender disparity was also clearly evident. Gender based discrimination was found in social, educational, economic spheres. There was clear difference in the rights and duties of male and female workers. The job and wage discrimination was quite rampant.
- The fish harvesting and related works are for four to five months in a year. As a result, majority of the fish workers remained out of work for major part of the year. During the lean period, managing food for the family becomes difficult. Food insecurity leads to malnutrition among the fish workers. The children, specially girls and women specially looked malnourished.
- The housing conditions of the fish workers are also deplorable. Fish workers were found living in kutcha houses, many under thatched roofs. Only a few possessed pucca houses. Besides, the houses of the fish workers was poorly constructed with bare minimum facilities.

- Natural calamities struck them quite frequently rendering them roofless. The villages in Nagapattinam, Tamil Nadu, under the study, were badly affected by tsunami. In these two villages, in almost every household, a family member died in tsunami. The government, through an NGO has constructed more than seven hundred houses. These houses are lying vacant. The respondents reported that the houses have no toilet and drinking water facility. For this reason, the fish workers were not moving to this locality. In Orissa, the biggest village (3000 households) known as Pentacota, all the fish harvesters are migrant. They have constructed their houses on the government land. Now, for years, they have been demanding patta for the households, but till now no success is visible.
- Majority of the fish workers are illiterate. Among illiterates, women workers outnumber male workers. Those who are literate, they know only how to sign. Among the literates, the overwhelming number of workers have education upto primary level. A handful of fisher workers possessed some technical and professional education.
- The fish workers generally do not possess any safety measurers. They work in totally unsafe and unprotected conditions. Majority of the fish workers were in low income group. Fishery sector has lot of potential for employment, but in the absence of infrastructure and other facilities, it is not possible to generate employment. The fish workers have limited options for employment. It was found in Orissa that in the lean period the women workers involved in fishery and allied activities, worked in construction industry.
- The majority of the surveyed fish workers do not own land and implements. They also do not own any livestock except a few households who reported to possess some goats. They consequently live in perpetual poverty especially during the lean period of fishing.

II. Status of social security programmes for the fish workers

- Several social security schemes are being implemented in the two states. Some schemes are specially announced for fish workers. Some fishermen were aware of one or two social security schemes. Majority of the fish worker was unaware about them. A small number of respondents have availed benefit. The study reveals

that the majority of the fish workers have not been benefited at all from these schemes.

III. Problems of marine fish habitats in terms of its sustainabilities.

- Marine fish habitats are gradually affected by several man-made and natural changes. Today human intervention in marine life has been gradually jeopardising the fragile marine ecological balance. This is resulting in depleting fish-catches which affects the life and livelihood of fish workers. Hence protective and promotional measures are required to create a sustainable fish habitats.

IV. Employment generation

- The employment potentials are not always available within the traditional fishing activities. The potentials are to be explored in different activities and areas. In some activities value addition could be done by resorting to processing fish into different consumer items, by marketing strategy, storage, transportation, etc. The improvement will create both forward and backward linkages enhancing employment opportunity to people in the area where marine fishing is being carried out today. This will also lead to introduction of new technology both in the field of harvesting and processing.
- This also leads to new employment opportunities which will increase fish workers' bargaining power.

V. condition of landing centres in the study and adjacent areas

- Two landing centres in Nagapattinam district of Tamil Nadu were studied. The centres appeared to be very unkept. Several mechanized, motorized and non-motorized boats were there. Several boats were in the sea. Fish loading-unloading activity was on. Women workers were carrying the fish on their heads. There were male coolies too. Many fishermen were repairing the net. The landing centres were without any facility. There was no arrangement of drinking water, toilet or resting place for the fish workers. The centres were very dirty and unhygienic. The landing centres were surrounded by filth and waste materials. In Chennai, we visited 'Kuti harbour'. It was the bigger landing centre than centres in Nagapattinam. Once large Trawlers, Catamarans and Dugouts were anchored there. It was a buzy harbour. Fish transaction was taking place. Apart from fish harvesters there were other category of fish workers.

- There was a in shed where workers were resting and eating. Food items were spread around, all open and exposed. The items were half covered with sand and flies. The Kuti harbour has no water facility. Workers were buying water bottles. Toilet facility was also missing. There was no seating arrangement. Waste paper, boxes, cans, left over food items, rotten fruit and vegetables were all around. The place was full of foul smell.
- In Puri district of Orissa, there was no landing centre. The fish workers have been raising demand for landing centres in Puri.

Chapter Nine

Employment Potential

A large number of workers are engaged in fishery sector. The fishery industry has become highly commercial. The industry contributes significantly to the national income. There is substantial foreign exchange earning from this sector. The rich harvesters and other boat owners earn wealth out of fish harvesting. The workers, who are the main fish catchers, put their life in danger to earn wealth for others and eke out their living. They work in unsafe working conditions and under insecurities. They always face natural calamities and other problems.

The workers toil for a small share of catch, which fetches meagre income. As a result, they are poor, illiterate, and unaware about legal provisions and welfare programmes and schemes which are meant for them.

To improve their overall living and working conditions certain measures have to be taken by the government in general and other stakeholders in the country. An effort has been made here to explore employment potentials for fish workers in the area of study.

(A) Employment Potential in Fishery Sector

Fish industry has still a lot of potential for generating employment for underemployed fishermen. Majority of the workers in fishery sector do not own craft and gear. As a result, they earn less than their potential capacity. The government can provide loan to the poor fish harvesters, on easy term and conditions. With such loan the workers can buy their craft and gear for fishing. This will increase employment and improve their socio-economic conditions.

In addition, it should be made mandatory for the employers to provide necessary safety measures to the fishers. The fish landing centres should be developed with all basic and modern facilities and amenities.

The government has laid down 'Coastal Regulatory Zone (CRZ) in the coastal areas. The fishermen cannot enter such demarcated area and they also cannot build house shed or boat work-shed in the specified area. The distance is much longer, thus, it becomes difficult to commute, because transportation and road both are in a shambles in the coastal areas. This indirectly affects employment.

There is a need to construct proper roads for better connectivity. Along-with this improved and frequent service of transport facilities must be provided. All this will increase opportunities for employment in the coastal areas much more than what it is realized today.

It is imperative for the government to look into the matters of CRZ. CRZ is a bottleneck which is throttling employment potential in the coastal areas of the country.

It is suggested that there should be a separate space or shed for making and repairing boats and nets. At present all pre-fishing tasks are performed at the sea shore. The sea shores become very crowded and dirty. The fish workers spend major part of their work time in unhygienic conditions.

2. Alternative Employment

(a) Fish Farming

The workers need appropriate skill development and technological intervention in fish farming, which will lead to increased productivity and income. Researches have identified that in fisheries, unscientific farming practices, improper selection, overstocking of species and uneconomic utilization of space are the major problems.

Central Marine Fisheries Research Institute (CMFRI) team has conducted experiment in fisheries such as poly-culture/mono culture of finfish and shrimps, integrated farming of poultry and fish and monoculture of uniform sized juvenile crabs. Another intervention was done in which women groups with 15 members each were identified for the assessment of rack drying of fish after dip-treatment technology imparted by the Central Institute of Fisheries Technology. This resulted in increased yield and earnings for the participants in the scheme.

It is suggested that such experiments should be multiplied and used in all maritime states. In order to get such experiment effectively implemented, fish workers should be provided awareness and skill up-gradation training.

(b) Agriculture

The land, credit, agricultural infrastructure and scientific technology would enhance employment of fish workers in agricultural sector. In agriculture, low productivity, high soil salinity, fertilizer/ nutrient deficiency and non-availability of good quality of grains' and vegetables seeds are the main constraints. CMFRI (2004) did an

experiment in Elamkunnapuzha panchayat, in Kerala. The research team cultivated improved variety of vegetable seeds, introduced tissue cultured 'Dwarf Cavendish suckers of banna, applied scientific nutrient management practices (green manure and chemical fertilizer) for coconuts, assessed amaranthus as an intercrop of banana, utilized bio-fertilizers in paddy farming and cultivated improved variety of vegetable as well as in paddy.

The outcome of these interventions was higher yield with better quality, the weight of the grain, vegetable and fruit increased, profit margin increased manifold and increased marketability. The technological interventions led to control of pests and diseases.

If the fish workers are well acquainted with scientific farming system and use of technology, then their economic conditions would improve and employment potential will be increased.

(c) Livestock as Means of Employment Generation

The findings in the two states i.e. Tamil Nadu and Orissa show that fish workers do not have much livestock. Livestock is also an important means of improved earnings and potential source of employment. Several studies have thrown light on the fact that low productivity, parasitic infections, micro-nutrient deficiencies and inadequate health coverage are the major problems in livestock. Studies have highlighted that farmers use crude pattern of rearing cattle which made the animals less adaptive to the specific coastal agro-ecosystem. There is absence of scientific management practices in the breeding, feeding and disease control of dairy cattle. Soil salinity and waterlogged conditions coupled with the poor management resulted in wide-spread prevalence of diseases in cattle (CMFRI, 2004). CMFRI (2004) used technological intervention and scientific management practices in the breeding, feeding and disease control of dairy cattle. As a result, the productive performance of cows has improved due to dewarming, vaccination against foot and mouth disease and mineral/ vitamin supplementation. The milk yield increased and thus, the economy of people.

Similar interventions in goatry and poultry gave positive and economically viable results.

The fish workers can find opportunities of employment in livestock rearing. This will also enhance their economy and quality of life.

(d) Horticulture

Another alternative employment opportunity for the fish workers

could be in horticulture. Even in a small plot, with the use of scientific management practices and appropriate technology, they can produce good quality and high quantity of fruits and regetable.

(e) Construction

At present also, the fisher women, in the lean fishing period, work in construction. They work mostly as 'beldars'. If the fish workers are provided with skills of masonry, they can earn better wages than what they earn presently. Skill up-gradation is essential for them.

The fishermen below the poverty line can get 100 days employment from MGNREGS. The scheme should be effectively implemented in areas, where the fish workers are concentrated.

(f) Eco-Tourism

Another potential area where the fish workers can find source of employment is in 'Eco-Tourism'. These days the tourists are attracted towards sea and beaches. The beaches should be kept clean and hygienic. At the beach site some eatables and fancy shops could be opened. Near the sea beach hotels and resorts could be built. Trees can be planted surrounding the beach. In all these processes, the fish workers can be provided alternative employment avenues.

(g) Environment Protection

Environmental degradation is a burning issue in the contemporary period. De-forestation everywhere has been causing climatic changes in the environment. The fish workers could be involved in developing new forests. They can play important role in transplantation of trees, creepers, bushes and flowers. They can be paid to preserve nature. The conditions of infrastructure in the village were found deplorable. Hence, any step to develop infrastructure will provide employment to people in the fishing villages in the country.

(h) Water harvesting

Water scarcity is a serious problem among the fish workers. Drinking water is also not easily accessible. Water shed management could be taken over in the fishery villages. The fishermen could be of great help in this regard. The fish workers could be involved in digging the pond in the village to preserve water for fish farming. They can develop 'aquaculture' in their village or nearby places.

Chapter Ten

Suggestions & Recommendations

1. Awareness Training

During the survey it was found that majority of the fish workers were unaware about the programmes and schemes and labour laws. It is prerequisite to impart awareness training to fish workers so that they can participate in their own development. All the concerned institutions, organizations and academic bodies should take this responsibility.

2. Technical Training

Apart from awareness training, the fish workers also need technical skills advancement. This will enhance their work ability and capacity. They should be given training to use the craft, gear and technology in appropriate manner also in potential areas in which employment opportunities are emerging.

3. Market Facilities

One of the pressing problems of fish workers is absence of market near their habitats. This creates impediment in getting good price for their catch. Generally, women workers sell the fish in the local market. They carry the load on their head and walk quite a distance to sell their produce. Lack of adequate transport facility has increased the burden on women workers. To reduce the toil of women workers there is need to construct connecting roads, initiate transport facilities and develop market spaces. The market should have ice plant, selling sheds and cold storage.

4. Easy Access to Benefits

The poor fish workers do not get access to various welfare programmes and schemes, because of unawareness, illiteracy and poor delivery system. During the survey it was found that when the fishermen do not return from the sea or die due to accident, their families do not receive any assistance. The authorities want death certificate, without which they do not entertain the family members of the deceased. The family members cannot produce death certificate because they do not find the bodies of their family members.

It is suggested that the family members of the deceased should get the benefits, even if they are unable to get the death certificate. The village Sarpanch or the fishermen cooperative can verify the incidence of death.

5. Promotion of Educational Institutions nearby Fishermen Habitat

Schools including Higher Secondary Schools should be opened in or nearby fishermen villages. Special schools for girl children should also be opened. The schools should have all infrastructure and basic amenities. There should be adequate number of well qualified teachers. More number of female teachers should be engaged. Course materials and books should be given to the children of fish workers, free of cost or with nominal cost. School uniform should also be provided. Scholarships to the children of poor fish workers should be provided.

6. Health Security and Insurance

During the survey in Tamil Nadu and Orissa, it was found that majority of the fish workers were not getting any medical aid. Fishery is a dangerous occupation. As a result, frequent accidents occur and the workers suffer from many diseases. The absence of hospitals or primary health centres in the villages makes the problem more serious. The fish workers do not have health insurance. Rashtriya Swasthya Bima Yojana (RSBY) should be extended to fish workers.

7. Social Security

The fish workers are unprotected and have insecure future. They are hardly getting benefit from welfare schemes. Social security is not accessible to them. They do not have health security and insurance, no old age benefit, no widow pension and no employment security. Their life is always at risk. The existing schemes hardly reach to the fish workers. In this context, it is essential to implement the Social Security Act for unorganized sector. The fish workers must be given benefits from the Act.

8. Fish Workers' Welfare Fund

At present, the fish workers welfare fund in Tamil Nadu is not actually reaching to the fish workers. It needs to be activated. A large segment of fish workers are not aware about the 'Fund'. The fish workers should be educated and made critically aware about their prospective benefit. The

authorities of fish workers welfare department should make regular and frequent visits to the fish workers concentrated villages, to concientize them, make them beneficiary of the fund, teach them about 'how to avail the benefits and finally give them the benefits'. The continuous dialogue between the agents of change and fishermen would help a lot.

9. Legal Protection for Fish Workers

The fish workers legislation is long awaited. The ILO has played important role in the initial discussion on the legislation and furthering it to national platform for debate. The government of India should enact a legislation for the fish workers, in order to safeguard their interests. The legislation should include, employment security for fish workers, terms and conditions, wages, working hours, working conditions, rights and duties, decision on 'Coastal Regulatory Zone (CRZ), education, medical, old age security, etc. Along with the legislation there is a need to develop and announce working policy for the fish workers.

10. Fostering and Activating Organization among Fish Workers

Although there are several fishermen cooperatives in the country, but looking at the magnitude of fishermen, it is important to foster organization among them. In this regard, the civil societies and labour institutions can play a pivotal role. In fishing industry, the women are engaged in fishing and allied activities. There is a need to organize these women first and on priority basis.

11. Self-Help Group

The fish workers should be trained to develop 'Self-Help Groups' among them. The Self Help Group will not only enhance their organizability but will also enhance their overall socio-economic conditions. Evidence shows that wherever Self-Help Groups are functioning well, the workers have been substantially benefited.

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