Marine Fisheries Census 2005

Part - I





Government of India
Ministry of Agriculture
Department of Animal Husbandry, Dairying & Fisheries,
Krishi Bhavan, New Delhi



Central Marine Fisheries Research Institute, Cochin (Indian Council of Agricultural Research, New Delhi)

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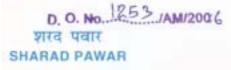
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कृषि, उपमोक्ता मामले, खाद्य और सार्वजनिक वितरण मंत्री भारत सरकार MINISTER OF AGRICULTURE & CONSUMER AFFAIRS FOOD AND PUBLIC DISTRIBUTION GOVERNMENT OF INDIA

28 June, 2006



MESSAGE

Fisheries sector is a source of income and employment generation. It supports growth of a number of subsidiary industries and makes available cheap and nutritious food. At the same time it provides livelihood for a large section of economically backward population of the country. Marine fisheries sector has undergone vast changes with the introduction of modernized crafts, gears and other scientific equipment.

Management of marine fisheries is essentially an exercise in natural resource management. However, this natural resource, unlike other resources, is invisible, diverse, migratory, seasonal and subject to its own dynamics as well as impacts from anthropogenic and climatic interferences. Thus, managing such a resource is a difficult task. To make concerted efforts in this direction, the correct and updated information on the men and material available with the sector is a must.

I am happy to note that the Department of Animal Husbandry, Dairying and Fisheries took the initiative to conduct Census on Marine Fisheries in order to have a detailed database on the persons and material involved in marine fishing and its allied activities. I place on record my appreciation for the concerted efforts put in by Central Marine Fisheries Research Institute to accomplish the task of marine census assigned to them within time and for bringing out this publication. This census will definitely cater to the need of planners, administrators and other stakeholders of the fisheries sector for overall development of the sector.

(SHARAD PAWAR)

FOREWORD

Fisheries sector plays a crucial role in the economy in terms of providing employment to over 14 million people and foreign exchange earnings. The annual marine fish produce is about 2.8 million tonnes against the harvestable potential of 3.93 million tonnes. The growth rate in marine fish production is only 1.8% as against 6.2% in inland fisheries.

The marine sector is dynamic and has undergone substantial changes over the years and supports the livelihood of millions of people. Major factors having visible impact on marine fisheries are introduction of mechanized trawlers and purse seiners, motorization of country craft, multi-day fishing crafts, etc. Modern electronic gadgets for positioning and fish finders have improved the efficiency of craft.

In order to formulate long term plan and to chalk out developmental strategies for the development of marine fisheries to face new challenges coming up, it is essential to have information on number of fishing villages, landing centres, fishers population, active fishermen, fishing crafts and gear including the status of infrastructural facilities in maritime States of India.

The need to have census on marine fisheries has been felt from time to time. Keeping in view the need and expertise available with Central Marine Fisheries Research Institute (CMFRI), the Department of Animal Husbandry, Dairying and Fisheries decided to entrust CMFRI the task to conduct Census on Marine Fisheries in mainland maritime states / UTs.

The marine fisheries census was conducted during April-June, 2005 in all maritime states except in Tamil Nadu and Pondicherry due to Tsunami relief operation and resettlement of fishermen. These States were covered during November-December, 2005.

I take this opportunity to express my thanks to officers of States & UTs who have wholeheartedly cooperated in collecting the information. I also wish to place on record my appreciation of all officers & staff of CMFRI especially FRA Division for conducting the census.

I hope that the information generated through the census will be found useful by planners, policy makers, research workers and others working for well being of the sector.

July 2006 Krishi Bhawan, New Delhi

(P.M.A. HAKEEM)

Secretary
Department of Animal Husbandry,
Dairying & Fisheries,
Ministry of Agriculture, Government of India.

PREFACE

Indian marine fisheries has a long history of development from its subsistence fisheries during the pre 1950's to full fledged modernized industrial activities in the recent years. Many developments have taken place in marine sector and the methodology of catch has also undergone sea-change over the years with the introduction of modernized crafts, gears, fish finders and other scientific equipment. Though marine fish landings is almost stagnant at around 2.8 million tonnes for the last 4-5 years, still there is scope of enhancement of fish catch as the harvestable potential worked out for this sector is 3.93 million tonnes. With the passage of time, new developments like cage culture, sea ranching, etc. are being practiced in several countries and India needs to go ahead with all these activities for tapping the potential of marine fisheries.

In order to have a fresh database on the persons and material involved in the marine fisheries sector, requirement of conducting a census on marine fisheries was felt. This was made a component of the Central Sector Scheme on "Strengthening of Data Base and Information Networking for the Fisheries Sector" during Tenth Plan. The task to conduct the census on marine fisheries was entrusted with Central Marine Fisheries Research Institute (CMFRI), Kochi. The methodology for the census was approved by a Technical Monitoring Committee under the chairmanship of Director, Indian Agricultural Statistics Research Institute (IASRI) comprising the experts from IASRI, Indian Statistical Institute, National Sample Survey Organization, Planning Commission, Directors of Fisheries of all State/UT Governments, etc. The results of census have been brought out in this publication for the use of stakeholders, research institutes, state governments and other agencies.

The publication covers Executive Summary, scope, coverage and methodology on marine fisheries census, diagrams & charts, schedules and instructions used for data collection. The data collected includes items such as population structure, education status, active fishermen, gender-wise fishing and allied activities, occupation profile, religion and community, membership in cooperatives, crafts owned by fisher folk, their sharing pattern, gears owned by fisher folk and their sharing pattern, electronic equipment, life saving equipment, fishers who received training, housing, education and other infrastructural facilities.

I appreciate the sincere effort put in by CMFRI especially the Fishery Resource Assessment Division to accomplish this mammoth task and for bringing out publication in a time bound manner. I hope and trust that the publication will fulfill the needs of all the stakeholders, research scholars, planners and other agencies related with fisheries sector.

July 2006 Krishi Bhawan, New Delhi

(AJAY BHATTACHARYA)

Joint Secretary (Fisheries)
Department of Animal Husbandry,
Dairying & Fisheries
Ministry of Agriculture, Government of India

PREAMBLE

That basic information on fishers, catches, craft and gear, fishing effort, prices and markets is of fundamental importance in marine fisheries governance and planning is a well recognized fact. Also required are information on landings, trends, species ratio and compositions, size at capture, length frequencies, catch per unit effort, yield per recruit, mortality rates and host of other parameters which also contribute to development of appropriate fisheries management interventions. Occasional census (frame surveys) and sample based fishery surveys conducted at regular intervals are to be viewed not as an end but as an important source for a wide range of activities which include estimation of total production, estimation of total value of fish production, price at landing, fishing effort, number of active fishers, human and financial resources etc. Thus fisheries census acquires a role as important as that of human population census, a fact well recognized by all countries who are concerned about managing their fishery resources based on knowledge based information system.

The earliest attempt to build up a planned survey of marine fishing villages and landings was carried out by the Central Marine Fisheries Research Institute (CMFRI) way back in 1948-49. The pilot survey conducted yielded information on village-wise data on total fishermen population, number of active fishermen, fishing units of different types, varieties of fish caught and fishing seasons. Successive such surveys were carried out during 1957-58 and 1961-62. All these contributed to development of an appropriate, reliable and scientifically tested methodology for collection of data on marine fish landings from the Indian seas. A similar survey was conducted in 1973-77 covering detailed information on number of mechanized boats, different categories of indigenous fishing crafts and gears in each maritime state, the details of which were published in Marine Fisheries Information Service No. 3 (1978). In the year 1980 the CMFRI undertook a massive and intensive exercise of carrying out a well organized and systematic marine fisheries census in all the maritime States in the mainland (except Maharashtra where the State Government had carried out the census in the previous year). This first ever systematic census of marine fisheries conducted in 1980 yielded much valuable micro level data covering all the maritime States. This census was carried out on a massive scale within a period of less than a month with the help of 165 staff of the Institute and 1,500 contract personnel. The team covered 2,132 marine fishing villages with 1,442 landing centres and 333,038 households. The summary results of the census have been published by CMFRI in Marine Fisheries Information Service No. 30 (1981).

Since 1980, no all India marine census was carried out because of various operational, personnel and financial reasons, although the need was much felt by researchers, planners and policy makers. The Central Marine Fisheries Research Institute (CMFRI) ventured into this arduous task with the funding support from the Dept. of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture, Govt. of India in the year 2005. A great deal of planning, technical consultations, designing the various schedules and vetting had been carried out intensively before the onset of the census. Schedules for data collection and publicity materials such as posters and handouts were printed in the official languages of the respective maritime states concerned. Mock sample surveys were also conducted to free test the schedules and as a part of training of the enumerators. A software for data entry, validation and processing was developed in-house. The data entry was carried out by specially recruited trained data entry operators. The all India census was planned to be held within a month from April-May 2005 all along the Indian coast. However, the most unexpected tsunami during December 2004 destroyed several fishing villages, craft and gear and also resulted in loss of lives along the coastal regions of Tamil Nadu and Pondicherry. This resulted in rescheduling the census activities for the States of Tamil Nadu and Pondicherry. The spontaneity of the census is statistically mandatory and thus the entire census operation was planned from 15th April to 15th May 2005 for the marine States except Tamil Nadu and Pondicherry where the census was carried out during November-December 2005. The massive exercise coordinated by the network of dedicated officials of CMFRI, covering 3,202 fishing villages, 1,375 landing centres and 756,212 households all along the maritime states of the country resulted in a wealth of information which is presented in the present report. The very fact that the census has been conducted after a gap of two and half decades makes this information so valuable. A glance through the present report will throw much light on the marine fisheries scenario which has been undergoing tremendous change during the past two decades. The societal structure in the fishing villages has also undergone change with the emergence of a new category "craftlords" similar to landlords and the domination of fisher labourers in maritime states. The ownership pattern of crafts and gears have also changed. The changes in the pattern of employment and livelihood of fisher community also is interesting as well as family size and structure of households. Attempts have been made in this report to present summary information in the form of charts. Figures depicting some important aspects have also been provided. All these will enable the users to have a better understanding of the scenario. The report

is bound to have a lasting impact as an unique source of authentic information for research workers, planners and policy makers for many years.

It is my pleasure to record my deep sense of appreciation to the entire team of CMFRI sphereheaded by Dr. M. Srinath, Head of Division and National Team Leader, Marine Fisheries Census, 2005 and the staff of the Fishery Resources Assessment Division (FRAD) for the excellent planning, consultations, designing, recruiting trainees and organizing and conducting this massive exercise as per the plans in the most admirable way. The excellent job done through team work right from planning stage to the final publication of the report is a remarkable testimony of the strength that lies within the CMFRI for carrying out any task which is challenging and difficult. I thank the entire team, including the field staff who were on contract, who have done this job sincerely and with devotion. I also thank the Dept. of Animal Husbandry, Dairying & Fisheries for the funding support, encouragement and cooperation for carrying out this onerous task. My Sincere gratitude is due to the Department of Fisheries of the various maritime states and Union Territories for support for the Census. I also thank the Indian Council of Agricultural Research (ICAR) for providing an enabling environment to carry out the marine fisheries census. I am confident that this report will serve as an important source of information for the strategic planning and intervention process aimed at development of marine fisheries in India.

Prof. Mohan Joseph Modayil

hustaforeth

Director, CMFRI

&

National Co-ordinator,

National Marine Fisheries Census, 2005

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EXECUTIVE SUMMARY

For developing a comprehensive marine fisheries policy, it is essential not only to have reliable information on the status of marine fish resources along with fishing effort expended but also the number of fishing villages, landing centres, fisherfolk population, their occupation status, fishing crafts, fishing gears and other related parameters. Keeping this in view the Central Marine Fisheries Research Institute (CMFRI), Cochin has been conducting frame surveys at periodic intervals. Marine fisheries census on an all India basis was last conducted by CMFRI during May – July, 1980.

Since the last census, the marine fisheries in India have witnessed both qualitative and quantitative changes. Post 1980 has also been a period where a number of management/policy interventions were made by the Government of India and the maritime states for ensuring sustainability, conservation of resources and to protect the interests of artisanal fishermen. Surely, the policies and interventions need to be reviewed and fine tuned in view of the highly dynamic nature of marine fisheries. For this a strong realtime and reliable database on various aspects of marine fisheries is essential. Recognising such a need, Department of Animal Husbandry, Dairying and Fisheries (DAHD&F), Ministry of Agriculture (MOA), Govt. of India, has taken up during the 10th Five Year Plan, a programme on Strengthening of Database and Information Networking for Indian Fisheries Sector in which Marine Fisheries Census is a major component. Recognising the expertise and experience of CMFRI in conducting such massive census surveys, the DAHD&F, MOA has entrusted the task of conducting the All India Marine Fisheries Census in the mainland to CMFRI with a funding support of Rs.80.5 lakhs. Fishery Survey of India, Mumbai was given the task of conducting such census in the Island territories of Lakhshadweep, Andaman & Nicobar Islands.

Frame of the survey, namely, the marine fishing villages available with CMFRI was validated and updated with the latest information obtained from the respective maritime states. After identification of census parameters such as the population size, education, religion, occupation, number of crafts and number of gears etc., the necessary schedules were designed to collect information and these were approved by the Technical Monitoring Committee set up by DAHD&F, MOA. 34,500 numbers of Schedule I (in vernacular and in English) to collect household information on identified parameters and 3,600 numbers of Schedule II to record village wise information on infrastructure and other details were printed. 13,900 posters and 34,700 handouts (both in vernacular) were also printed.

Since the post Tsunami relief operations and resettlement of fishermen were still in progress in Tamil Nadu and Pondicherry, the census could not be conducted

simultaneously in all the maritime states. Thus, census was conducted in two phases with the first phase covering all the maritime states and Union Territories except Tamil Nadu and Pondicheery which were covered during second phase. The first phase was conducted during April-June, 2005 and the second during November-December, 2005. The formal launching of Census operation was officially signalled by Shri Ajay Bhattacharya, IAS, Joint Secretary, DAHD&F, New Delhi at a brief function organized at the Central Marine Fisheries Research Institute, Cochin on the morning of 15 April 2005 and thereafter at the field level at Narakkal, near Cochin, Ernakulam district, Kerala. Director, CMFRI was the National Level Co-ordinator, assisted by the Head, Fishery Resources Assessment Division and all the Scientists-in-charge of various Regional/Research Centres of CMFRI. Over 300 CMFRI staff (Scientific and Technical) supervised the field level and zonal level census operations ensuring proper collection of relevant data. A total of 1492 field enumerators mostly drawn from the fishing communities/fishing villages covered 3202 marine fishing villages. After completion of the census in both the phases, the data were sent to headquarters for processing and preparation of reports. The software required for data entry, data validation and processing was developed by the scientists of F.R.A. Division, CMFRI. There are 3.52 million marine fisherfolk in 756,212 households in 3,202 marine fishing villages of the maritime states and Union Territories of the main land. Women form 48.6% of the population with 948 females for 1000 males. The average family size is 4.7. Nearly 56.5% of fisherfolk are educated with varying levels of education. Among males, the major fishery related occupations are, labour (39.2%), mending of nets (28.6%) and marketing (14.0%). Among women, the major fishing associated activities are, marketing (41.8%), labour (18.4%) and curing/processing (18%). About 46.8% (1,645,919) of fisherfolk are occupied with active fishing and fishery related activities. One out of five fisherfolk is a member of some co-operative society (fisheries or others). About 15% of the fisherfolk have membership in fisheries co-operative societies. There are 238,772 craft in the fishery of which 58,911 are mechanised, 75,591 are motorized and rest or non-motorised/non-mechansied. Out of 29,241 trawlers in the fishery, Gujarat (8,002) accounts for the maximum followed by Tamil Nadu (5,300), Maharshtra (4,219), Kerala (3,982) and other states. Nearly two-third of the motorized craft *in the fishery* are accounted by Tamil Nadu (22,478), Andhra Pradesh (14,112) and Kerala (14,151). Out of 185,438 craft owned by fisherfolk, 35,806 are mechanised, 52,971 motorised and 96,661 are non-motorised/non-mechanised. Trawlers account for 39.6% of the mechanised craft owned, followed by gillnetters (31.3%), dolnetters (19.2%) and others. Nearly 62% of the fisherfolk families involved in fishing do not possess any craft. About 47% of the fisher families involved in fishing, possess neither any craft nor gear. In the maritime states, Kerala has 66% of such families, followed by West Bengal (49%), Tamil Nadu (46%) and others.

MARINE FISHERIES CENSUS 2005-GENESIS AND MAIN FEATURES

Introduction

Recognising the need for an informed fisheries management regime, the Department of Animal Husbandry, Dairying and Fisheries (DAHD&F), Ministry of Agriculture, Government of India has drawn up a scheme during the 10th Five Year Plan for strengthening of database and information networking for the Indian Fisheries sector. Availability of reliable and latest data in time is an important requirement for evolving appropriate policies for fisheries management. To achieve this, a national level census on important attributes of marine fisheries has been envisaged as a precursor to developing a national database and establishing information network.

Such information, also provides, the sampling frame needed for the resources data collection programme for estimation of marine fish landings and fishing effort which are needed for fish stock assessment for different regions of the country. Further, periodic frame surveys are necessary to understand the socio-economic status of the traditional and small scale mechanised sectors, in view of the changing pattern of fishing industry. Central Marine Fisheries Research Institute has been conducting frame surveys at periodic intervals ever since 1948-49. The last census, on an all India basis was conducted in 1980 by the Institute. Two decades have elapsed since the last census on marine fishermen. There is an imperative need to collect this information in a most scientific manner, taking in view of the fact that such a census is scheduled within the shortest minimum possible time so as to obtain most accurate data on these aspects. The planners, researchers and managers do need the updated database. The National Level Review Committee constituted by Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture, Govt. of India, underscored the importance to carry out a census of fishermen population, fishing craft, gear etc. It was decided to make a beginning in this direction by early 1999 with one year action plan. CMFRI, Cochin is identified as the nodal agency to conduct a national level marine fisheries census. Due to paucity of funds and for other administrative reasons, the census could not be conducted in 2000. However, the Central Sector Scheme of DAHD&F, MOA, Govt. of India, on Strengthening of database and information networking for the fisheries sector during the Tenth Plan, has marine fisheries census as one of the important components. Recognising the experience and expertise available with CMFRI, the Institute was entrusted with the task of conducting marine fisheries census of the main land. Coverage of Island territories of Lakshadweep, Andaman&

Nicobar Islands was earmarked for Fishery Survey of India, Mumbai.

The massive exercise (covering more than 3000 fishing villages and over 7 lakh households), with a budgetary provision to the tune of Rs. 80.5 lakhs, was conducted in two phases. In the first phase, conducted during April-June, 2005 all the maritime states and Union Territories were covered except Tamil Nadu and UT of Pondicherry (Tamil Nadu coast). The second phase of census was carried out during November-December, 2005.

Scope

Any operation billed as a national exercise is bound to envisage issues and inquests generated by the main objectives of the operation. The very fact that this exercise is being carried out after a big gap of two decades and a half, pegs the area of coverage to be vast and virgin due to the obvious paucity of updated information. The fisheries census, as ordained in the present venture, had to focus on the real chunk of the coastal mass whose livelihood is entwined with fishing related operations. This clearly necessitates the unambiguous definition of the target mass as an important precursor. As the Census had been aimed to aid planning and policy making in the fishery sector, there is an imperative need to figure out the end users of such programmes. Taking view of this, this operation has adopted a twin strategy, one to cover the genuine dependants of this profession, who had to be subtly differentiated from the broader categorization of the beneficiaries of fishery, from their places of dwelling and the other to record the wherewithal wealth from the points of fishing operation. This gives the scope for rating the level of fishery related operations both from the fishing village point of view as well as the more commercial landing centre based angle. The Census data aggregation methodology has been divided at the very basic level of schedules and enumerators itself so as to address this two-pronged modus operandi. The collection, categorization and reporting of the Census information has been consistent while marking the difference between the fishery per se and fisher-folk.

The Census has also taken into account the sea change that has occurred in the 25 years since the last exercise, which is evident in the schedules designed. One such palpable difference is the effort to note down the ownership pattern of crafts and gears, which has not been attempted to so far. Further, the reports are devised to focus only on the physical status of the fishery inventory while making a conscious attempt to avoid inquiry about the economic status of the fishing folk. This was a premeditated effort to pep up the veracity and genuineness of the data collected. The Census figures in the form collected are supposed to be the dossier on manpower

involved in fishery for sustenance along with the status of their wherewithal. The report also focuses on other assorted information including electronic gadgets for communication and life saving equipment.

Apart from catering to the frame requirement for any future survey attempts targeting the fishers, this exercise is bound to give a solid insight into the state of affairs as regards the concept of core fishing and allied fishing activities by way of pointing out the proportion of human resources involvement. The craft and gear strength of different maritime states is presented from two important angles, which have always been glossed over. The **fishery centered** angle should serve more as status report of the infra structural facilities available at various landing centers along the coast. But the **fishing village centered** view is bound to give a different picture to the planners vis-à-vis the socio-economic package on the anvil targeting the mass *per se*. Either way this document is destined to have a cascading effect on the future plans designed for the fishery development.

The database erected out of this massive concerted effort is sure to serve as a grand statistical breeding ground by way of aiding curious browsers in churning out new derived parameters worth tracking. One obvious off shoot of this exercise would be to work out the ratio between craft wealth of mechanised, motorized and mon-mechanised sectors and to study their inter state disparities. These can further be juxtaposed with the other information like landing potential, exploitation status and even economic portends to generate value added doctrines.

In a nutshell the Census has been an exhaustive exercise aimed at accumulating frill free ground level information on the genuine portion of Indian population who eke out a living by venturing out into the sea or by marketing and processing the marine products.

Objectives

The objectives are to

- determine population size and structure on a micro level
- assess the educational, socio-religious status of fisherfolk
- obtain their occupational status
- determine active fishermen engaged in fishing
- determine gender-wise occupation in fishery related activities
- determine the number of craft and gear owned by fisherfolk

- quantify the number of craft and gear in the fishery
- obtain information on infrastructure facilities such as landing centres etc.
- obtain information on other utilitarian facilities and social aspects

Reference Date

The reference date for the conduct of Census was fixed as 15th April. 2005 in the first phase and 15th November, 2005 for the second phase.

Methodology

Conducting a census involves a number of highly complex statistical processes. One must begin with a quality sampling frame, in which errors due to under-coverage, mis-classification and duplication are minimized. Before, the commencement of census, the list of marine fishing villages available with CMFRI was validated with the latest data on number and list of marine fishing villages obtained from each maritime state/UT concerned. The field level supervisors (CMFRI staff) were then instructed to further verify and validate the list of marine fishing villages through field visits, to ascertain whether the listed villages could fall under the purview of marine fisheries census.

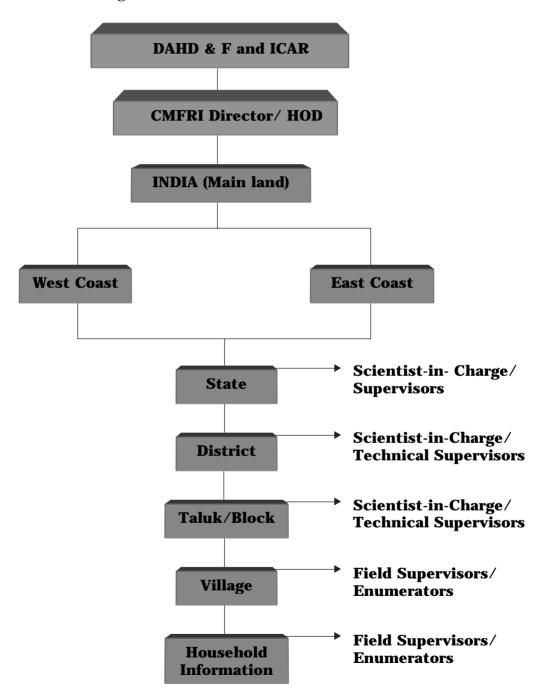
The census data were collected on two levels; one on a micro level covering individual household in each marine fishing village. These data were collected by field level enumerators. The enumerators were sent to all identified fisherfolk households in the coverage area and the detailed information was recorded in enumeration forms for those households. Complete enumeration by the interviewing method was applied. In the second level, data were collected on a village-wise basis chiefly aimed at obtaining information on the infrastructure facilities. This was carried out by the field level supervisors (CMFRI staff).

Non-sampling errors are always present, and generally can be expected to increase as the number of contacts and the complexity of questions increases. Since censuses generally have many contacts and fairly involved data collection instruments, one can expect them to generate a fairly high level of non-sampling error. Two categories of non-sampling error are response error and error due to non-response. It is understandable that in this census, where the education and socio-economic status of the target population is not high, there are bound to be non-sampling errors (or response error) that could be due to unwillingness to report correctly for a number of reasons (e.g. taboos, fear of taxation, etc). Every effort was made to reduce these errors. One of the main features of this census was the selection of field level enumerators. Almost all the enumerators were from the fisher communities and mostly

from the same villages that were being enumerated. As the enumerators were from the same village and better acquainted with the local situations, it is expected that errors could be minimal. The three tier supervision as mentioned earlier also facilitated in minimization of errors.

Organisation

The census organization is structured as follows:



The census operation was supervised by a three tier system of around 300 personnel of CMFRI propped up by the Institute's sprawling resource assessment network extending from Contai in West Bengal to Veraval in Gujarat. The overall coordination was vested with the Director, CMFRI who was assisted by the Head, Fishery Resources Assessment Division and the various Scientists-in-charge of the regional and research centres of CMFRI. Fishery Resources Assessment Division of CMFRI is the Nodal Division that has been primarily responsible for designing and printing of schedules for data collection, data processing and the publicity material besides planning and execution of the census.

Census items and definitions

The items were

- > Respondent's name
- Religion
- Community
- ➤ SC/ST
- Family size (genderwise adults and children)
- Educational status
- Occupational status
 - o Active fishing (full time, part time or occasional)
 - o Fishery related (marketing, labour, net making etc) activities
 - o Other than fishing
- Membership in co-operatives
 - Fisheries
 - Others
- Number of crafts owned or shared, dimension and capacity (if mechanised or motorized)
 - Mechanised
 - Trawlers
 - Gillnetters
 - Purse-seiners

- Ring-seiners
- Dolnetters
- Liners
- Others
- o Traditional craft -motorised and non motorized

(Owned or shared and dimension)

- Catamarans
- Dugout boats
- Plank-built boats
- Ring-seiners
- Fibre-glass boats
- Ferro-cement boats
- Others
- Number of gears owned or shared
 - o Trawl net
 - Dolnet
 - o Ring-seine
 - o Purse-seine
 - Gillnet
 - o Driftnet
 - o Boat-seine
 - o Bagnet
 - o Shore-seine
 - o Hooks & Lines
 - o Troll Line
 - o Others
- Electronic gadgets
- Life saving equipment

Definitions

- 1. House hold: A household consists of a person or a group of persons who live together in the same house (pucca or kutcha), share the same house-keeping arrangements and are catered for as one. It is important to remember that members of a household are not necessarily related (by blood or marriage) as, for instance, maidservants may form part of household. On the other hand, not all those related in the same house are necessarily members of the same household, two brothers who live in the same house with their wives and children may or may not form separate households depending on their catering arrangements. Thus, in many cases, a house may be broken into separate households (families).
- 2. Marine fisherman: A person who is engaged in marine fishing or any other activity associated with marine fishery or both. (A person here means a man or a woman).
- 3. *Marine fishing village*: An assemblage of houses/dwelling place where marine fishermen live.
- 4. *Fish landing centre*: The place or harbour where fishermen land their craft with catch.
- 5. Fishermen family: A family in which at least one member is engaged in marine fishing or associated activities or both.

Family size

- 1. Adult: Adult refers to a person who has attained the age of 15 and above.
- 2. Children: Those who are below 15 years of age.

Occupation

- Actual fishing: Fisherman engaged in fishing. (Fishing includes seed collection also in this context). A fisherman engaged in actual fishing/ seed collection can be included in any one of the three categories, viz. Full Time or Part-time or Occasional.
- *2. Full-time*: A fisherman who spends at least 90% of his working time for fishing.
- 3. *Part-time*: A fisherman who spends at least 30% of his working time, but less than 90% of his time in fishing.

4. *Occasional*: Includes those who spend less than 30% of their time in fishing.

Education

- 1. Primary includes those who studied upto V standard of schooling.
- 2. Secondary refers to those who have studied upto X standard.
- 3. Above Secondary refers to those who have continued their education above X standard.

Design of Schedules

Two types of Schedules were designed to collect various parameters identified for collecting the items of information at the field level; one, for the house-hold information and the other, village-level items, mainly on the availability of infrastructure facilities. The household schedule contains 243 columns which was intended to cover population size with details on male, female, adult, children on each family. Their social and educational status; their involvement in co-operatives together with occupation in the fishing and related activities. The inventory of crafts and gears, of different types and sizes, owned and shared by each family was also enumerated upon. The Schedule I has been printed bilingually, in English and in eight vernaculars used in the maritime states.

Training of supervisors

Intensive training programmes were arranged by Senior Officers of Fishery Resources Assessment Division at 6 different places, three along the east coast and three on the west coast. On the east coast, it started on 27th January, 2005 at Mandapam Camp; at Chennai on 31st January, 2005 and at Visakhapatnam on 3rd February, 2005. Simultaneously, on the west coast, at Mangalore, it commenced on 3rd Feb 2005, at Mumbai on 7th Feb 2005 and Cochin on 14th February 2005. The training was intended for the Senior Level Officers and Supervisors identified for the Census operation. The officers of Fishery Survey of India, Mumbai also attended the training programmes. The various inputs to Schedule I and Schedule II were thoroughly discussed with the help of detailed instructions.

Appointment and training of Enumerators

For the conduct of the census 1,492 enumerators were appointed and the enumerators (with education level of higher secondary or above) were drawn from the fishing communities and mostly from the fishing villages concerned. Enumerators were trained by the field level supervisors to collect household information, prior to

the actual census operation, and thereafter, field level collection of various items of Schedule I commenced on a trial basis. On validation and making necessary corrections, the actual census operation was started.

Instructions

Exhaustive instructions in the vernacular for the field level enumerators to collect and fill up all the columns were prepared and distributed to the enumerators.

Publicity and media coverage

Publicity materials in all the vernaculars were distributed through posters and other handouts. The print and visual media extended wide coverage for the Census programme.

Launch of Census operation

The formal launching of Census operation was officially signalled by Shri Ajay Bhattacharya, IAS, Joint Secretary, Department of Agriculture, Animal Husbandry, Dairying and Fisheries, New Delhi at a brief function organized at the Central Marine Fisheries Research Institute, Cochin on the morning of 15 April 2005 and thereafter at the field level at Narakkal, near Cochin, Ernakulam district, Kerala. At the function arranged at Narakkal, Shri. Ajay Bhattacharya, Joint Secretary appealed to the fishermen to provide all the information sought for by the field enumerators. As relief operations in the tsunami hit regions of Tamil Nadu and Pondicherry were still in progress, the census of these states could not be held simultaneously with the rest of the country. So, the second phase of census covering Tamil Nadu and Pondicherry was started on 15 November, 2005.

Data entry, validation, processing and report generation

After completion of census work in different states, the data schedules were sent to CMFRI headquarters at Cochin. Because of the volume of information associated with a census data collection, it becomes very important to automate as many of these to edit and process. Editing and analysis must include the ability to examine individual records for consistency and completeness. This is often referred to as "micro" editing or "input" editing. For this a software for data entry, data validation and report generation was developed. Database (MS-ACCESS) for each maritime state was created. Thirty data entry operators were appointed. After completion of data entry, the validation checks were run for each database. Reports in the form of different tables covering each of the census items aggregated over Taluk/District/State level were prepared. All India summary of various parameters of the census are presented in the ensuing sections.

SUMMARY

1. Population

- 1.1. There are 3,202 marine fishing villages with a total population of 3.52 million living in 756,212 households (Table 1).
- 1.2. Maximum number of marine fishing villages are in Orissa (641) and the least in the Union Territory of Daman & Diu (22).
- 1.3. The number of households per village on all India basis is 236 with a maximum of 543 in Kerala and a minimum of 50 in Goa.
- 1.4. Women form 48.6% of the population with 948 females for 1000 males. This ratio is maximum in Kerala (980) and minimum in West Bengal (898).
- 1.5. The average family size is 4.7 with a minimum of 3.7 in UT of Pondicherry and a maximum of 5.7 in Karnataka (Table 2).

2. Education

- 2.1. Nearly 56.5% of fisherfolk are educated with varying levels of education (Table 3).
- 2.2. About 28.6% of the fisherfolk have primary level of education, 22.2% with secondary and 5.6% with above secondary level of education.
- 2.3. Nearly 43.5% of the population has no education at all.
- 2.4. Maximum percentage of educated (72.8%) among fishefolk is in Kerala.
- 2.5. Maximum percentage (67.5%) of uneducated among fisherfolk is in Andhra Pradesh.

3. Occupation

- 3.1. About 46.8% (1,645,919) of fisherfolk are occupied with active fishing and fishery related activities (Table 4).
- 3.2. About 25.7% (889,528) of the fisherfolk are actively engaged in fishing of which 80.7% (717,999) have fishing as a fulltime occupation.
- 3.3. Tamil Nadu accounts for 23.3% of active fishermen in India followed by Kerala (15.8%).
- 3.4. Maximum percentage (27.2%) of fisherfolk actively engaged in fishing within a state, is in Andhra Pradesh.
- 3.5. About 21.5% of fisherfolk are engaged in fishing related activities. Of

- this, those working as labourers form 29.2% and those associated with marketing are 27.4% (Table 5).
- 3.6. Women account for 48.3% of the fisherfolk in fishing associated activities (Table 6).
- 3.7. Among those engaged in marketing 73.6% are women.
- 3.8. Nearly 80% of those engaged in repair and making of nets are males.
- 3.9. About 69.5% of labourers in fishing activities are men.
- 3.10. About 75.7% of those involved in curing and processing are women.
- 3.11. Among males, the major fishery related occupations are, labour (39.2%), mending of nets (28.6%) and marketing (14.0%).
- 3.12. Among women, the major fishing associated activities are, marketing (41.8%), labour (18.4%) and curing/processing (18%).
- 3.13. About 54.2% of fisherfolk engaged in fishing related activities belong to Orissa (20%), Andhra Pradesh (20.2%) and Tamil Nadu (13.8%).
- 3.14. Nearly 58.5% of those repairing/making of net belong to Orissa (28.8%), Andhra Pradesh (17.1%) and Tamil Nadu (13.6%).
- 3.15. Andhra Pradesh (32.5%), Orissa (32.0%) and Maharashtra (10.6%) account for more than 75% of those engaged in curing and processing.
- 3.16. Kerala accounts for 35% of those engaged in peeling.

4. Religion

- 4.1. Hindus constitute 74.1% of the total fisherfolk families followed by Christians (16.6%) and Muslims (9.2%) (Table 7).
- 4.2. In Kerala, Christians (42.4%) dominate the fisherfolk families, followed by Hindus (30.7%) and Muslims (26.9%).
- 4.3. In Goa (37.3%) and Tamil Nadu (34.6%) also, Christians form a significant portion.

5. Schedule castes and tribes

- 5.1. Only 16.8% of the fisherfolk families belong to SC/ST (Table 7).
- 5.2. In Orissa, Maharashtra and West Bengal they form nearly half or more than half of the fisherfolk families within each state.

6. Membership in co-operatives

- 6.1. One out of five fisherfolk is a member of some co-operative society (fisheries or others). About 15% of the fisherfolk have membership in fisheries co-operative societies (Table 8).
- 6.2. Significant percentage of cooperative memberships was recorded in Tamil Nadu, Pondicherry, Kerala and Karnataka.

7. Craft

The details of different types of craft each in the categories of mechanised, motorised and non-motorised are collected in two levels. One on the macro level that indicates the district-wise fleet strength *in the fishery* aggregated over villages. This information was collected by the field level supervisors (CMFRI staff) from village/district records and by actual count where ever possible. The State-wise summary is given in Table 9. The other on micro-level, pertains to the crafts *owned* by the fisherfolk and this information was collected from the individual household survey as per the Schedule-I (Table 10). The sharing pattern of craft was also collected (Table 11).

7.1. Craft in the fishery

- 7.1.1. There are 238,772 craft in the fishery of which 58,911 are mechanised, 75,591 are motorized and rest or non-motorised/non-mechanised.
- 7.1.2. Maharashtra (13,053) and Gujarat (13,047) account for 44.5% of the mechanised craft in the fishery.
- 7.1.3. Out of 29,241 trawlers in the fishery, Gujarat (8,002) accounts for the maximum followed by Tamil Nadu (5,300), Maharashtra (4,219), Kerala (3,982) and other states.
- 7.1.4. Dolnetters (8,862) are mainly observed in Maharashtra (4,409), Gujarat (2,425) and West Bengal (1,692).
- 7.1.5. The states of West Bengal (4,355), Maharashtra (2,550), Gujarat (2,363) and Orissa (1,760) account for 80% of gillnetters (13,864) in the fishery.
- 7.1.6. Nearly two-third of the motorized craft in the fishery are accounted by Tamil Nadu (22,478), Andhra Pradesh (14,112) and Kerala (14,151).
- 7.1.7. The maritime states on the east coast account for about 73% of the non-motorised/non-mechanised craft, Andhra Pradesh (24,386) and Tamil Nadu (24,231) being the lead states.

7.2. Craft owned by the fisherfolk

- 7.2.1. Out of 185,438 craft owned by fisherfolk, 35,806 are mechanised, 52,971 motorised and 96,661 are non-motorised/non-mechanised.
- 7.2.2. Trawlers account for 39.6% of the mechanised craft owned, followed by gillnetters (31.3%), dolnetters (19.2%) and others.
- 7.2.3. Gujarat (4,300), Tamil Nadu (3,274) and Maharashtra (2,526) are the leading states in respect of trawlers owned by fisherfolk.
- 7.2.4. West Bengal (4,409), Maharashtra (2,164), Gujarat (1,591) and Orissa (1,496) account for bulk of the gillnetters owned by fisherfolk in India.
- 7.2.5. About 95.4% of dolnetters owned are accounted by Maharashtra (3,998), Gujarat (1,513) and West Bengal (1,128).
- 7.2.6. Out of 52,971 motorised craft owned about 48% are Fibre Glass boats followed by plank-built boats (22%), catamarans (20%) and rest others.
- 7.2.7. Tamil Nadu (18,643), Andhra Pradesh (8,989) and Kerala (8,436) are the leading states.
- 7.2.8. Out of non-motorised/non-mechanised craft owned, 44% are plank-built, 37% are catamarans and 13% are dugout canoes.

8. Other salient features

- 8.1. The ownership and sharing pattern of gears among families in each state is given in Table 12-13.
- 8.2. The number of fisherfolk families possessing electronic equipments, life saving equipments and details of training acquired are given in Table
- 8.3. Nearly 62% of the fisherfolk families involved in fishing, do not possess any craft (Table 15).
- 8.4. About 49% of the families involved in fishing, do not possess any gear.
- 8.5. Nearly 47% of the fisher families involved in fishing possess neither any craft nor gear. In the maritime states, Kerala has 66% of such families, followed by West Bengal (49%), Tamil Nadu (46%) and others.
- 8.6. In 10% of the fisherfolk families of Maharashtra, only women are involved in fishing or fishing allied activities and in All India level its about 5%.
- 8.7. An account of various infrastructural facilities available in and around the fishing villages are given in Tables (16-18).

- 8.8. The housing pattern amidst fisherfolks gives a picture which is wholly divergent and mutually opposite in apportioning. For example the proportion of kutcha houses varies from 91% in West Bengal to 8 % in Maharashtra.
- 8.9. The availability of educational institutions of various categories has been recorded in Table 16. Kerala, Karnataka, Maharashtra and Gujarat top the list in case of primary educational institutions.
- 8.10. Among the states Kerala, Karnataka and Maharashtra have near complete electrification of villages where as West Bengal and Orissa languish at the bottom of the list.(Table 17).
- 8.11. Almost a similar pattern is noticed when the approachability to the fishing villages was panned with Orissa faring better on that count.
- 8.12. Health infrastructure as indicated by the number of Primary Health Centers/ Hospitals show much is to be desired from states like West Bengal, Orissa and Andhra Pradesh.
- 8.13. Very high prevalence of financial institutions was recorded in Kerala, Karnataka, Maharashtra and Gujarat.
- 8.14. Co-operative institutions have been found to be ubiquitous with Andhra Pradesh having the maximum.
- 8.15. The boat repairing and fish processing facilities available in different States and Union Territories are depicted in Table 18.
- 8.16. Kerala has 112 boat building yards followed by Karnataka (32).
- 8.17. The availability of cold storage facilities to the fishermen shows complementary trend with the number of ice factories, which cater to their needs.
- 8.18. Freezing plants are maximum in Kerala.
- 8.19. As per the Marine Products Export Development Authority (MPEDA, www.mpeda.com) sources there are 399 processing plants and 471 cold storage facilities in India. There are 176 EU approved processing and cold storage facilities of which 50 are processing plants. And also 303 EU and Non-EU approved (following HACCP standards) processing and cold storage units in the country.
- 8.20. An overall glimpse of the various post harvest facilities available in different States and Union Territories indicates a clear delineation between more commercialized zones (Gujarat and Kerala) and the rest.

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Marine Fisheries Census 2005

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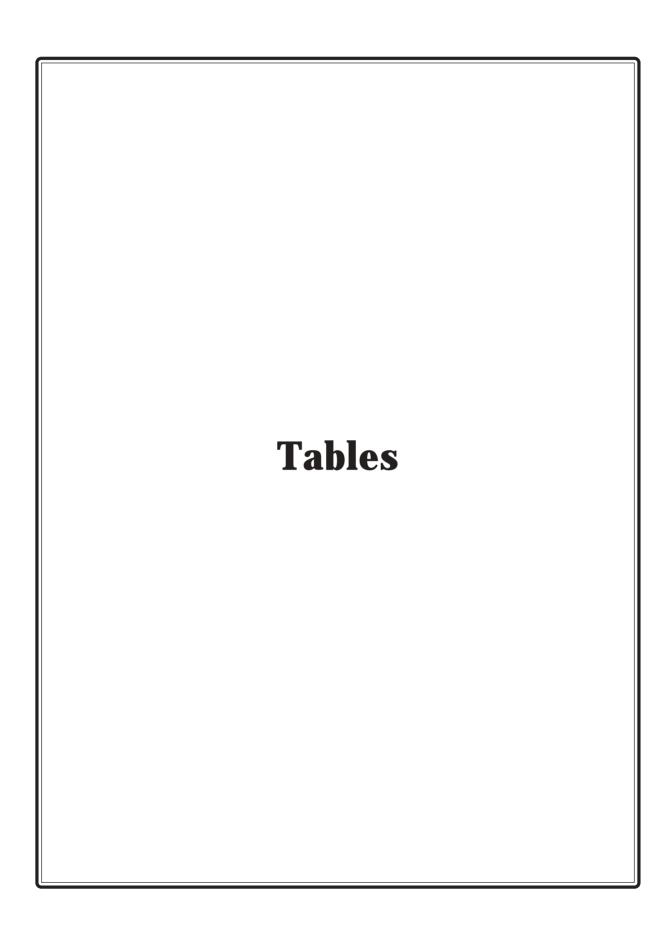
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		No. of	No. of	No. of	i
State/U.T.	Coastal Length (km)	landing centres	fishing villages	fishermen families	Fisherfolk
West Bengal	158	44	346	53,816	269,565
Orissa	480	22	641	86,352	450,391
Andhra Pradesh	974	344	498	129,246	509,991
Tamilnadu	1,076	352	581	192,152	790,408
Pondicherry	ı	26	28	11,541	43,028
Kerala	290	178	222	120,486	602,234
Karnataka	300	88	156	30,176	170,914
Goa	104	34	39	1,963	10,668
Maharashtra	720	152	406	65,313	319,397
Gujarat	1,600	123	263	59,889	323,215
Daman & Diu		7	22	5,278	29,305
TOTAL	6,002	4,375	3,202	756,212	3,519,116

TABLE 2. POPULATION STRUCTURE

STATE/U.T.	Villages	Families		Male			Female		Total	Family
			Adult	Children	Total	Adult	Children	Total		size
West Bengal	346	53,816	86,532	55,490	142,022	76,945	50,598	127,543	269,565	5.01
Orissa	641	86,352	142,318	93,292	235,610	128,632	86,149	214,781	450,391	5.22
Andhra Pradesh	498	129,246	152,096	107,822	259,918	151,184	98,889	250,073	509,991	3.95
Tamilnadu	581	192,152	275,556	130,234	405,790	262,847	121,771	384,618	790,408	4.11
Pondicherry	28	11,541	14,697	7,036	21,733	14,738	6,557	21,295	43,028	3.73
Kerala	222	120,486	213,773	90,535	304,308	213,319	84,607	297,926	602,234	2.00
Karnataka	156	30,176	61,969	24,857	86,826	61,332	22,756	84,088	170,914	5.66
Goa	39	1,963	4,036	1,480	5,516	3,778	1,374	5,152	10,668	5.43
Maharashtra	406	65,313	111,665	51,698	163,363	109,331	46,703	156,034	319,397	4.89
Gujarat	263	59,889	97,907	68,907	166,814	92,958	63,443	156,401	323,215	5.40
Daman & Diu	22	5,278	8,952	5,953	14,905	8,860	5,540	14,400	29,305	5.55
TOTAL	3,202	756,212	1,169,501	637,304	1,806,805	1,123,924	588,387	1,712,311	3,519,116	4.65

	1	TABLE 3. EDUCATIONAL STATUS	IONAL STATUS		
STATE/U.T.	Primary	Secondary	Above	Not	Total
			Secondary	educated	
West Bengal	83,301	33,734	6,018	146,512	269,565
Orissa	142,005	56,879	16,783	234,724	450,391
Andhra Pradesh	111,403	45,827	8,384	344,377	509,991
Tamilnadu	260,088	206,257	61,229	262,834	790,408
Pondicherry	12,763	10,904	3,518	15,843	43,028
Kerala	171,470	218,704	48,493	163,567	602,234
Karnataka	52,572	49,606	17,346	51,390	170,914
Goa	1,691	4,581	1,102	3,294	10,668
Maharashtra	94,303	97,446	22,368	105,280	319,397
Gujarat	70,658	52,088	9,560	190,909	323,215
Daman & Diu	7,760	7,273	2,045	12,227	29,305
TOTAL	1,008,014	783,299	196,846	1,530,957	3,519,116

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		IABLE 4. ACIIVE FISHERMEN	E FISHEKMEN		
STATE/U.T.	Full time	Part time	Occasional	Total	Fisherfolk population
West Bengal	50,924	15,630	4,196	70,750	269,565
Orissa	74,980	34,315	11,987	121,282	450,391
Andhra Pradesh	109,644	13,008	15,962	138,614	509,991
Tamilnadu	185,603	15,954	5,351	206,908	790,408
Pondicherry	9,503	401	437	10,341	43,028
Kerala	124,103	10,488	5,631	140,222	602,234
Karnataka	32,274	4,152	1,206	37,632	170,914
Goa	1,511	817	187	2,515	10,668
Maharashtra	54,901	12,484	4,689	72,074	319,397
Gujarat	68,956	10,185	4,181	83,322	323,215
Daman & Diu	2,600	194	74	5,868	29,305
TOTAL	717,999	117,628	53,901	889,528	3,519,116

TABLE 5. OCCUPATIONAL PROFILE

STATE/U.T.	Active		No. of fi	No. of fisherfolk involved in fishing allied activities	ed in fishir	ng allied acti	vities		Other	Total	Total
	fishermen	Marketing of fish	Making/ Repairing Net	Curing/ Processing	Peeling	Labourer	Others	Total	than fishing	occupied	fisherfolk population
West Bengal	70,750	5,237	15,326	4,705	478	26,151	5,844	57,741	1,968	130,459	269,565
Orissa	121,282	31,691	40,252	27,849	3,167	37,781	11,794	152,534	15,359	289,175	450,391
Andhra Pradesh	138,614	34,337	23,926	28,319	2,996	55,372	7,942	152,892	8,727	300,233	509,991
Tamilnadu	206,908	36,126	19,051	6,250	2,107	25,657	15,318	104,509	12,817	324,234	790,408
Pondicherry	10,341	6,393	930	364	2	714	1,989	10,095	1,697	22,133	43,028
Kerala	140,222	17,976	9,560	3,881	8,057	17,242	14,358	71,074	13,310	224,606	602,234
Karnataka	37,632	14,327	7,876	3,342	581	14,043	5,530	45,699	7,500	90,831	170,914
Goa	2,515	1,688	479	0	0	515	700	3,382	502	6,399	10,668
Maharashtra	72,074	43,822	980'6	9,209	1,439	11,565	6,659	81,780	10,725	164,579	319,397
Gujarat	83,322	14,885	13,452	3,212	4,310	31,366	7,857	75,082	10,390	168,794	323,215
Daman & Diu	5,868	880	80	11	က	256	373	1,603	78	7,549	29,305
TOTAL	889,528	207,362	139,718	87,142	23,143	220,662	78,364	756,391	83,073	1,728,992	3,519,116

TABLE 6. GENDER-WISE FISHING ALLIED ACTIVITES

			- כ ו) ;			_ 					_ [
STATE/U.T.				Male							Female				Total	Total
	Marketing of fish	Making/ Repairing Net	Curing/ Processing	Peeling	Labourer	Others	Total	Marketing of fish	Making/ Repairing Net	Curing/ Processing	Peeling	Labourer	Others	Total		fisherfolk populatior
West Bengal	4,492	7,711	1,936	250	22,872	2,965	40,226	745	7,615	2,769	228	3,279	2,879	17,515	57,741	269,565
Orissa	21,753	33,734	11,402	1,606	28,007	5,681	102,183	9,938	6,518	16,447	1,561	9,774	6,113	50,351	152,534	450,391
Andhra Pradesh	7,177	22,995	3,795	417	23,903	3,690	61,977	27,160	931	24,524	2,579	31,469	4,252	90,915	152,892	509,991
Tamilnadu	5,107	16,775	092	089	22,627	9,328	55,277	31,019	2,276	5,490	1,427	3,030	5,990	49,232	104,509	790,408
Pondicherry	261	610	14	2	646	1,235	2,768	6,132	20	350	က	89	754	7,327	10,095	43,028
Kerala	4,964	5,500	290	416	15,705	8,447	35,622	13,012	4,060	3,291	7,641	1,537	5,911	35,452	71,074	602,234
Karnataka	1,927	7,690	221	161	7,757	2,527	20,283	12,400	186	3,121	420	6,286	3,003	25,416	45,699	170,914
Goa	219	475	0	0	501	989	1,881	1,469	4	0	0	14	14	1,501	3,382	10,668
Maharashtra	4,534	7,618	625	186	8,075	4,465	25,503	39,288	1,468	8,584	1,253	3,490	2,194	56,277	81,780	319,397
Gujarat	4,219	8,532	1,861	1,533	23,304	5,430	44,879	10,666	4,920	1,351	2,777	8,062	2,427	30,203	75,082	323,215
Daman & Diu	17	21	7	0	34	250	329	863	29	4	က	222	123	1,274	1,603	29,305
TOTAL	54,670	111,661	21,211	5,251	153,431	44,704	390,928	152,692	28,057	65,931	17,892	67,231	33,660	365,463	756,391	3,519,116

	TABLE 7	7. RELIGION	TABLE 7. RELIGION AND COMMUNITY (No. of Families)	TY (No. of F	amilies)	
STATE/U.T.			Religion		Total	Community
	Hinduism	Islam	Christianity	Others		SC/ST
West Bengal	50,093	3,667	56	0	53,816	28,187
Orissa	84,725	814	813	0	86,352	47,265
Andhra Pradesh	127,905	183	1,158	0	129,246	337
Tamilnadu	113,204	12,493	66,455	0	192,152	10,829
Pondicherry	11,454	71	16	0	11,541	33
Kerala	37,022	32,400	51,064	0	120,486	1,833
Karnataka	27,125	2,683	368	0	30,176	1,970
Goa	1,209	22	732	0	1,963	0
Maharashtra	56,214	4,066	4,991	42	65,313	32,580
Gujarat	46,416	13,457	16	0	59,889	3,928
Daman & Diu	5,269	6	0	0	5,278	71
TOTAL	560,636	69,865	125,669	42	756,212	127,033

	TABLE 8. MEI	TABLE 8. MEMBERSHIP IN CO-OPERATIVES	OPERATIVES	
STATE/U.T.		Members in		Total
	Fisheries co-operatives	Other co-operatives	Total	fisherfolk population
West Bengal	4,281	1,092	5,373	269,565
Orissa	18,977	18,951	37,928	450,391
Andhra Pradesh	46,238	53,136	99,374	509,991
Tamilnadu	243,282	80,488	323,770	790,408
Pondicherry	21,493	5,582	27,075	43,028
Kerala	119,406	61,479	180,885	602,234
Karnataka	18,018	6,103	24,121	170,914
Goa	355	14	369	10,668
Maharashtra	38,221	7,169	45,390	319,397
Gujarat	4,218	336	4,554	323,215
Daman & Diu	214	က	217	29,305
TOTAL	514,703	234,353	749,056	3,519,116

TABLE 9. FISHING CRAFTS - COASTAL STATES AND UNION TERRITORIES (IN THE FISHERY)

						()				
STATE/UT	Trawlers	Purse-	Gillnetters	Dolnetters	Liners	Others	Total	Motorised	Non-	Total
		seiners					Mechanized		motorized	
West Bengal	610	0	4,355	1,692	99	106	6,829	1,776	10,041	18,646
Orissa	1,340	22	1,760	254	28	173	3,577	4,719	15,444	23,740
Andhra Pradesh	1,802	0	424	0	20	295	2,541	14,112	24,386	41,039
Tamilnadu	5,300	46	655	1	781	918	7,711	22,478	24,231	54,420
Pondicherry	326	0	177	0	0	124	627	2,306	1,524	4,457
Kerala	3,982	54	428	0	10	1,030	5,504	14,151	9,522	29,177
Karnataka	2,515	202	1,254	0	28	71	4,373	3,705	7,577	15,655
Goa	830	196	47	0	0	41	1,087	932	532	2,551
Maharashtra	4,219	156	2,550	4,409	253	1,466	13,053	3,382	7,073	23,508
Gujarat	8,002	0	2,363	2,425	4	253	13,047	7,376	3,729	24,152
Daman&Diu	315	4	170	71	0	2	562	654	211	1,427
Total	29,241	983	14,183	8,862	1,190	4,452	58,911	75,591	104,270	238,772

TABLE 10. CRAFTS OWNED BY FISHERFOLK

		ב ב	; - 				: : 		j				
Ö	Craft State	West	Orissa	Andhra	Tamil-	Pondi-	Kerala	Karna-	Goa	Mahar-	Gujarat	Daman	TOTAL
	/	Bengal		Pradesh	nadu	cherry		taka		ashtra		&Diu	
Σ	MECHANIZED												
_	Trawler(<30')	33	152	16	294	41	273	229	96	320	272	0	1,699
	Trawler(30'-35')	61	112	218	1,019	89	314	526	92	227	346	3	2,959
	Trawler(36'-40')	231	20	29	1,114	182	177	101	24	574	1,061	41	3,604
	Trawler(>40')	236	135	96	847	30	125	162	99	1,405	2,621	201	5,924
	TRAWLERS	561	469	329	3,274	294	889	1,018	251	2,526	4,300	245	14,186
7	Purse Seiners (<40')	0	9	0	30	0	0	63	က	2	10	4	121
	Purse Seiners (>40')	12	12	0	9	0	4	190	81	69	0	0	374
	PURSE SEINERS	12	18	0	36	0	4	253	84	74	10	4	495
က	Gill Netter (<30')	1,393	984	77	249	61	77	479	47	1,449	1,099	21	5,936
	Gill Netter(>30')	3,016	512	22	171	7	19	154	0	715	492	149	5,292
	GILL NETTERS	4,409	1,496	134	420	89	96	633	47	2,164	1,591	170	11,228
4	Dol Netter (<30')	964	170	0	2	0	0	_	0	2,946	933	40	5,056
	Dol Netter (>30')	164	74	0	2	0	0	0	0	1,052	280	31	1,906
	DOL NETTERS	1,128	244	0	7	0	0	_	0	3,998	1,513	7	6,962
2	Ring Seiners (<40')	0	12	0	34	0	61	2	7	9	2	0	130
	Ring Seiners (>40')	2	0	0	18	0	88	0	0	0	0	0	112
	RING SIENERS	2	12	0	25	0	150	ည	7	9	ည	0	242
9	Liners(<30')	28	12	=	267	0	9	4	0	∞	0	0	336
	Liners(>30')	6	2	7	460	0	7	23	0	0	0	0	498
	LINERS	37	14	13	727	0	œ	27	0	œ	0	0	834
_	Carriers to Purseseiners (<30')	23	109	0	6	0	∞	80	0	0	0	0	157
	Carriers to Purseseiners (>30')	0	0	0	22	0	က	23	0	9	0	0	54
	PURSE SEINER CARRIERS	23	109	0	31	0	7	31	0	9	0	0	211
∞	Carriers to Ring seiners (<30')	10	56	0	0	9	145	~	0	0	~	~	190
	Carriers to Ring seiners (>30')	2	0	0	0	0	22	7	0	0	0	0	64
	RING SEINER CARRIERS	15	56	0	0	9	202	က	0	0	~	~	254
6	Others	52	38	20	813	98	14	36	0	108	227	0	1,394
	TOTAL MECHANIZED BOATS	6,242	2,426	526	5,360	454	1,374	2,007	389	8,890	7,647	491	35,806

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							10. (COIIIG.)						
Ö	Craft State	West Bengal	Orissa	Andhra Pradesh	Tamil- nadu	Pondi- cherry	Kerala	Karn- ataka	Goa	Mahar- ashtra	Gujarat	Daman & Diu	TOTAL
	MOTORIZED												
_	Dugout	6	413	12	12	0	154	129	13	314	151	7	1,209
2	Catamarans	0	233	3,986	5,366	517	212	25	2	4	2	0	10,347
လ	Plank-built	1,459	2,082	747	3,285	51	1,516	236	630	1,382	365	0	11,753
4	Ring Seiner	46	06	39	214	0	1,384	152	218	6	0	0	2,152
2	Fibre Glass	2	1,411	3,800	9,616	548	4,075	459	63	1,573	3,870	189	25,609
9	Ferro Cement	0	6	25	4	0	25	0	0	19	_	0	83
7	Others	49	28	380	146	0	1,070	77	3	09	2	0	1,818
	TOTAL	1,568	4,266	8,989	18,643	1,116	8,436	1,078	929	3,361	4,394	191	52,971
	NON-MOTORIZED												
_	Dugout	25	844	234	399	0	1,014	5,013	187	3,989	836	120	12,661
7	Catamarans	19	2,592	12,806	14,716	1,307	4,752	16	0	19	10	0	36,237
3	Plank-built	9,913	9,385	6,804	8,122	188	2,001	2,158	326	2,245	1,301	_	42,444
4	Others	7	1,597	245	257	0	1,596	350	0	745	478	49	5,319
	TOTAL	9,959	14,418	20,089	23,494	1,495	9,363	7,537	513	866'9	2,625	170	96,661
	GRAND TOTAL	17,769	21,110	29,604	47,497	3,065	19,173	10,622	1,831	19,249	14,666	852	185,438

TABLE 11. SHARING PATTERN OF CRAFTS AMONG FISHERFOLK (No of familiae having charae in fishing crafts)

Craft State												
_	West Bengal	Orissa	Andhra Pradesh	Tamil- nadu	Pondi- cherry	Kerala	Karna- taka	Goa	Mahar- ashtra	Gujarat	Daman &Diu	TOTAL
Mechanised												
 Trawler (<30') 												
<25%	217	79	13	4	0	22	13	0	_	_	0	383
25-50%	22	51	<u>_</u>	32	0	87	33	0	7	_	0	229
50-75%	0	0	0	0	0	0	0	0	0	0	0	0
>75%	0	0	0	0	0	0	0	0	0	0	0	0
Total	239	130	14	36	0	142	46	0	က	5	0	612
Trawler (30'-35')												
<25%	#	204	65	41	4	8	15	0	0	7	0	428
25-50%	ത	40	31	198	4	94	41	0	9	4	0	427
50-75%	0	~	4	7	0	_	_	0	0	0	0	6
>75%	0	0	0	0	0	_	0	0	_	0	0	7
Total	20	245	100	241	∞	177	22	0	_	=	0	998
Trawler (36'-40')												
<25%	2	185	0	52	31	28	41	0	4	32	0	375
25-50%	17	12	2	89	#	20	13	0	10	1	0	217
50-75%	2	0	0	_	0	4	0	0	0	0	0	7
>75%	0	0	0	0	0	0	0	0	0	0	0	0
Total	21	197	2	121	42	102	54	0	4	43	0	299
Trawler (>40')												
<25%	_	145	0	104	19	98	87	0	107	98	0	635
25-50%	7	1	0	174	က	61	19	0	30	25	0	357
20-75%	0	0	0	0	0	0	0	0	10	0	0	10
>75%	0	0	0	0	0	_	0	0	37	0	0	38
Total	∞	156	0	278	22	148	106	0	184	138	0	1,040
•	288	728	119	9/9	72	269	263	0	208	194	0	3,117
2. Purse Seiners (<40')												
<25%	0	∞	0	14	0	7	20	0	0	0	0	74
25-50%	0	0	0	2	0	0	15	0	0	0	0	20
20-75%	0	0	0	0	0	0	0	0	0	0	0	0
>75%	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	∞	0	19	0	2	92	0	0	0	0	94
Purse Seiners (>40')												
<25%	0	0	0	0	0	330	141	0	7	0	0	478
25-50%	0	∞	0	0	0	2	87	∞	0	0	0	108

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				TABLE	SLE 11.	Contd						
Craft State	West Bengal	Orissa	Andhra Pradesh	Tamil- nadu	Pondi- cherry	Kerala	Karna- taka	Goa	Mahar- ashtra	Gujarat	Daman &Diu	TOTAL
20-75%	0	0	0	0	0	0	_	0	0	0	0	_
>75%	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	∞	0	0	0	335	229	∞	7	0	0	287
•	0	16	0	19	0	337	294	∞	7	0	0	681
3. Gill Netter (<30')												
<25%	27	385	178	229	7	19	28	0	18	13	0	1,377
25-50%	13	29	2	85	20	∞	7	0	82	15	0	291
20-75%	0	0	0	10	0	0	0	0	0	0	0	10
>75%	0	0	0	9	0	0	0	0	0	0	0	9
Total	40	444	180	775	22	27	65	0	103	28	0	1,684
Gill Netter(>30')												
<25%	29	1,060	10	7	0	26	56	0	26	9	0	1,245
25-50%	61	43	2	_	9	<u>_</u>	19	0	120	28	0	294
20-75%	0	0	0	0	0	0	0	0	9	0	0	9
>75%	_	0	0	0	0	0	0	0	2	0	0	က
Total	91	1,103	15	13	9	22	45	0	184	34	0	1,548
Total Gillnetters	131	1,547	195	788	28	84	110	0	287	62	0	3,232
Dol Netter (<30')												
<25%	8	16	0	_	0	0	0	0	262	2	0	292
25-50%	о	14	0	_	0	0	0	0	223	92	0	339
20-75%	0	0	0	0	0	0	0	0	2	7	0	4
>75%	0	0	0	0	0	0	0	0	<u></u>	0	0	_
Total	17	30	0	7	0	0	0	0	488	66	0	636
Dol Netter (>30')												
<25%	က	24	0	15	0	0	0	0	754	က	0	799
25-50%	∞	0	0	4	<u>_</u>	0	0	0	100	16	0	129
20-75%	0	0	0	0	0	0	0	0	8	0	0	∞
>75%	0	0	0	0	0	0	0	0	4	0	0	4
Total	1	24	0	19	_	0	0	0	998	19	0	940
	28	54	0	21	_	0	0	0	1,354	118	0	1,576
 King Seiners (<40') 250' 	c	c	L	cc	c	410	c	c	c	c	c	979
25.570 25.500/		> <	n c	3 ,	>	7 4	> <	> <	> <	>	> <	0 1 0 1
20-20% 50-75%	o c	o c	o c	N C	o c	<u>o</u> ⊂	o c	> C	o c	o c	o c	<u>o</u>
>75%	0	0	0	0	0 0	0	0 0	0	0 0	0	0	0
Total	0	0	വ	25	0	428	0	0	0	0	0	458

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2 1,784 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	\$ (>40')												
30) 18		0	0	6	27	7	1,784	က	0	0	0	0	1,825
30) 31) 32,244 31,816 32,244 31,816 32,244 31,816 32,244 31,816 32,244 31,816 32,244 31,816 32,244 31,816 32,244 31,816 32,244 31,816 316 317 318 318 318 318 318 318 318 318 318 318		0	0	0	22	_	53	0	0	0	0	0	82
30) 30) 4		0	0	0	0	0	က	0	0	0	0	0	က
30) 31		0	0	0	0	0	0	0	0	0	0	0	0
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30) 31) 32) 33) 34) 35) 36) 37) 37) 38) 38) 38) 38) 38) 39) 39) 39) 39) 39) 39) 39) 39) 39) 39	seiners	0	0	14	107	က	2,244	က	0	0	0	0	2,371
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30) 31) 32) 33) 36) 378 30) 388 28 390 390 390 390 390 390 390 390 390 390		0	2	0	78	0	0	0	0	0	0	0	30
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300) 301) 302		0	0	0	319	0	4	0	0	0	0	0	323
30) 31) 32		0	0	0	7	0	0	0	0	0	0	0	7
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0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0	18	0	17	0	∞	10	0	0	0	0	23
0 0 0 7 0 388 28 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	urseseiner(>30'			0									
to Ringseiner carriers 0 0 0 0 0 0 12 0 0 0 0 0 0 0 0 0 0 0 0		0	0	0	7	0	388	28	0	0	0	0	423
to Ringseiner carriers 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0	0	0	0	0	0	12	0	0	0	0	12
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0	0	0	0	0	0	0	0	0	0	0	0
0 0 0 7 0 388 40 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0	0	0	0	0	0	0	0	0	0	0	0
0 18 0 24 0 396 50 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			0	0	7	0	388	40	0	0	0	0	435
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	seseiner carrier		18	0	24	0	396	20	0	0	0	0	488
3 0 0 6 1,363 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	to Ringseiner(<	_	(0	((•	((((
3 0 0 62 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		>	0	0	0	9	1,363	_	0	0	0	O	1,3/0
$egin{array}{cccccccccccccccccccccccccccccccccccc$		0	က	0	0	0	62	0	0	0	0	0	65
$egin{array}{cccccccccccccccccccccccccccccccccccc$		0	0	0	0	0	0	0	0	0	0	0	0
3 0 0 6 1,425 1 0 0 0 0		0	0	0	0	0	0	0	0	0	0	0	0
		0	က	0	0	9	1,425	-	0	0	0	0	1,435

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				TABLE	SLE 11.	Contd.						
Craft / State	West Bengal	Orissa	Andhra Pradesh	Tamil- nadu	Pondi- cherry	Kerala	Karna- taka	Goa	Mahar- ashtra	Gujarat	Daman &Diu	TOTAL
Carriers to Ringseiner(>30')	>30')		C									
~25%	<u> </u>	C	o C	C	0	648	ď	C	C	C	C	653
25-50%	0	o C	0 0	o C	1 0	99	0 C	o C	o C	o C	o C	8
50-75%	o C	o C	o C	o C	1 C	3	o C	o C	o C	o C	o C	3 6
75%	0 0	o c	0 0	o c	0 0	N C	0 0	> <	0 0	o c	o c	4 0
		0 0	0 0	> <	> <	716	n (> <	0 0	o c	o c	723
Total Ringseiner carriers	rriers	o (*)	o c	o	t C	2 141	o 4	o	o c	o	o	2 158
9. Others		•)	•	2	į, -	-	>	>	•	>	î
	3	10	0	727	163	65	12	0	0	_	0	066
25-50%	14	_	0	132	15	0	22	0	_	0	0	185
20-75%	0	0	0	0	0	0	0	0	0	0	0	0
>75%	0	0	0	0	0	0	0	0	0	0	0	0
Total	17	11	6	829	178	65	34	0	_	_	0	1,175
Total Mechanised												•
<25%	304	2,134	289	1,740	229	5,319	484	0	1,209	154	0	11,862
25-50%	160	244	44	1,111	63	209	273	∞	211	219	0	3,208
20-75%	2	_	4	15	0	10	2	0	26	2	0	62
>75%	_	0	0	9	0	2	0	0	45	0	0	54
Total	467	2,379	337	2,872	292	5,840	759	œ	1,857	375	0	15,186
Motorised												
1. Dugout	(į	((•		;	(•	(•	;
<25%	O (91	O (760	0 (46	14	O (ا ب	2 9	O (418
25-50%	0	63	0	7	0	78	4	0	_	96	0	160
20-15%	0	0	0	0	0	0	0	0	0	0	0	0
>75%	0	0	0	0	0	_	0	0	0	0	0	_
Total	0	154	0	262	0	75	18	0	12	28	0	579
2. Catamarans		,	,			,		,		,	,	,
<25%	0	34	903	97	-	2	<u>_</u>	0	0	0	0	1,038
25-50%	0	39	3,043	1,540	о	∞	_	0	0	0	0	4,640
20-75%	0	_	35	-	0	0	0	0	0	0	0	37
>75%	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	74	3,981	1,638	10	10	7	0	0	0	0	5,715
3. Plank-built												
<25%	65	112	172	314	2	1,147	17	0	0	_	0	1,833
25-50%	26	190	26	113	4 (309	Ξ,	2	_	7 0	0 (693
20-75%	0	0 0	ကျ	0 0	O	ი ,	o 0	0)	0	0 0	∞ ι
>/5% 	⊃ 5	0 6	7 00) ()	> 0	- 5) c	7 1	1 C	> c	> 0	
Iotal	6	302	203	174	ກ	1,402	28	_		ກ	0	2,53

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Craft State	West Bengal	Orissa	Andhra Pradesh	Tamil- nadu	Pondi- cherry	Kerala	Karna- taka	Goa	Mahar- ashtra	Gujarat	Daman &Diu	TOTAL
Ring Seiner												
<25%	0	2	_	2	12	1.892	2.498	0	0	0	0	4,413
25-50%	0	_	0	_	0	255	1,629	0	0	0	0	1.886
20-75%	0	0	0	0	0	17	246	0	0	0	0	263
>75%	0	0	0	0	0	10	4	0	0	0	0	4
Total	0	9	<u>_</u>	9	12	2,174	4,377	0	0	0	0	9,276
Fibre Glass												
<25%	4	865	2,146	10,507	645	286	20	0	13	62	0	15,336
25-50%	9	209	1,937	7,459	645	315	98	0	28	17	_	11,003
50-75%	0	2	24	132	22	2	31	0	0	0	0	213
>75%	0	0	4	12	_	0	0	0	0	0	0	17
Total	47	1,376	4,111	18,110	1,313	1,304	187	0	4	79	-	26,569
Ferro Cement												
<25%	0	0	7	~	0	7	0	0	_	2	0	17
25-50%	0	0	43	0	0	<u></u>	0	0	0	0	0	52
20-75%	0	0	0	0	0	0	0	0	0	0	0	0
>75%	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	54	_	0	=	0	0	_	2	0	69
Others												
<25%	0	0	7	_	0	330	2,625	0	0	0	0	2,963
25-50%	0	0	10	8	0	94	1,055	0	2	0	0	1,245
20-75%	0	0	0	<u>_</u>	0	<u></u>	130	0	0	0	0	140
>75%	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	17	83	0	433	3,810	0	2	0	0	4,348
Total Motorised												
<25%	106	1,107	3,240	11,185	663	4,406	5,225	0	19	29	0	26,018
.2-20%	32	802	5,059	9,196	658	1,018	2,786	2	47	75	_	19,679
20-75%	0	က	62	134	22	33	407	0	0	0	0	661
>75%	0	0	9	12	<u>_</u>	12	4	2	0	0	0	37
Total	138	1,912	8,367	20,527	1,344	5,469	8,422	7	99	142	_	46,395
Non-Motorised												
Dugout												
.25%	∞ .	141	0	0	0	70	4	0	16	0	_	200
25-50%	0 0	358	ဖ (117	0 0	92	72	0 0	∞ α	∞ (0 0	634
50-75%	> C	უ (0 0	>	>	>	> C	>	0 0	>	>	n c
>/5% Total	> °	0 0)	, 1 0	>	O 4	O 9	>	⊃ ⁷	⊃ ∘	> ₹	0 0
וסומו	0	200	0	=	>	3	2	>	+7	0	-	200

TABLE 11. Contd.

				ב			<u>.</u>					
Craft State	West	Orissa	Andhra Pradesh	Tamil- nadu	Pondi-	Kerala	Karna- taka	Goa	Mahar- ashtra	Gujarat	Daman &Diu	TOTAL
			5 5	5					5		5	
2. Catamarans												
<25%	0	25	1,202	320	-	4	0	0	0	0	0	1,552
25-50%	0	169	3,080	1,309	74	19	0	0	_	0	0	4,652
20-75%	0	4	112	∞	0	2	0	0	0	0	0	126
>75%	0	0	2	0	0	_	0	0	0	0	0	က
Total	0	198	4,396	1,637	75	56	0	0	_	0	0	6,333
Plank-built												
<25%	401	743	5,636	88	~	89	7	117	4	9	0	7,071
25-50%	34	1,693	1,282	548	2	196	17	1	20	0	0	3,833
20-75%	2	က	1,013	_	0	7	က	0	0	0	0	1,027
>75%	0	0	0	0	0	0	0	0	0	0	0	0
Total	440	2,439	7,931	637	3	266	27	128	54	9	0	11,931
4. Others												
<25%	110	217	41	41	0	12	16	0	257	_	0	695
25-50%	2	124	88	318	0	66	_	0	49	0	0	681
20-75%	0	0	_	0	0	0	0	0	0	0	0	_
>75%	0	0	0	0	0	0	0	0	0	0	0	0
Total	112	341	130	329	0	111	17	0	306	_	0	1,377
Total Non-motorised												
<25%	519	1,126	6,879	449	2	104	37	117	277	7	_	9,518
25-50%	36	2,344	4,456	2,292	9/	379	90	7	108	∞	0	9,800
20-75%	2	10	1,126	တ	0	4	က	0	0	0	0	1,157
>75%	0	0	2	0	0	_	0	0	0	0	0	က
Total	260	3,480	12,463	2,750	78	488	130	128	385	15	_	20,478
Total crafts												
<25%	929	4,367	10,408	13,374	894	9,829	5,746	117	1,505	228	-	47,398
25-50%	228	3,390	9,559	12,599	797	1,906	3,149	24	732	302	_	32,687
20-75%	7	14	1,192	158	22	47	412	0	56	2	0	1,880
>75%	_	0	80	18	~	15	4	7	45	0	0	94
Total	1,165	7,771	21,167	26,149	1,714	11,797	9,311	143	2,308	532	7	82,059

TABLE 12. GEARS OWNED BY FISHERFOLK

		•										
Name of Gear	West Bengal	Orissa	Andhra Pradesh	Tamil- nadu	Pondi- cherry	Kerala	Karna- taka	Goa	Mahar- ashtra	Gujarat	Daman &Diu	TOTAL
Trawl net	1,228	1,387	2,229	17,011	1,598	2,900	5,127	1,338	8,550	25,984	1,836	69,188
Purse seine	19	1,166	0	79	0	43	515	283	174	6	0	2,288
Boat seine	49	1,716	4,557	2,872	~	1,772	21	2	964	259	0	12,216
Fixed bag net	46,528	19,303	16,787	1,357	14	209	1,790	0	21,482	34,059	230	142,259
Drift net	1,164	5,433	4,013	36,705	1,376	6,575	6,482	144	12,588	823	0	75,303
Gill net (Large)	67,119	162,999	237,876	334,389	1,402	23,162	13,822	9,756	112,617	207,327	21,060	1,191,529
Gill net (Medium)	181,783	152,726	259,090	503,186	15,148	96,759	72,682	9,352	860'06	154,040	26,215	1,561,079
Gill net (Small)	78,867	167,861	215,396	573,400	15,781	82,495	49,565	7,240	74,435	111,067	6,211	1,382,318
Total Gillnet pieces	327,769	483,586	712,362	1,410,975	32,331	202,416	136,069	26,348	277,150	472,434	53,486	4,134,926
Hooks and lines	2,896	18,864	48,317	140,069	918	9,943	13,887	0	8,365	3,844	4	247,107
Long lines	80	7,189	14,673	12,079	16	2,856	2,917	0	192	908	0	40,808
Troll lines	0	375	_	80,287	419	8,186	73	0	4	0	0	89,345
Ring seine	0	4,295	61	235	9	828	360	277	0	2	0	6,064
Shore seines	69	12,690	5,099	5,690	19	3,302	869	204	4,423	14,209	47	46,621
Scoop net	0	5,357	1,315	7,823	30	1,231	2,167	128	1,988	42	0	20,081
Traps	37	6,131	552	2,057	0	42	433	0	5,564	2	0	14,818
Others	62	8,830	9,259	25,702	371	1,880	4,049	609	27,073	66,188	717	144,740

TABLE 13. SHARING PATTERN OF GEARS AMONG FISHERFOLK

	7	(No.		illes h	aving sl	hares ir	shares in fishing) စီ	ars)			
Gear State	West Bengal	Orissa	Andhra Pradesh	Tamil- nadu	Pondi- cherry	Kerala	Karna- taka	Goa	Mahar- ashtra	Gujarat	Daman &Diu	TOTAL
Trawl net												
<25%	244	16	11	141	4	342	190	0	82	66	2	1,207
25-50%	20	22	46	216	6	299	84	0	29	24	0	779
20-75%	0	0	4	က	0	_	36	0	0	2	0	46
>75%	_	0	0	4	0	0	_	0	0	∞	0	14
Total	295	38	127	364	23	642	311	0	111	133	2	2,046
Purse seine				0								
<25%	0	40	0	977	10	62	162	_	22	0	0	1,307
25-50%	0	4	0	87	0	16	100	0	0	0	0	207
20-75%	0	0	0	2	0	0	2	0	0	0	0	7
>75%	0	0	0	0	0	_	0	0	0	0	0	_
Total	0	44	0	1,066	10	79	267	~	22	0	0	1,522
Boat seine												
<25%	41	239	1,056	723	32	1,489	0	0	2	0	0	3,585
25-50%	_	230	1,085	159	0	105	0	0	10	0	0	1,590
20-75%	0	_	14	~	0	လ	0	0	_	0	0	20
>75%	0	_	2	0	0	0	0	0	0	0	0	က
Total	42	471	2,157	883	32	1,597	0	0	16	0	0	5,198
Fixed bag net												
<25%	692	1,377	824	2,745	029	62	46	0	456	28	0	6,880
25-50%	22	1,079	149	175	\(\tau_{\text{\tin}\text{\ti}\text{\texi}\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\tin}}\\ \text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\ti}\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\texi}\text{\text{\text{\text{\texit{\texi}\text{\text{\texi}\text{\text{\texi}\titt{\text{\text{\tex{\texi}\text{\text{\texi}\text{\text{\texi}\texit{\text{\ti	17	0	0	48	22	0	1,591
20-75%	0	108	0	0	0	0	0	0	_	0	0	109
>75%	0	7	2	~	0	0	0	0	_	0	0	9
Total	749	2,566	975	2,921	199	62	46	0	206	83	0	8,586

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Gear State	West Bengal	Orissa	Andhra Pradesh	Tamil- nadu	Pondi- cherry	Kerala	Karna- taka	Goa	Mahar- ashtra	Gujarat	Daman &Diu	TOTAL
Drift net												
<25%	105	627	1,190	1,642	161	248	129	13	36	0	0	4,151
25-50%	_	205	789	624	175	274	78	0	36	~	0	2,183
20-75%	0	100	10	149	4	0	20	0	_	0	0	284
>75%	0	0	0	6	0	0	0	0	7	0	0	16
Total	106	932	1,989	2,424	340	522	227	13	80	~	0	6,634
Troll lines												
<25%	0	က	0	321	3	19	0	0	0	0	0	346
25-50%	0	2	0	893	0	13	0	0	0	0	0	908
20-75%	0	0	0	0	0	0	0	0	0	0	0	0
>75%	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	1,214	ဂ	32	0	0	0	0	0	1,254
Ring seine												
<25%	0	403	110	98	123	2,349	1,753	0	0	0	0	4,824
25-50%	0	168	43	17	2	152	1,088	0	0	0	0	1,473
20-75%	0	7	0	0	0	80	155	0	0	0	0	170
>75%	0	4	0	0	0	0	0	0	0	0	0	4
Total	0	582	153	103	128	2,509	2,996	0	0	0	0	6,471
Shore seines												
<25%	344	1,614	14,287	357	14	97	343	64	1,070	26	0	18,216
25-50%	20	618	759	241	15	114	72	2	153	လ	0	1,997
20-75%	2	49	222	~	0	_	0	0	27	0	0	640
>75%	0	0	25	0	0	0	0	0	0	0	0	25
Total	369	2,281	15,628	299	29	212	415	99	1,250	29	0	20,878

TABLE 13. Contd.

				Y	IADLE 13.	. Conta						
Gear State	West Bengal	Orissa	Andhra Pradesh	Tamil- nadu	Pondi- cherry	Kerala	Karna- taka	Goa	Mahar- ashtra	Gujarat	Daman &Diu	TOTAL
Scoop net												
<25%	0	41	က	132	0	37	15	0	43	0	0	271
25-50%	0	40	228	513	~	13	4	0	9	0	0	802
20-75%	0	0	0	0	0	2	0	0	_	0	0	က
>75%	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	81	231	645	~	52	19	0	20	0	0	1,079
Traps												
<25%	20	217	0	2	0	7	ဇ	0	1,389	0	0	1,641
25-50%	က	323	0	10	0	0	0	0	1,017	0	0	1,353
20-75%	0	_	0	0	0	0	0	0	130	0	0	131
>75%	0	0	0	0	0	0	0	0	29	0	0	29
Total	23	541	0	15	0	7	ဇ	0	2,565	0	0	3,154
Others												
<25%	0	92	520	190	15	14	92	~	71	199	0	1,170
25-50%	0	29	341	153	10	42	2	0	20	45	0	089
20-75%	0	7	4	7	0	0	0	0	0	_	0	6
>75%	0	_	_	0	0	0	0	0	0	2	0	4
Total	0	135	998	345	25	99	26	_	91	247	0	1,863

TABLE 14.	Electronic equipme acquired	TABLE 14. Electronic equipment, life saving equipment and training acquired (No. of families)	nent and training
STATE/U.T.	Electronic gadgets	Life saving equipment	Training acquired
West Bengal	866	989	12
Orissa	5,077	5,932	230
Andhra Pradesh	2,541	46	39
Tamilnadu	4,157	2,101	158
Pondicherry	356	_	o
Kerala	4,224	1,039	645
Karnataka	1,025	126	80
Goa	181	43	0
Maharashtra	1,720	904	269
Gujarat	4,546	3,637	423
Daman & Diu	78	105	2
TOTAL	24,903	14,620	1,795

TABLE 15. ADDITIONAL INFORMATION

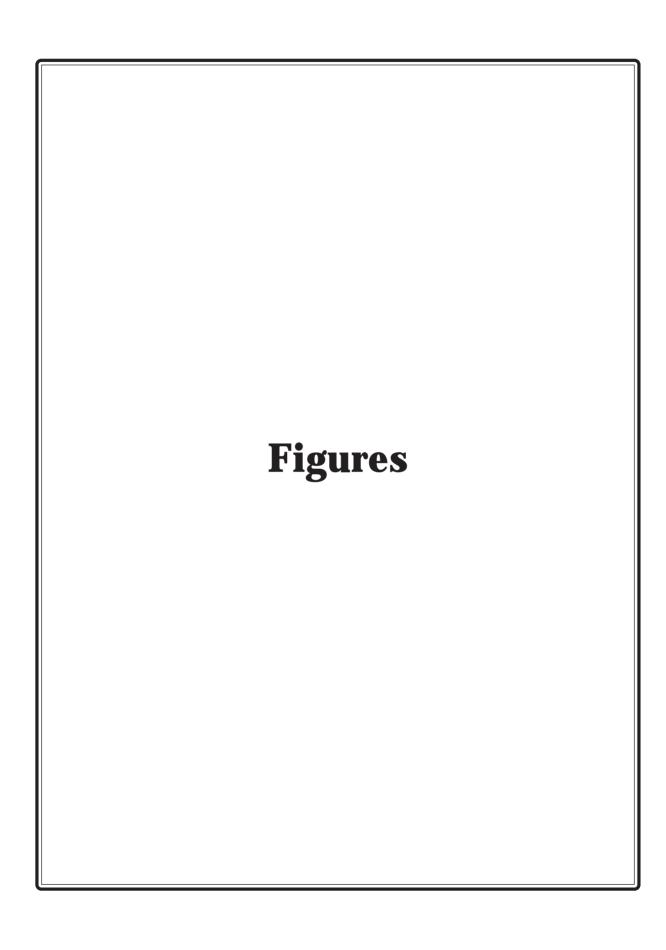
				; ; ;			
State/U.T.	Total			No. of families	ý		
	Families		Involved in fishing		Not going for fishing	or fishing	Only women
		No craft	No gear	Neither	Having craft	Having gear	involved in fishing allied activites
West Bengal	53,816	37,546	27,110	26,217	812	1,078	171
Orissa	86,352	56,297	27,432	25,977	565	2,050	1,272
Andhra Pradesh	129,246	75,245	61,227	58,415	1,816	3,086	6,337
Tamilnadu	192,152	109,085	94,566	88,979	2,138	2,548	8,681
Pondicherry	11,541	5,061	4,974	4,782	254	271	1,750
Kerala	120,486	82,772	82,554	79,438	1,094	1,327	6,991
Karnataka	30,176	15,526	13,454	12,864	748	1,064	1,691
Goa	1,963	628	490	418	32	43	51
Maharashtra	65,313	37,483	26,580	25,647	1,080	2,612	6,517
Gujarat	59,889	42,950	26,973	26,470	815	1,221	1,194
Daman & Diu	5,278	4,083	4,004	3,914	35	35	457
TOTAL	756,212	466,676	369,364	353,121	9,389	15,335	35,112

Technical Institutes $^{\circ}$ 54 25 12 220 21 47 4 Secondary College 99 39 255 37 17 20 52 TABLE 16. Infrastructure - Housing and Education (In the villages) Education 202 202 1,494 170 230 4 97 87 187 Primary 516 636 483 458 808 146 654 736 5,066 557 38 34 Houses 168,378 45,750 84,384 119,868 1,779 112,521 61,847 10,021 18,661 41,981 5,257 670,447 Total Housing (Fishermen only) houses 9.32 26.89 68.53 69.02 85.16 92.25 82.80 99.72 Pucca 53.27 75.37 71.57 62.11 (%) Kutcha houses 90.68 46.73 31.47 24.63 14.84 28.43 7.75 17.20 0.28 37.89 73.11 29.31 (%) 53,816 120,486 30,176 65,313 86,352 129,246 192,152 11,541 59,889 5,278 Families 1,963 756,212 No.of villages No. of 346 498 222 156 406 263 3,202 641 581 28 39 22 Andhra Pradesh Daman & Diu West Bengal Maharashtra **Grand Total** Pondichery **Tamilnadu** Karnataka Orissa Kerala Gujarat State Goa

								16		
State	Total villages	Total Villages villages Electrified	Villages connected by road	Villages having bus stop/stand	Hospitals	Banks	Co-Op- Societies	Community centers	Local festivals	Cinema
West Bengal	346	160	66	69	24	24	46	∞	029	3
Orissa	641	459	453	65	54	43	170	233	1,793	3
Andhra Pradesh	498	459	430	300	43	22	2,378	175	1,877	7
Tamil Nadu	581	564	538	411	186	93	296	234	933	56
Pondichery	28	28	28	15	တ	7	35	7	43	2
Kerala	222	222	219	203	357	306	381	137	458	83
Karnataka	156	156	153	134	304	284	199	152	1,588	28
Goa	39	30	30	29	123	52	23	22	163	7
Maharashtra	406	375	333	294	455	217	366	465	2,049	26
Gujarat	263	244	241	218	486	269	200	291	2,495	42
Daman & Diu	22	22	22	20	26	15	16	22	105	2
Total	3,202	2,719	2,546	1,758	2,067	1,336	4,781	1,785	12,174	263

	- - -	IADLE 10. IIII asti ucture-rishery Related (III the Villages)	id-a inior	Silery R	elated (I		illages)	_
State	Boat yards	lce factories	Cold storages	Freezing plants	Canning plants	Curing yards	Peeling sheds	Fishmeal plants
West Bengal	-	38	0	0	0	0	0	0
Orissa	12	27	9	2	0	7	9	0
Andhra Pradesh	80	17	0	_	7	39	24	0
Tamil Nadu	29	101	œ	4	0	6	30	2
Pondichery	0	∞	_	0	0	0	0	0
Kerala	112	315	31	99	0	414	153	4
Karnataka	32	152	0	7	10	_	∞	7
Goa	0	2	0	0	0	0	0	0
Maharashtra	9	54	7	က	_	7	9	0
Gujarat	24	178	42	37	0	516	99	59
Daman & Diu	0	10	0	0	0	0	0	0
Total	224	905	108	113	13	992	293	46







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- 39. Communication and life saving equipment and training undergone (No. of families)

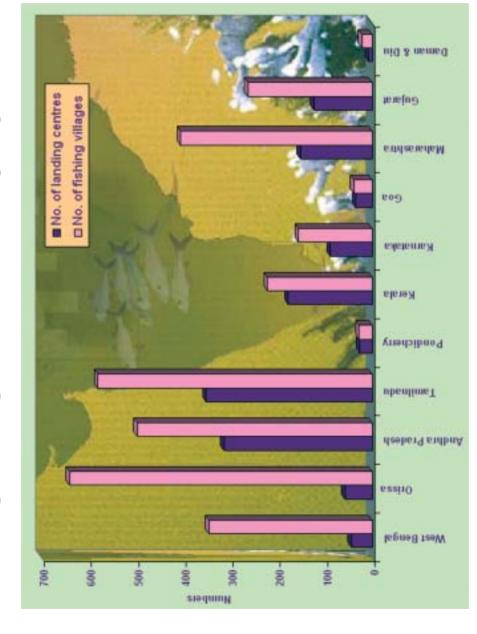


Fig. 1. Landing centres & marine fishing villages

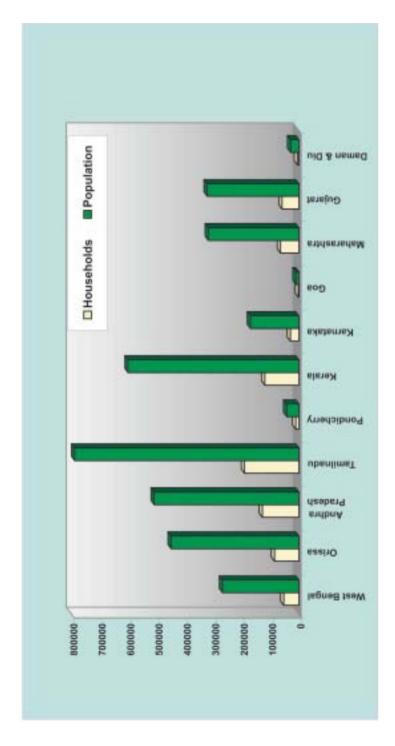


Fig. 2. Marine Fisherfolk households and population

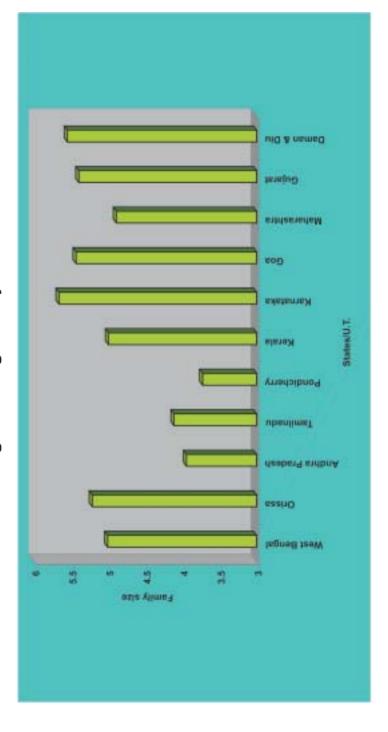


Fig 3. Average family size

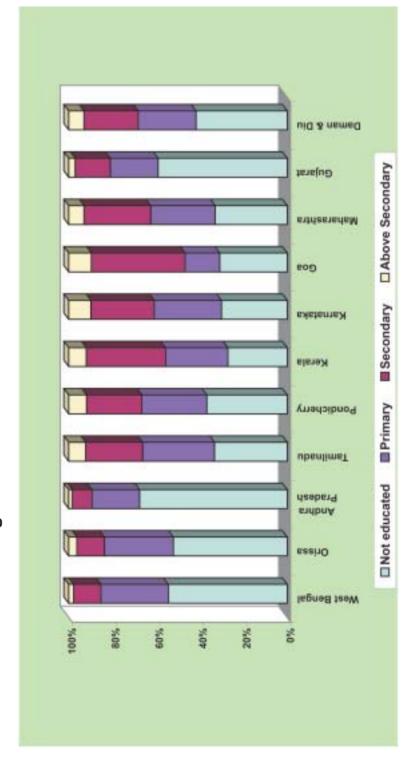
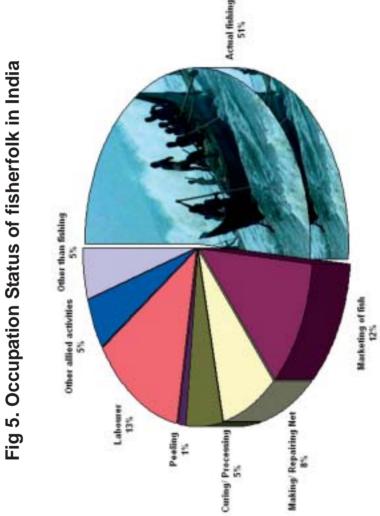


Fig. 4. Educational Status of fisherfolk



Part time 13%

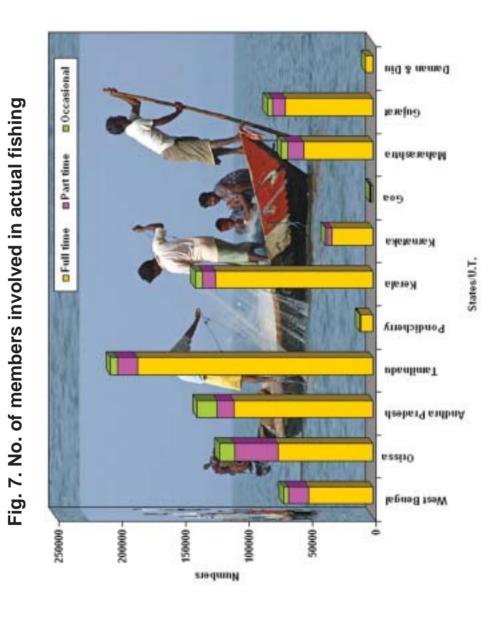
Part time 13%

Part time 13%

Part time 13%

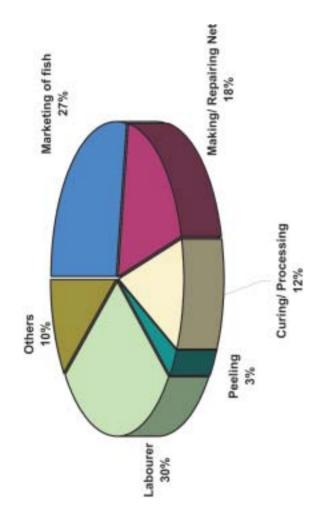
Full time Full time

60



61

Fig. 8. Distribution of fishing allied activities in India



Tamilnadu 20%

Pondicherry

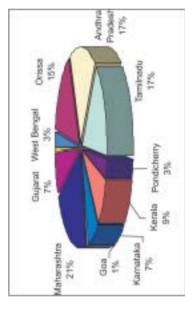
Kerala 9%

> Kamataka 8%

20 % 20 %

Fig. 9. State-wise distribution of allied activities

Fig. 9(1)a. MARKETING OF FISH - TOTAL POPULATION



Gujarat Daman & Andhra Andhra Pradesh

Maharashtra

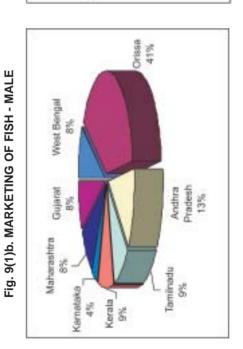


Fig. 9(2)a. MAKING/REPAIRING NETS - TOTAL

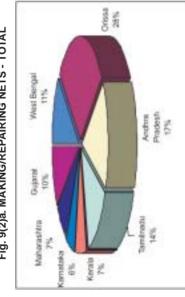
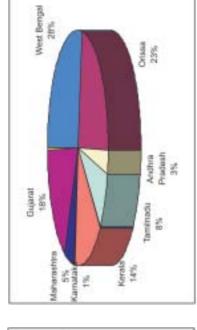


Fig. 9(2)c. MAKING/REPAIRING NETS - FEMALE

Fig. 9(2)b. MAKING/REPAIRING NETS - MALE



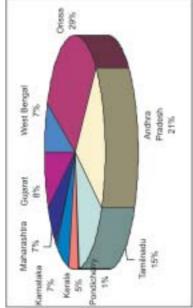


Fig. 9(3)a. CURING/PROCESSING - TOTAL

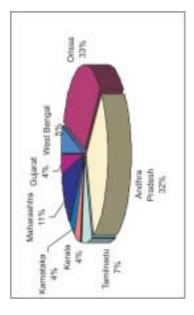
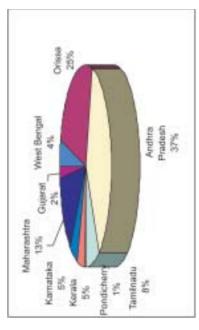


Fig. 9(3)c. CURING/PROCESSING - FEMALE



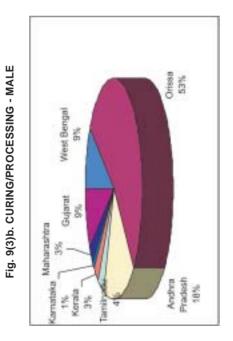


Fig. 9(4)a. PEELING - TOTAL

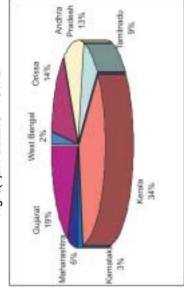
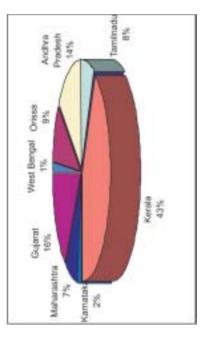


Fig. 9(4)c. PEELING - FEMALE



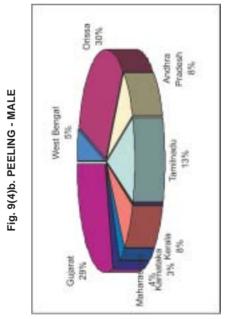


Fig. 9(5)a. LABOURERS - TOTAL

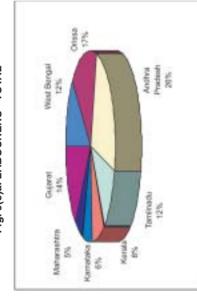
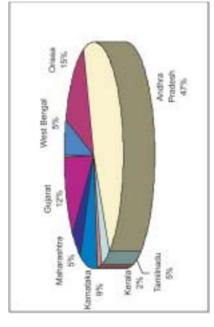
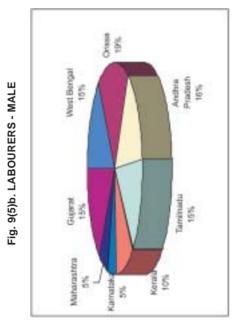
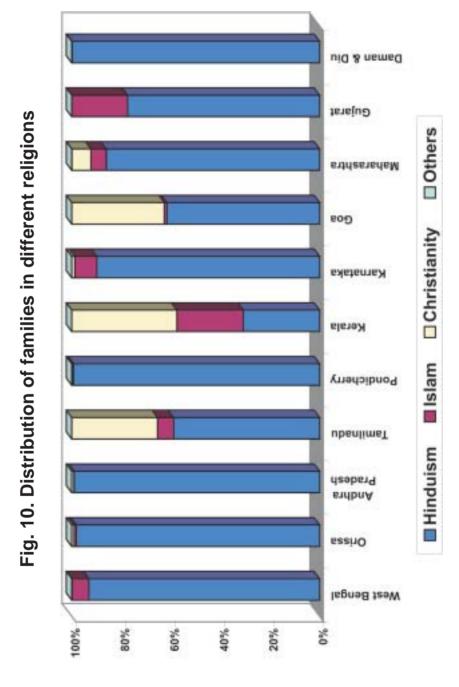


Fig. 9(5)c. LABOURERS - FEMALE







68

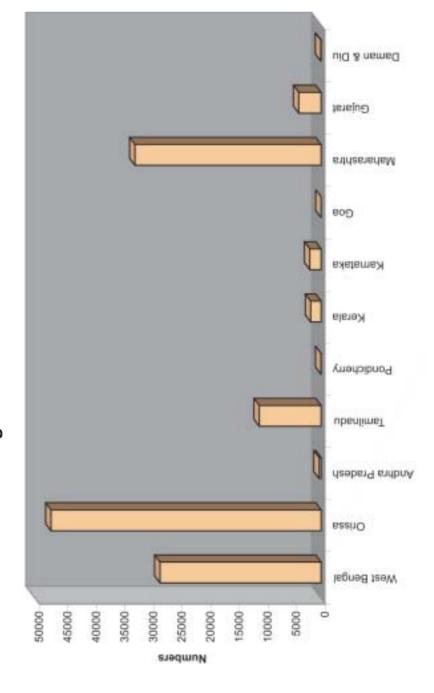


Fig. 11. SC/ST Households

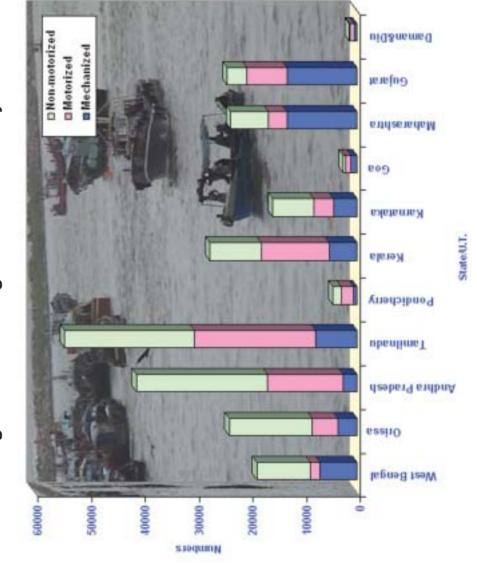


Fig. 12. Total fishing crafts in the fishery

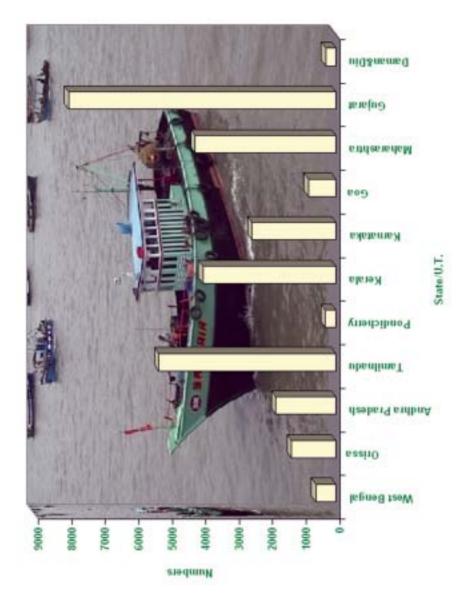
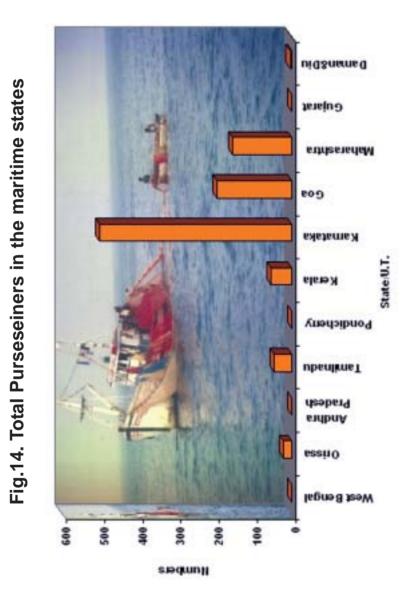


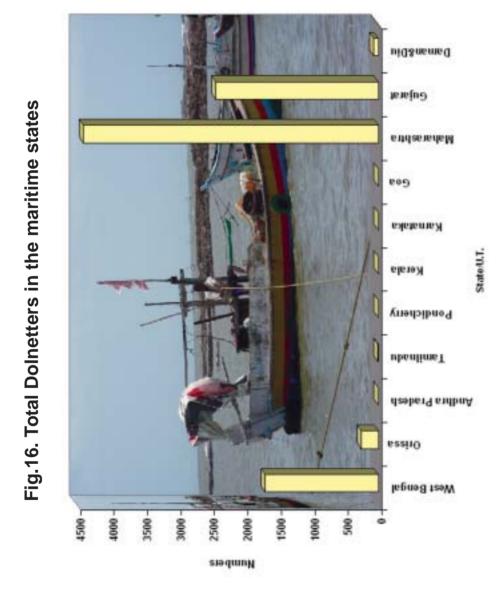
Fig.13. Total trawlers in the maritime states



72



Fig.15. Total Gillnetters in the maritime states



74

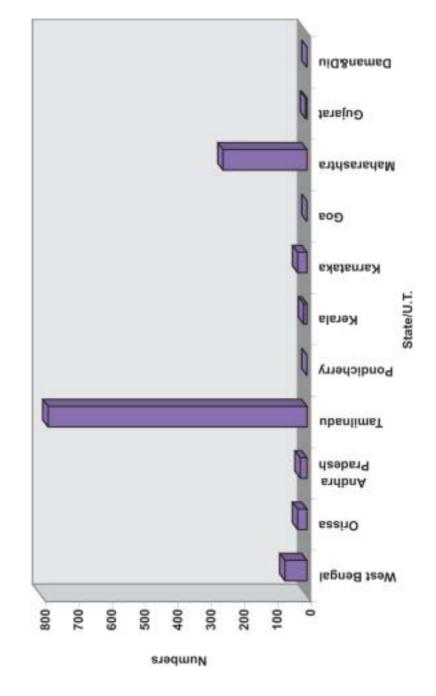
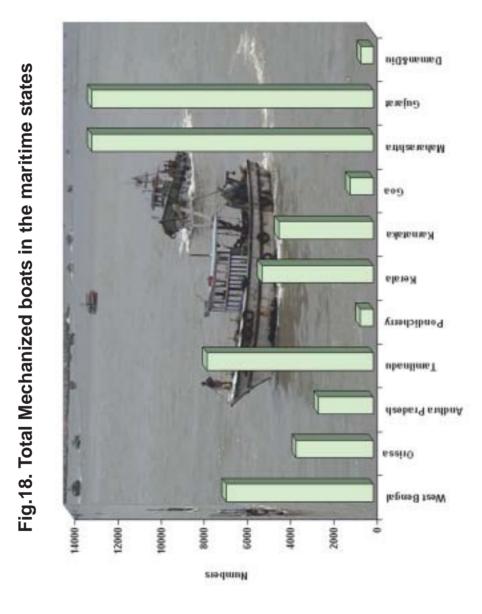


Fig.17. Total Liners in the maritime states



76

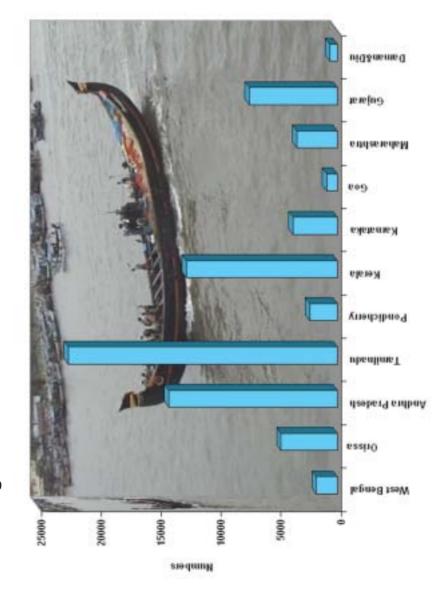
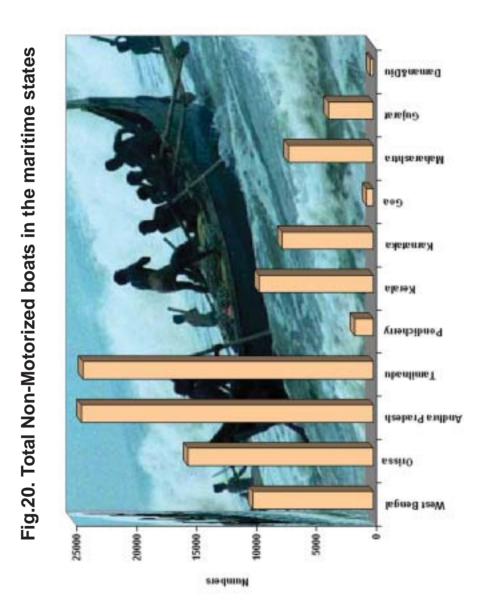


Fig.19. Total Motorized boats in the maritime states



78

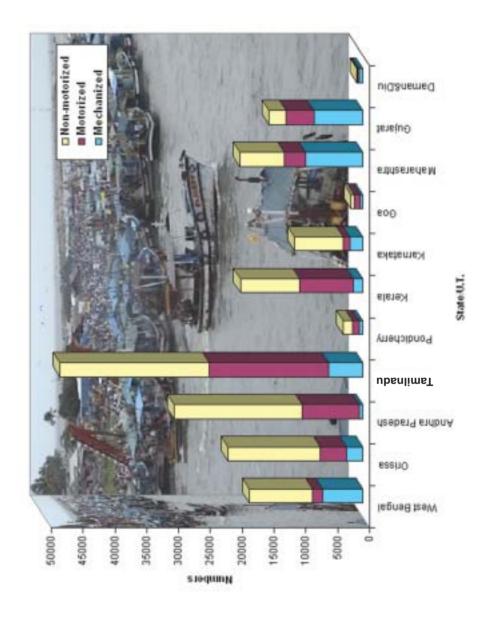


Fig.21. Crafts owned by fisherfolk



Fig. 22. Mechanized boats owned by fisherfolk

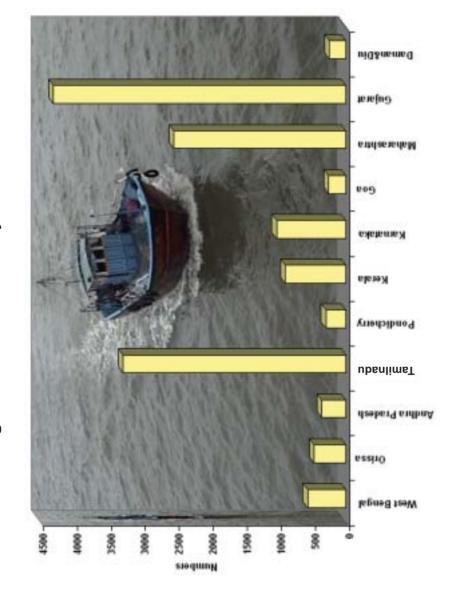


Fig.23. Trawlers owned by fisherfolk



Fig.24. Purseseiners owned by fisherfolk

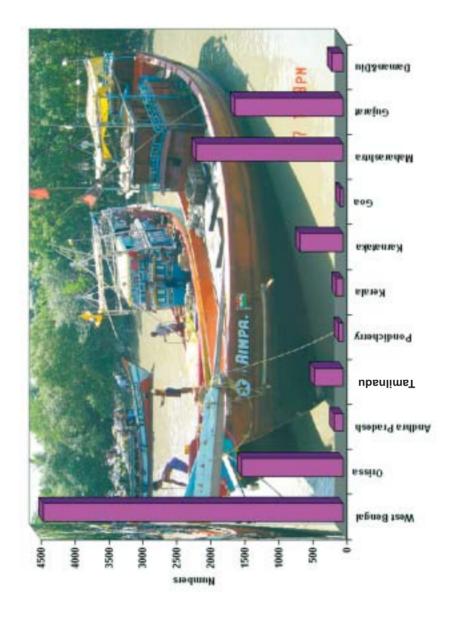


Fig.25. Gillnetters owned by fisherfolk

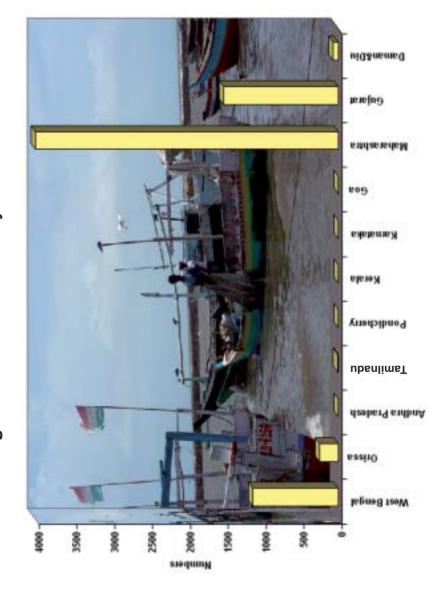


Fig.26. Dolnetters owned by fisherfolk

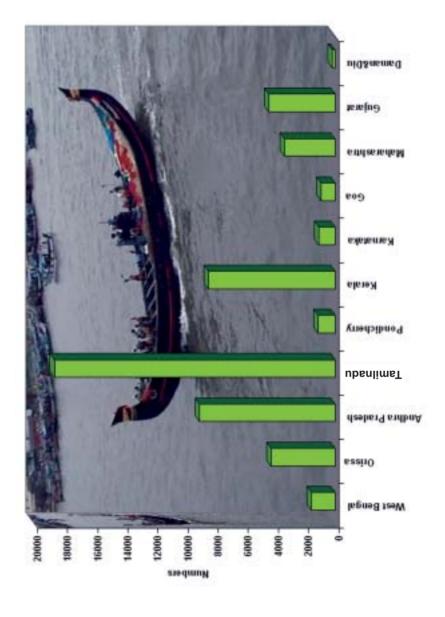


Fig.27. Motorized boats owned by fisherfolk

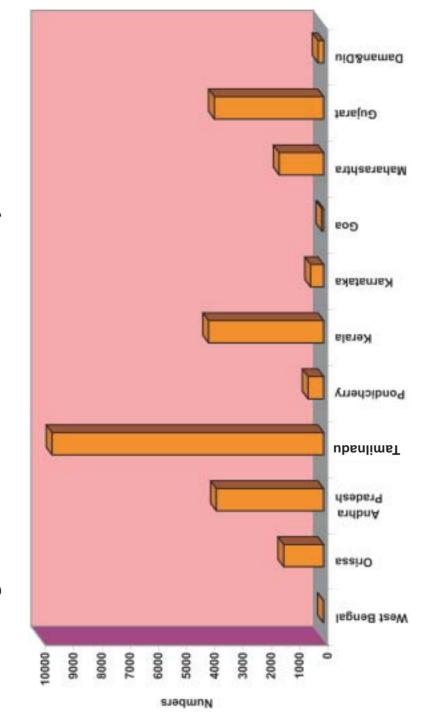


Fig.28. Motorized Fibre Glass boats owned by fisherfolk

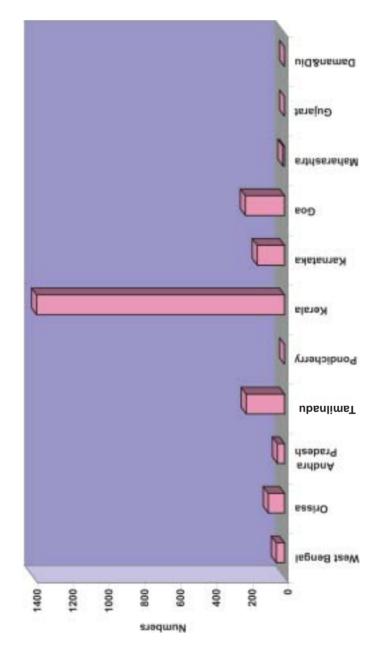


Fig.29. Motorized Ringseiners owned by fisherfolk

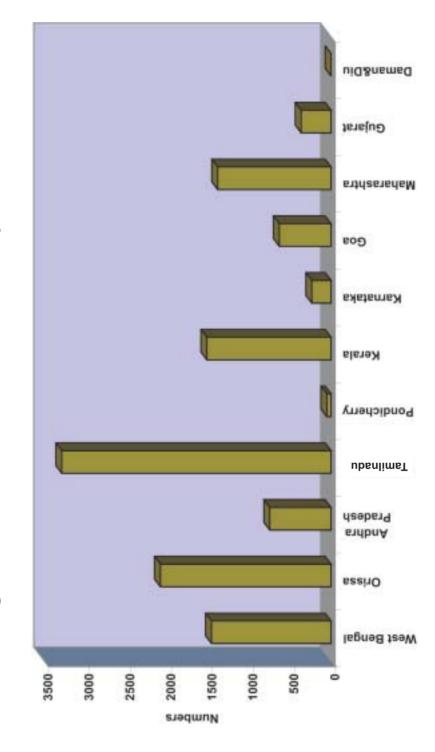
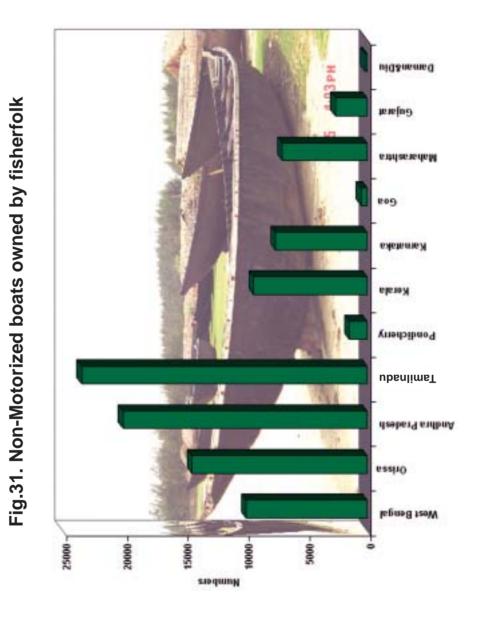


Fig.30. Motorized Plank Built boats owned by fisherfolk



89

Daman&Diu Gujarat Maharashtra (excluding gillnets and hooks&lines) Goa Karnataka Kerala Pondicherry **Tamilnadu** Pradesh Andhra Orlssa West Bengal 160000 140000 20000 120000 1000001 80000 000009 40000 Mumbers

Fig.32. Gears owned by fisherfolk in different states

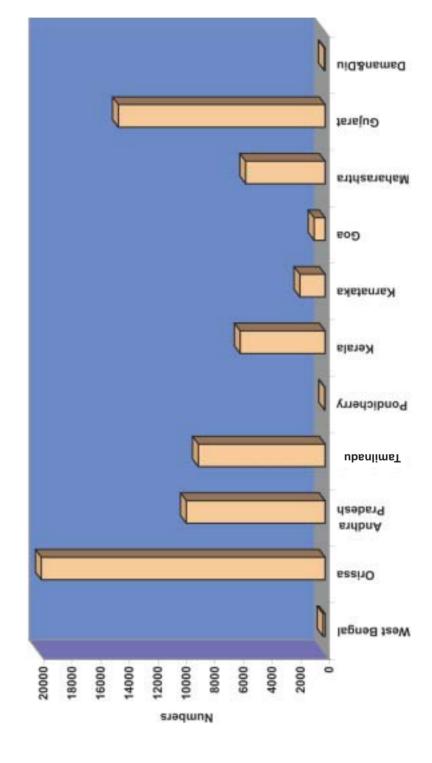


Fig.33. Seine nets owned by fisherfolk

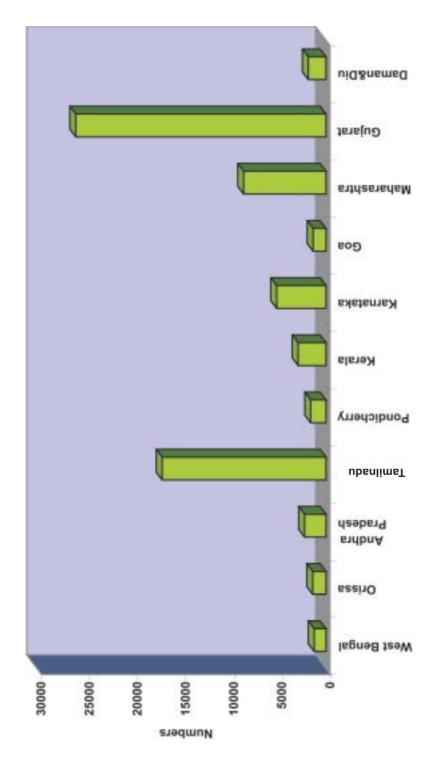


Fig.34. Trawlnets owned by fisherfolk

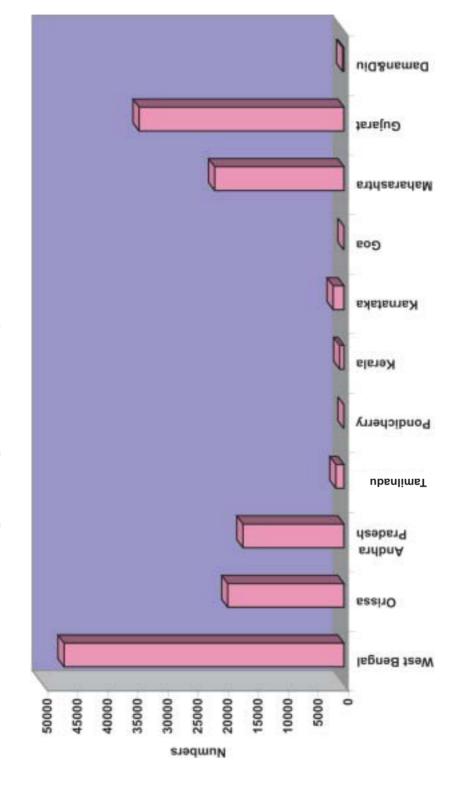


Fig.35. Bagnets owned by fisherfolk

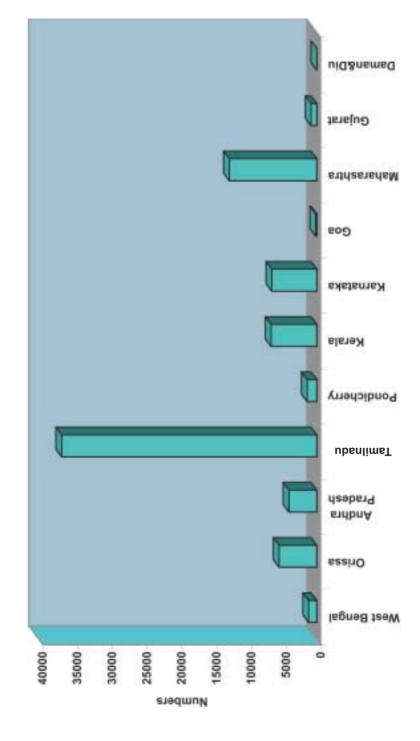


Fig.36. Driftnets owned by fisherfolk

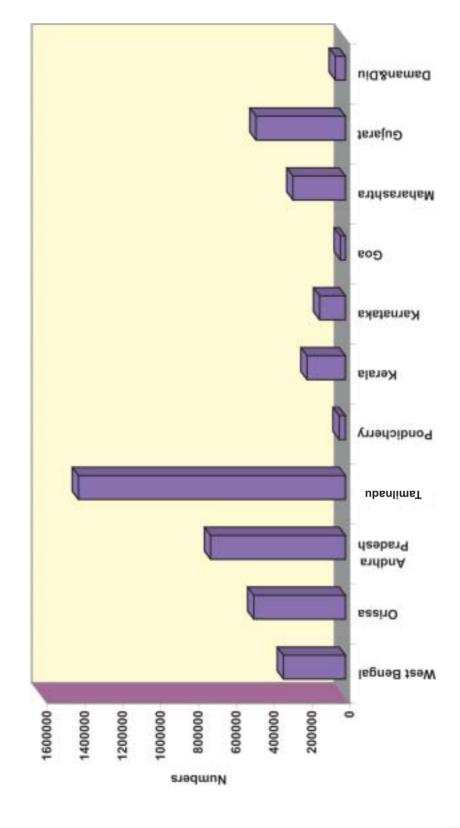


Fig.37. Gillnet pieces owned by fisherfolk

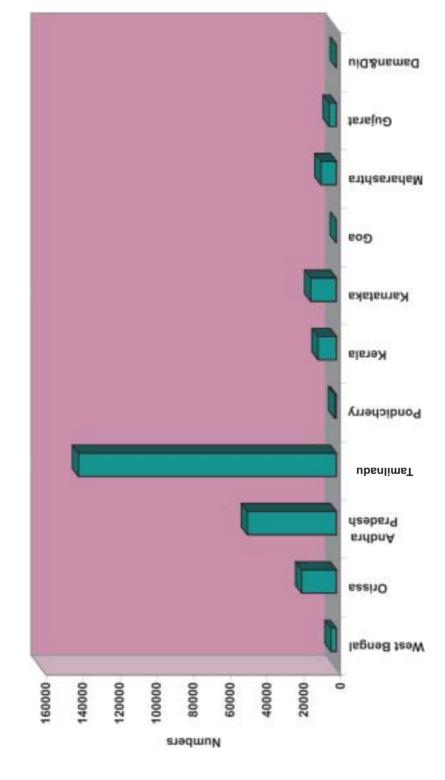


Fig.38. Hooks & lines owned by fisherfolk

Daman & Diu Life saving equipment ■ Electronic gadgets Training acquired **Gujarat** Maharashtra Training undergone (No. of families) Goa Kamataka Kerala Pondicherry Tamilnadu Pradesh Andhra Orissa Nest Bengal 0009 2000 1000 4000 3000 2000 0

Fig.39. Communication & Life saving equipment and

