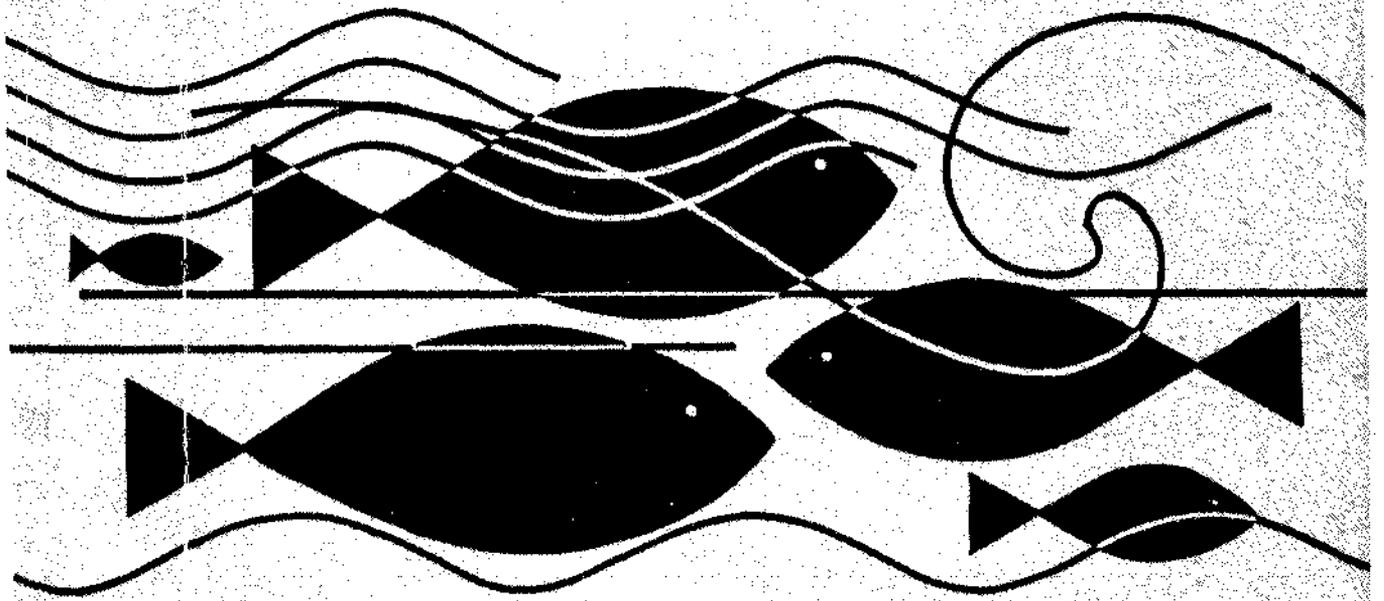


Central Marine Fisheries Research Institute  
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Number 34

an  
appraisal  
of the  
marine fisheries  
of  
tamil nadu and pondicherry



*Issued in connection with the 40th Anniversary Celebrations of*

**Central Marine Fisheries Research Institute**

P. B. No. 2704, E. R. G. Road, Cochin 682 031, India

*Indian Council of Agricultural Research*

September 16-18, 1987

**AN APPRAISAL OF THE MARINE FISHERIES  
OF TAMIL NADU AND PONDICHERRY**

**S. K. DHARMA RAJA, K. VIJAYALEKSHMI, S. HAJA NAJEE MUDEEN, C. J. PRASAD,  
M. B. SEYNUDEEN, K. ANANDAN, M. KARTHIKEYAN AND G. BALAKRISHNAN**

**CMFRI Special Publication  
Number 34**



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## PREFACE

The Central Marine Fisheries Research Institute, Cochin, is the premier organisation in the country conducting research in marine fisheries, leading to rational exploitation, management, development and conservation of living marine resources. The Institute, ever since its early days of inception, has been collecting data on the catch and effort along with biological information on the exploited marine fisheries resources of the country, using a standardised, stratified, multistage random-sampling method. In addition to making use for biological studies, including assessment of stocks, these data have been processed and utilised to furnish estimates of annual marine fish production in different states over the past 38 years.

With the changed objectives and functions of the Institute in recent times, greater emphasis has been laid on the assessment of stocks for better management of the exploited stocks and to indicate the possible sources of additional production in the context of modern technological innovations in fishing practices and consequent increase in the capability of fishing of both traditional and mechanised sectors.

With the continued increase in fishing effort and intense exploitation of certain resources in different parts of the country, a need arose to examine critically the present status of exploited stocks, the fishing intensity, the number of boats and types of gear, the infrastructural facilities for handling, storage, transportation and marketing of catches, the status of the under exploited resources, and the new or additional resources available beyond the presently exploited areas of each maritime state to provide necessary technical advice to the respective governments to manage and conserve the resources.

It is with this in view that the data relating to each maritime state for the period 1975-84 are consolidated and processed and presented as a separate Special Publication. This Number gives the appraisal of the marine fisheries of Tamil Nadu and Pondicherry, highlighting the status of the exploited resources and the level of exploitation. It also gives guidelines for increasing the catches by proper development, management and conservation of resources.

Shri. S. K. Dharmaraja, Smt. K. Vijayalekshmi, Shri. S. Haja Najeemudeen, Shri. C. J. Prasad, Shri. M. B. Seynudeen, Shri. K. Anandan, Shri. M. Karthikeyan and Shri. G. Balakrishnan had shown keen interest and spared no effort to analyse the data for the preparation of this report. I have great pleasure to place on record my appreciation of their efforts to bring out this publication. Shri. S. Subramanian, Shri. M. Mohamed Sultan, Shri. M. Bose, Shri. S. Manivasagam, Shri. L. Chidambaram, Shri. A. Sreenivasan, Shri. L. Jeyasankaran, Shri. R. Somu, Shri. V. Sivasamy, Shri. A. Agastheesapillai Mudaliar, Shri. P. Palani, Shri. A. Kumar, Shri. K. Muthaiah, Dr. K. Muniyandi, Shri. K. S. Krishnan, Shri. A. Ganapathy, Shri. C. Kasinathan, Shri. R. Subramanian, Shri. O. M. M. J. Habeeb Mohamed, Shri. K. Ramakrishnan Nair, Shri. N. Retinaswamy, Shri. I. P. Ebengzer, Shri. H. Kather Batcha, Shri. M. Manivasagam, Shri. V. Thanapathi, Shri. Hameed Batcha, Shri. S. Sankaralingam and Shri. R. Gurusamy collected the catch and other details which form the basic data for this report. I deeply appreciate the earnest efforts put in by them to collect these data.

P. S. B. R. James  
Director  
C. M. F. R. Institute.  
Cochin

# AN APPRAISAL OF THE MARINE FISHERIES OF TAMIL NADU AND PONDICHERRY

S. K. Dharmaraja, K. Vijayalekshmi, S. Heja Najeemudeen, C. J. Prasad  
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## INTRODUCTION

Tamil Nadu and Pondicherry contiguous to it, since share a commonness both in fishing tradition and in fishery resources, are treated together in this report, though Tamil Nadu by itself is easily comparable with any other maritime state in the vastness of inshore resource as well as in the involvement of fishing activities. The states are endowed with rich resource potential capable of being developed. The combined coastline is about a thousand kilometers studded with many a fishlanding centres of intense activities. Tamil Nadu, descending to the tip of the peninsular India, has the unique advantage of facing three major seas, the Arabian sea, Indian Ocean and the Bay of Bengal, and having the benefit at its disposal of both the monsoons, the South West and the North East.

The major part of the continental shelf of about 35,000 sq. km fringing Tamil Nadu-Pondicherry and of an estimated offshore region of 22 lakh hectares are both subject to medium climatic conditions conducive to the breeding of various fishes throughout the year, giving an excellent scope for year-round fishery. In fact, the present estimated exploitation of about 2.5 lakh tonnes perhaps is only one-fourth of the potential yield.

The states have a long and glorious tradition of maritime activity including fishing; pearls and chanks were exported since time immemorial to many Mediterranean countries, such as Rome, Greece and Egypt.

But, in spite of this, the diet of the majority of the population of the states, including those inhabit even in coastal regions, has been continuing to be deficient in proteins and vitamins easily furnishable by the highly nutritious marine products.

Nevertheless, the domestic consumptions is satisfyingly on the increase in par with the production, thanks to the numerous fishery and developmental efforts carried out through the successive five-year plans; the annual income from fisheries (inland fisheries including) in Tamil Nadu has risen to an estimated Rs. 7,157 lakhs in 1983-84 and Rs. 8,016 lakhs in 1984-85 (Anon 1985). The marine products from the state are exported to Japan, USA, France, UK, Australia, Belgium and the Netherlands, earning a foreign exchange equivalent to Rs. 40.28 crores and Rs. 49.94 crores, respectively in the two years.

As for the Union Territory of Pondicherey, the account covers only Pondicherry proper and Karaikal; and Yenam and Mahe, each having only a small landing centre not exclusively covered, are respectively included in the East Godavari district in Andhra Pradesh and the Kozhikode district in Kerala. However, with regard to the information on fishermen population, infrastructure etc., these two centres are also taken into consideration in this account.

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## MARINE FISHING VILLAGES, FISHLANDING CENTRES, FISHERMEN POPULATION, CRAFT AND GEAR AND INFRASTRUCTURE FACILITIES OF TAMILNADU

The data on the number of fishing villages and fish-landing centres, fishermen population, fishing craft and gear, etc. are a prerequisite for any developmental programme in the fisheries sector. These would also provide the base for the estimation of fish production. In the countrywide coastal survey conducted by the Central Marine Fisheries Research Institute in July 1980 (Anon. 1981) a comprehensive information on these aspects has been collected through house-to-house enumeration from all the fishing villages in Tamil Nadu, which are 422 in number, distributed among 8 maritime districts.

### Fishing Villages

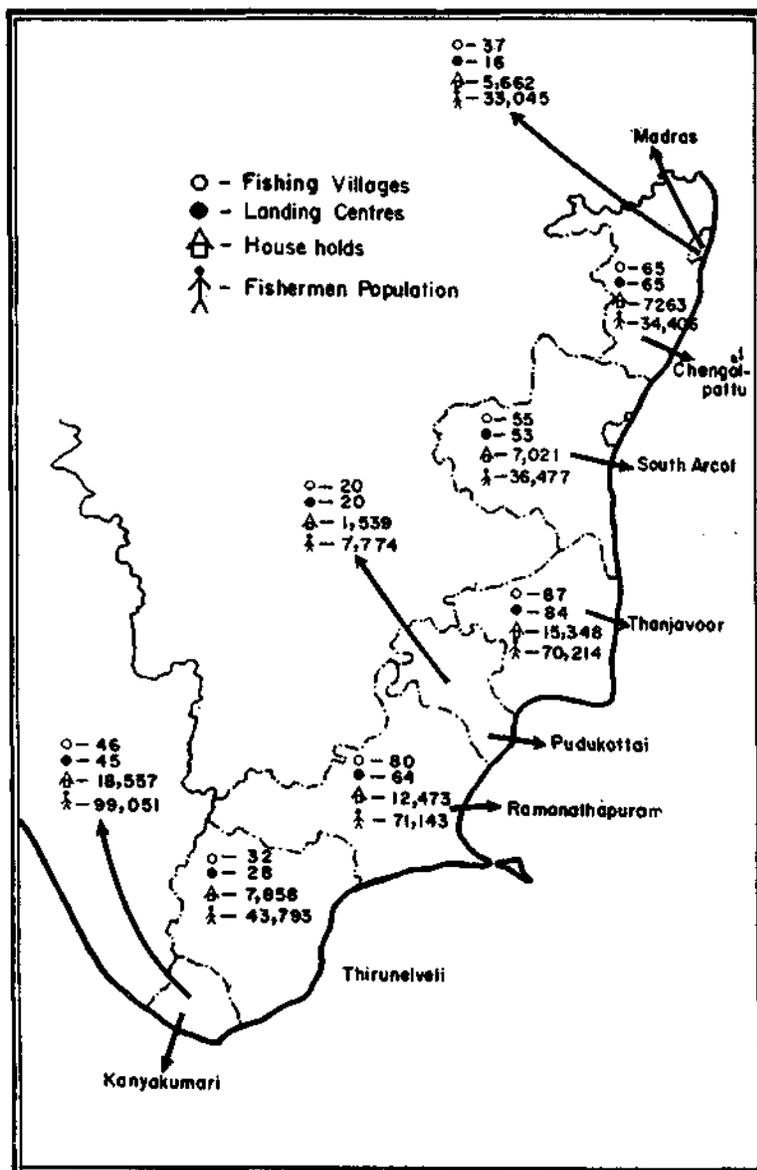
Of the 422 fishing villages of Tamil Nadu, the maximum of 87 are in the Thanjavoor district, forming about 21% of the fishing villages of the state. Thanjavoor district comes next with 80 fishing villages forming about 19%. Chengalpattu, South Arcot and Kanyakumari districts also have many fishing villages, 65 (15%), 55 (13%) and 46 (11%) respectively. Madras, Tirunelveli and Pudukottai have 37 (9%), 32 (7%) and 20 (5%) respectively (Appendix).

### Fish Landing Centres

There are 352 landing centres along the coast of Tamil Nadu. Ramanathapuram district has the maximum, 73 in number (21%). Thanjavoor, Chengalpattu and South Arcot are the other important districts having good number of landing centres namely 67 (19%), 64 (18%) and 48 (14%) respectively. All the other districts have less than 50. Madras with 12 has the least number.

### Fishermen Households

In Tamil Nadu there are 75,721 fishermen households. With 18,557 households (25%), Kanyakumari district tops the list though it is Thanjavoor district which has the maximum number of villages. The average number of



households in a village in Kanyakumari is 403. The average number per village in the other districts are:

Thirunelveli	246
Thanjavoor	176
Ramanathapuram	156
Madras	153
South Arcot	128
Chengalpattu	112
Pudukottai	77

### Fishermen Population

There are 3.96 lakh fishermen along the coast of Tamil Nadu. The maximum number of fishermen are in Kanyakumari district, the number being 99051, forming about 25% of the total fishermen population in the state. The average fishermen population per village is also highest in this district (2,153). The average fishermen population per village and the average family size in other districts are:

	Average fishermen per fishermen village	Average family size
Thirunelveli	1,368	5.58
Madras	893	5.84
Ramanathapuram	889	5.70
Thanjavoor	807	4.57
South Arcot	663	5.20
Chengalpattu	529	4.74
Pudukottai	389	5.05

It may be noticed that Madras, though second in population density, has the highest average family size.

*Educational Status:* The percentages of literates in the various districts are as follows:

Chengalpattu	30.61%
Madras	28.27%
Thirunelveli	27.03%
South Arcot	26.67%
Kanyakumari	17.49%
Ramanathapuram	15.50%
Pudukottai	9.15%
Thanjavoor	7.59%
State as a whole	19.15%

As may be seen from the above table, the literacy rate is highest in Chengalpattu district (30.61%), which is well above the overall literacy rate (19.15%). The literacy rates in the districts of Madras, Thirunelveli and South Arcot are also high. Kanyakumari, Ramanathapuram, Pudukottai and Thanjavoor have literacy below the state level. The literacy rate is the lowest in Thanjavoor district, only 7.59%.

*Active fishermen:* Chengalpattu district, with 26% of active fishermen, tops the list. The percentages of the other districts are as follows:

Chengalpattu	26.12%
Thanjavoor	25.84%
Kanyakumari	25.05%
South Arcot	25.02%
Thirunelveli	24.92%
Pudukottai	24.58%
Ramanathapuram	21.87%
Madras	21.32%
State as a whole	24.37%

### Fishing Craft

*Mechanised craft:* The ownership of mechanised fishing craft in Tamil Nadu is not confined to fishermen alone, but also to others, including industrialists who do not reside in any maritime village. Further, the boats are highly migratory, moving very often to other states. So, it has not been possible to collect the details on the number of mechanised boats in each district. However, for the state as a whole the numbers of different categories of mechanised boats operated as on May-July 1980 have been obtained by local enquiry and the same are given below

Trawlers	2,614
Gillnetters	143
<b>Total</b>	<b>27,57</b>

*Non-mechanised craft:* The districtwise particulars of non-mechanised fishing craft and gear are shown in table ~~2~~ **Appendix**.

From this table it can be seen that there are 43,343 non-mechanised fishing craft in Tamil Nadu. Catamaran is the most common craft, constituting about 73%. Plank-built boats and dugout canoes are the other important fishing craft, numbering 8,957 (21%) and 2,210 (5%), respectively.

*Catamaran:* The maximum catamarans are found in Kanyakumari district numbering 11,527 and forming about 36% of the state's total. Chengalpattu comes next with 7,371 (23%). Thanjavoor district, with 5,043 (16%), occupies the third place. All the other maritime districts have catamarans less than 3,000. Ramanathapuram and Pudukottai districts have very few catamarans, 370 and 128 respectively.

Table-1. Districtwise figures of marine fishing villages and fishermen population-Tamil Nadu, 1980

Items	Chengel- pattu	Madras	South Arcot	Thanja- voor	Pudu- kottai	Ramana- thapuram	Thirunel- veli	Kanyak- mari	Total
<i>Fishing villages</i>	65	37	55	87	20	80	32	46	422
Landing centres	64	12	48	67	15	73	28	45	352
Fishermen households	7,263	5,662	7,021	15,348	1,539	12,473	7,858	18,557	75,721
<i>Fishermen population</i>									
Male	10,426	10,667	11,538	21,782	2,473	21,582	14,559	33,940	1,26,967
Female	10,753	10,337	11,433	22,209	2,285	24,598	13,320	31,756	1,26,691
Children	13,227	12,041	13,506	26,223	3,016	24,963	15,914	33,355	1,42,245
<b>Total</b>	<b>34,406</b>	<b>33,045</b>	<b>36,477</b>	<b>70,214</b>	<b>7,774</b>	<b>71,143</b>	<b>43,793</b>	<b>99,051</b>	<b>3,95,903</b>
<i>Educational status</i>									
Primary	8,394	5,639	7,383	4,496	622	9,676	10,515	13,350	60,075
Secondary	1,761	3,403	2,038	567	72	1,092	773	2,191	11,897
Above secondary	375	300	306	265	17	260	550	1,787	3,860
<b>Total</b>	<b>10,530</b>	<b>9,342</b>	<b>9,727</b>	<b>5,328</b>	<b>711</b>	<b>11,028</b>	<b>11,838</b>	<b>17,328</b>	<b>75,832</b>
<i>Fishermen engaged in actual fishing :</i>									
Full time	7,722	6,586	8,581	16,884	1,779	14,785	10,363	20,742	87,442
Part time	314	90	133	716	80	430	218	2,039	4,020
Occasional	951	368	413	546	52	345	334	2,029	5,038
<b>Total</b>	<b>8,987</b>	<b>7,044</b>	<b>9,127</b>	<b>18,146</b>	<b>1,911</b>	<b>15,560</b>	<b>10,915</b>	<b>24,810</b>	<b>96,500</b>

Table-2. Districtwise figures of marine fishing craft and gear - Tamil Nadu, 1980

Items	Chengal- pattu	Madras	South Arcot	Thanja- voor	Pudu- kkottai	Ramanatha- puram	Thirunel- veli	Kanya- kumari	Total
<i>Fishing craft</i>									
<i>mechanised</i>									
Trawlers	2	96	299	552	36	981	103	226	2,295
Gillnetters	—	8	—	5	—	27	5	279	324
Others	—	—	—	2	—	1	—	5	8
Total	2	104	299	559	36	1,009	108	510	2,627
<i>Non-mechanised :</i>									
Dug-out canoes	206	18	527	284	9	626	3	537	2,210
Plank-built boats	902	50	197	1,176	908	4,074	958	692	8,957
Catamarans	7,371	2,287	2,541	5,043	128	370	2,584	11,527	31,851
Others	83	—	1	195	—	44	1	1	325
Total	8,562	2,355	3,266	6,698	1,045	5,114	3,546	12,757	43,343
<i>Fishing gear :</i>									
Trawl nets	10	287	574	1,496	82	3,029	217	524	6,219
Drift/gill net	8,362	2,107	4,797	22,337	14,479	35,048	14,338	16,832	118,300
Boat seine	1,273	327	539	2,262	519	24	206	2,070	7,220
Fixed bag net	525	101	158	168	32	737	12	109	1,842
Hooks & lines	3,068	519	3,263	4,140	2,756	5,362	487	2,516	22,111
Shore seine	306	46	211	1,637	57	1,523	66	703	4,549
Traps	2	7	—	166	4,062	3,312	—	1,370	8,919
Scoop nets	68	—	252	698	—	22	—	—	1,040
Others	485	6	3,078	1,571	31	1,168	—	—	6,339

**Plank-built boats:** Ramanathapuram district has 4,074 plank boats, which is the maximum, constituting nearly 45% of the total plank-built boats of the state. Thanjavoor district has the second place, with 1,176 (13%). All the other maritime districts have less than 1,000, Madras having the least, 50.

**Dugout canoes:** The maximum dugout canoes are in Ramanathapuram district, 626 in number, forming about 28% of the state's total. Kanyakumari and South Arcot districts also have good number of dugout canoes, 537 (24%) and 527 (24%) respectively. All other districts have less than 300. Madras, Pudukottai and Thirunelveli districts have very few boats, 18, 9 and 3 respectively.

### Fishing Gear

The districtwise particulars of fishing gear are given in ~~the Appendix~~ *Table 2*

In Tamil Nadu there are 8 types of fishing gear, operating in the various districts. They are trawl nets, drift/set gill nets, boat seines, fixed bag nets, hooks and lines, shore seines, traps and scoop nets. As in the case of trawlers, there is no districtwise statistics of trawl nets. In the case of the other types of gear complete statistics are available districtwise and they are presented in ~~the Appendix~~ *Table 2*.

**Drift/set gill nets:** In the state as a whole there are about 1.18 lakh drift/set gill nets. Ramanathapuram district accounts for the maximum number of drift/set gill nets with 35,048 numbers, forming about 30% of the total in the state. Thanjavoor, Kanyakumari, Pudukottai and Thirunelveli districts have also large number of this gear with 22,337 (19%), 16,832 (14%), 14,479 (12%) and 14,338 (12%) respectively. All the other districts have less than 10,000 gill nets. Madras district has the least.

**Hooks and lines:** Hooks and lines form the next important gear, of which the state has about 22,000. The maximum number of hooks and lines are in Ramanathapuram district, where they are 5,362, forming about 24% of the total hooks and lines in the state. Except in Madras and Thirunelveli districts, where there are only 519 and 487 hooks and lines respectively, all the other maritime districts have good number of this gear, ranging from 2,500 to 4,100 (11% to 19%).

**Fish traps:** Totalling about 8,900, the fish traps form the third major fishing implement in the state. Most of the fish traps are found in Pudukottai and Ramanathapuram districts, with 4,062 (46%) and 3,312 (37%) respectively. In Kanyakumari district also the gear is operated in large numbers (1,370; 15%). Thanjavoor has 166. In all the other districts there are either no traps or less than ten.

*Boat seines:* With a total of 7,220, the boat seine is the fourth major fishing gear in the state. Thanjavoor district occupies the first place, with 2,262 units, forming about 31% of the total boat seines. Kanyakumari district, which has 2,070 (29%) comes next. In Chengalpattu district, there are 1,273 (18%). In all the other districts the number is less than 1,000, Ramanathapuram having the least.

*Shore seines:* Next to the boat seines, the shore seines form the major gear of Tamil Nadu. There are about 4,500 shore seines in the state. The maximum number of shore seines are found in Thanjavoor and Ramanathapuram districts, where there are 1,637 and 1,523 numbers, respectively, forming about 36% and 33% of the total shore seines in the state. In all the other districts the number is less than 1,000. In Thirunelveli, Pudukottai and Madras districts there are only very few shore seines, with 66, 57 and 46 respectively.

*Scoop nets:* There are about 1,000 scoop nets in the state, bulk of them are found in Thanjavoor (698) and South Arcot (252) districts.

#### **Infrastructures Facilities**

*Processing units:* There are 55 freezing and ice plants, 2 canning plants, 3 fishmeal plants and 2 seaweed-processing plants. Of these, 27 freezing/ice plants are in Madras district. Only one freezing/ice plant is in Chengalpattu district. South Arcot district has 6 freezing/ice plants. Thanjavoor 6 ice plants, Ramanathapuram 4 freezing/ice plants, Thirunelveli 6 freezing/ice plants and Kanyakumari 5 freezing/ice plants. Among the 2 canning plants, one is in Thirunelveli district and the other is in Kanyakumari district. Out of the 3 fishmeal plants, one is in Ramanathapuram district and the rest are in Thirunelveli district. One seaweed plant is in Madurai, which is however not a coastal district and another is in Thirunelveli district.

*Fishing harbours:* Among the 9 Fishing harbours, located at Madras, Cuddalore, Nagapattinam, Mallipattinam, Kodikkarai, Mandapam-South, Mandapam-North, Rameswaram and Tuticorin, that with the maximum capacity of berthing facilities, for 500 small boats and 59 large boats, is in Madras, followed by that in Tuticorin, with berthing facilities for 400 small boats and 10 large ones. Mallipattinam provides for 54 mechanised boats, Cuddalore, Kodikkarai and Mandapam-North 40 each and Nagapattinam, Mandapam-South and Rameswaram 10 each. Apart from these, 2 more fishing harbours are coming up, one at Chinna Muttom in Kanyakumari district and the other at Valinokkam in Ramanathapuram district.

**Landing jetties:** In addition, there are a number of centres where jetty facilities are available. They are one each at Ennore in Chengalpattu district; Porto Nova and Pazhayar in South Arcot district Arcotuthurai and Sethubavachatram in Thanjavoor district; Kottaiappattinam and Jegadapattinam in Pudukkottai district; Valinokkam, Keelakarai, Chinna Ervadi and Pamban in Ramanathapuram district; Veerapandianpattinam and Thiruchendur in Thirunelveli district and Colachel and Cape Comorin in Kanyakumari district.

**Boat-building yards:** Out of 14 boat-building yards available in the state, 3 are in the public sector and 11 in the private sector. In Madras district, there are 2 boat-building yards owned by Tamil Nadu Fisheries Development Corporation and 3 by private sector. At Nagapattinam, there is one boat - building yard under public sector. The rest 8 boat-building yards under private sector are distributed in other districts: 3 in South Arcot, 4 in Thirunelveli and 1 in Kanyakumari.

**Net-making plants:** There are 15 fishnet-making units in the private sector, in the districts of Madras: Chengalpattu, Pudukkottai and Thirunelveli. Besides, there are a number of hand-fabricating units under cottage industry in Kanyakumari district. In the public sector, there is a fishnet webbing factory at Madras.

**Fishermen co-operatives:** There are 315 Fishermen Cooperative Societies in the state, of which 294 are primary Fishermen Cooperative Societies. It is notable that there are 3 societies exclusively meant for fisherwomen. To encourage prawn farming, there are also two Cooperative Societies in the State.

Also, there are schools, primary health centres, banks, post-offices and electricity and drinking-water facilities in most of the fishing villages in Tamil Nadu, which are also connected by good roads.

## EXPLOITED MARINE FISHERY RESOURCES IN TAMIL NADU

Among the various maritime states of India, Tamil Nadu ranks third in the contribution of marine fish landings. On an average, the contribution from the state is about 2.32 lakh tonnes per year during the decade covering 1975-84. This forms about 16.7% of the all-India marine fish landings. The quarterwise, species-wise and yearwise marine fish landings in the state are presented in the Appendix. From the quarterwise landings it is seen that the third quarter of the year (July to September) is the best fishing season, when about 29% of the total fish catch is recorded. Fourth quarter is relatively a lean fishing season, when 22.77% of the total catch is accounted. During the second quarter also comparatively low catch is recorded, the percentage catch being 23.44.

The various species of marine fishes and shell fishes during the ten-year period 1975 to 1984 are grouped into pelagic and demersal categories. While the pelagic group of species comprises wolf herring, oil sardine, other sardines, hilsa shad, other shads, anchovies, other clupeoids, bombayduck, halfbeaks, fullbeaks flying fishes, ribbonfishes, carangids, mackerel, seer fishes, tunnies, bill fishes, barracudas, mullets and unicorn cod, the demersal group consists of elasmobranchs, eels, cat fishes, lizardfishes, perches, goat fishes, threadfins, croakers, silverbellies, big-jawed jumper, pomfrets, flatfishes, prawns, lobsters, crabs, stomatopods and cephalopods. The catch particulars of total pelagic and demersal group of fishes during the ten year period 1975 to 1984 are shown in the Appendix. Fig. 1 shows the year-to-year fluctuations of the two groups of fishes and their percentage to the total during the ten year period.

From the Table 1 in the Appendix it is seen that an average of 105,350 tonnes (45.4%) of pelagic group of fishes and 126,526 tonnes (54.6%) of demersal group were landed during the 10 year period. The pelagic group fluctuated between 88,207 tonnes (35.9%) in 1982 and 124,497 tonnes (49.4%) in 1984, with an average of 105,350 tonnes. The demersal group, however, varied between 109,294 tonnes (48.3%) in 1976 and 166,885 tonnes (59.4%) in 1983 with an average of 126,526 tonnes. The above shows that in Tamil Nadu the demersal group of fishes dominated over pelagic group.

### Major Fisheries in the Traditional Sector

In order to study the distribution pattern of various fisheries of the state, 10 major species were identified for further analysis. The species thus taken for

detailed analysis are silverbellies, sardines other than oil sardine termed as other sardines, anchovies, elasmobranchs, croakers, ribbonfishes, penaeid prawns, crabs, carangids and perches, which together contribute 72.2% of the total marine fish catch of Tamil Nadu. Dharma Raja and Philipose (1975) in the study on the trends in the yields of major exploited fisheries of the east coast of India have described the major fisheries of Tamil Nadu.

**Silverbellies:** In Tamil Nadu, silverbellies contribute to one of the major demersal fisheries of the state and account for 16.6% of the total marine fish landings. Silverbellies, otherwise known as pony fishes, comprise *Leiognathus berbis*, *L. bindus*, *L. blochii*, *L. brevirostris*, *L. daura*, *L. dussumieri*, *L. equalus*, *L. fasciatus*, *L. jonesi*, *L. leuciscus*, *L. lineolatus*, *L. splendens*, *Gazza achlamys*, *Gazza minuta*, *Secutor insidiator* and *S. ruconius*. The estimates of silverbellies landings for the ten-year period 1975 to 1984 are furnished in the Appendix.

From the Appendix it is noticed that the landings of this fishery have been fluctuating widely during the ten-year period. A minimum catch of 17,837 tonnes was recorded in the year 1977 and a maximum of 62,109 tonnes was seen in 1983, the average landings for the ten-year period being 38,492 tonnes.

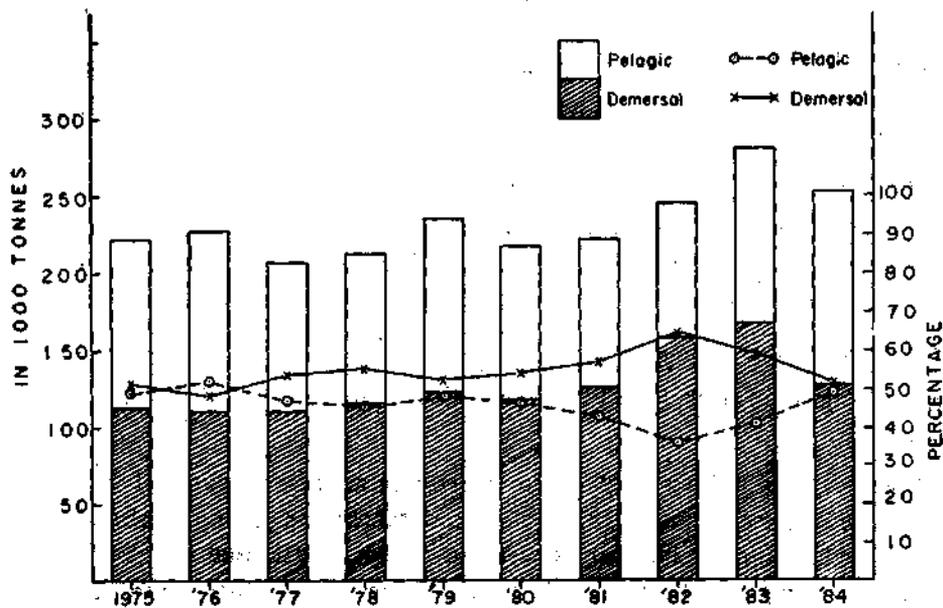


Fig. 1. Annual contribution of pelagic and demersal groups in Tamil Nadu during 1975-84

The trendline fitted to the data is represented by the equation:

$$Y = 44,274.62 + 3767.12t - 561.99t^2$$

The trendline depicts an increasing trend from 1975 to 1983 and then a minor fall in the year 1984.

*Other sardines:* All sardines other than oil sardine have been grouped as other sardines, which form a major pelagic fishery of the state. They constitute 12.2% of the total marine fish catch of Tamil Nadu. The estimates of landings of other sardines in the state for the ten-year period 1975 to 1984 are shown in Appendix. Year to year fluctuations in the landings of this fishery are noticed during the ten-year period. While in 1978, a minimum of 21,050 tonnes was recorded, a maximum of 37,124 tonnes was observed in the year 1983, the average catch for the ten-year being 28,240 tonnes. The trendline fitted to the data is given by the equation:

$$Y = 27,799.07 + 540.80t - 56.78t^2$$

which shows an increasing trend from the year 1976 to 1984.

*Anchovies:* Anchovies are another important group of pelagic species constituting about 7.0% of the total marine fish landings of the state. The species covered under this group are:-*Coilia dussumieris*, *C. neglecta*, *Setipinna taty*, *Stolephorus batavicus*, *S. buccaneeri*, *S. commersonii*, *S. devisi*, *S. heterolobus*, *S. indicus*, *S. macrops*, *S. waitei*, *Thrissina baclama*, *Thryssa dussumieri*, *T. hamiltoni*, *T. kammalensis*, *T. malabarica*, *T. mystax*, *T. purava* and *T. setirostris*. Although there is no precise information on the catch particulars of individual species, it is observed that by and large most of the above species are caught in Tamil Nadu.

The catch statistics for the period 1975 to 1984 show a minimum of 12,166 tonnes in 1978 and a maximum of 22,966 tonnes in 1984 with an average of 16,192 tonnes (see Appendix) A trendline of the form:

$Y = 14925.15 + 475.43t + 226.56t^2$  was obtained for the data showing a decreasing trend from 1975 to 1979 and then a steady increasing trend thereafter until 1984.

*Elasmobranchs:* About 6.9% of the total marine fish landings of the state is accounted for by the major group of elasmobranchs comprising sharks, skates and rays which in turn individually constitute many genera and species. The major genera among sharks recorded in the state are:-*Chiloscyllium*, *Rhintonodon*, *Stegostoma*, *Alopias*, *Carcharinus*, *Galeocerdo*, *Scoliodon* and *Sphyrna*. Similarly skates which are recorded in this state include *Rhina*, *Rhinobatus*, *Rhynchobatus*,

*Pristis* and *Raja*. The important genera which occur under the group rays are: *Dasyatis*, *Gymnura*, *Himantura*, *Urogymnus*, *Aetobatus*, *Aetomylaeus*, *Rhinoptera*, *Manta*, *Mobula* and *Nercine*.

It is observed that during 1979, a lowest catch of 12,393 tonnes was recorded and in 1975 a record catch of 20,614 tonnes was noticed, the average catch for the ten year period being 15,980 tonnes. (See Appendix). The trendline shows a decreasing trend in the catch from 1975 to 1981 and an increasing trend from 1982 to 1984, the equation of the trend line fitted for the ten year data being.

$$Y = 14318.69 - 425.15t + 172.03t^2$$

*Croakers*: The landings of croakers in Tamil Nadu account for about 6.4% of the total landings of the state. This group comprises *Johnieops aneus*, *J. sina*, *J. vogleri*, *Johnius belengerii*, *J. carutta*, *J. dussumieri*, *Kathala axillaris*, *Otolithus cuvieri*, *O. ruber* and *Protonibea diacanthus*.

The landings particulars for the ten year period are given in the Appendix. It is observed that a minimum of 10,096 tonnes was recorded in 1975 while a maximum of 22,029 tonnes was accounted in 1982, the average catch being 14,815 tonnes. The trend line shows an increasing trend from 1975 to 1980 and then a decreasing trend from 1981 to 1984. The trend line is represented by the equation.

$$Y = 18132.73 + 274.57t - 418.94t^2$$

*Ribbonfishes*: Ribbonfishes comprising *Eupleurogrammus intermedius*, *Eupleurogrammus muticus*, *Lepturacanthus savala* and *Trichiurus lepturus* form about 5.6% of the states total landings. In the Appendix the landings of ribbonfishes for 1975 to 1984 are given. The catch statistics show wide fluctuation, ranging from 4,594 tonnes in 1977 to 28,664 tonnes in 1978 with an average of 13,022 tonnes.

A trendline of the form:

$$Y = 12,406.31 - 1406.35t + 12.93t^2$$

was fitted to the data, showing a decreasing trend form 1975 to 1984.

*Penaeid prawns*: Penaeid prawns include quite a number of species of the genera *Metapenaeopsis*, *Metapenaeus*, *Parapenaeopsis*, *Parapenaeus*, *Penaeopsis* and *Penaeus*, constituting about 5.1% of the total landings of the state. The landings particulars are shown in the Appendix. The landings fluctuated between 8,197 tonnes in 1977 and 15,154 tonnes in 1984 with an average of 11,741 tonnes. The trend line of the form:

$$Y = 11634.74 + 763.42t + 20.56t^2$$

shows an increasing trend form 1975 to 1984.

**Crabs:** About 4.4% of the total landings in Tamil Nadu are contributed by crabs comprising *Sylla serrata*, *Portunus pelagicus* and *Portunus sanguinolentus*. In the Appendix the catch particulars for the 10-year period 1975 to 1984 are given. The landings showed wide fluctuations ranging from 5,883 tonnes in 1979 to 16,413 tonnes in 1976 with an average of 10,359 tonnes and with a decreasing trend from 1975 to 1981 and thereafter an increasing trend up to 1984. The trend line is fitted by the equation of the form.

$$Y = 7885.8405 - 391.4667t + 311.7847t^2$$

**Carangids:** Carangids group comprises *Alectis indicus*, *Alepes mate*, *A. para*, *Carangoides armatus*, *Caranx Carangus*, *C. ignobilis*, *C. melampygus*, *C. sexfasciatus*, *Decapterus dayi*, *D. russelli*, *Elagatis bipinnulatus*, *Gnathanodon speciosus*, *Megalaspis cordyla*, *Scomberoides commersonianus*, *S. lysan*, *S. tala*, *S. tol*, *Selar crumexophthalmus*, *Selaroides leptolepis*, *Seriola nigrofasciata*, *Trachinotus bailloni* and *T. blochii*, which contribute about 4.2% of the total landings of the state.

The catch details for the ten-year period 1975 to 1984 are given in the Appendix. The maximum of ~~7,071~~<sup>7,587</sup> tonnes was recorded in ~~1976~~<sup>1975</sup> and the maximum of ~~17,344~~<sup>14,671</sup> tonnes was recorded in 1984. The average catch for the ten-year period worked out at 9,729 tonnes. The trendline of the form:

$$Y = 10171.8931 + 996.3667t + 95.6660t^2$$

is fitted showing a steady increasing trend from 1975 to 1984.

**Perches:** In Tamil Nadu, perches contributed about 38% of the total landings. The major genera under this group occurring in this state are *Epinephelus*, *Aprion*, *Lutjanus*, *Pristipomoides*, *Lethrinus*, *Nemipterus*, *Acanthurus*, *Ambasis*, *Apogon*, *Callyodon*, *Dipleprion*, *Drepane*, *Ephippus*, *Gaterin*, *Gerres*, *Holocentrus*, *Kurtus*, *Lates*, *Lebotes*, *Acanthopagus*, *Pempheris*, *Pentaprion*, *Plectorhynchus*, *Pomadasy*, *Priacanthus*, *Peamonoperca*, *Scatophagus*, *Scolopsis*, *Siganus*, *Sillago* and *Therapon*.

The catch details for the ten-year period are given in the Appendix. The landings fluctuated between 5,341 tonnes in 1976 and 14,267 tonnes in 1983 with an average of 8,838 tonnes. The trendline is of the form:

$$Y = 8089.6383 + 862.2833t + 123.6203t^2$$

shows a decreasing trend from 1975 to 1977 and then a steady increasing trend hereafter up to 1984.

### Mechanised Sector

As per 1980 census conducted by CMFRI there are 2,614 trawlers and 143 gill netters in the State. They operate in 70 landing centres spread over all the maritime districts except Chengalpettu.

The average landings from mechanised boats for the ten-year period 1975 to 1984 are estimated at 94,148 tonnes constituting about 41% of the total marine fish catch of the State. The landings from mechanised and non-mechanised boats and their percentage to the total landings of the State during the ten-year period 1975 to 1984 are given in Table 1 and Fig 2. The percentage of catch from the two category of boats to the total catch in the State on the basis of the average for the 5-year periods 1975 to 1979 and 1980 to 1984 are also given in Table 1. It is noticed that while mechanised catch fluctuated between 53,491 and 146,225 tonnes with an average of 94,148 tonnes, the landings from non-mechanised boats varied between 114,632 and 167,724 tonnes with an average of 137,728 tonnes. Since the mechanised sector showed a rapid progress due to increase in the number of boats during the last 5-year period (1980 to 1984), the average landings for the two five year periods 1975 to 1979 and 1980 to 1984 are worked out along with their percentage to the total landings of the State for comparison. It is observed that the average catch from mechanised boats

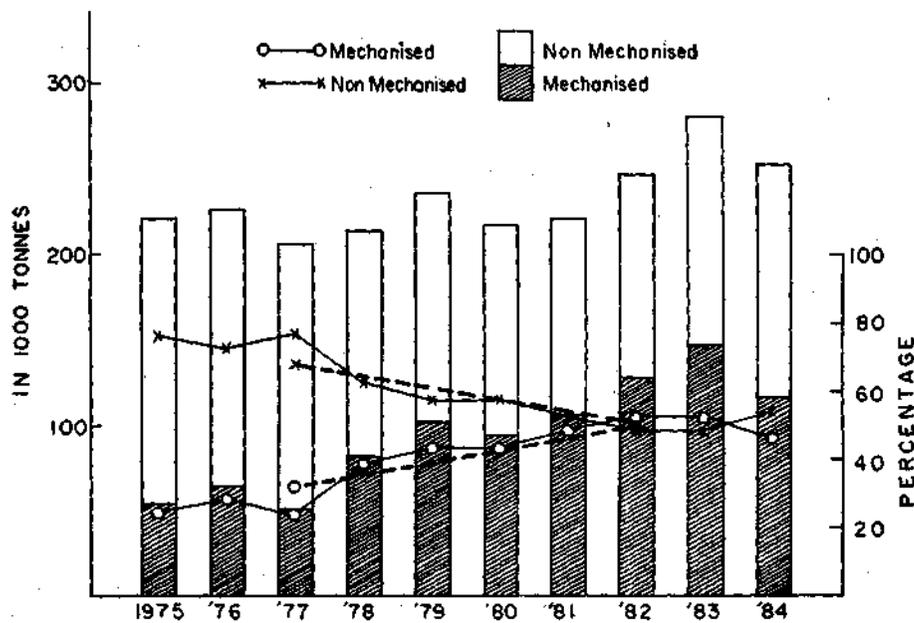


Fig. 2 Annual contribution of mechanised and non-mechanised units in Tamil Nadu during 1975-84

Table 1

*Landings from mechanised and non mechanised boats in Tamil Nadu during 1975 to 1984 (In tonnes)*

Year	Mechanised boats	Non mechanised boats	Total
1975	53,491	167,724	211,215
1976	63,621	162,457	226,078
1977	50,359	155,687	206,046
1978	81,495	131,404	212,899
1979	101,758	133,250	235,008
Average	70,145	150,104	220,249
%	31.85	68.15	100.00
1980	94,131	123,263	217,394
1981	106,664	114,632	221,296
1982	127,542	118,419	245,961
1983	146,225	134,514	280,739
1984	116,190	135,930	252,120
Average	118,150	125,352	243,502
%	48.52	51.48	100.00
Average for 1975 to 1984	94,148	137,728	231,876
%	40.60	59.40	100.00

during the last five years (1980-84) was 118,150 tonnes as compared to the previous five-year period (1975-1979) which was 70,145 tonnes, showing an increase of about 48,000 tonnes (68.44%). Similarly, the percentage of average catch of mechanised boats for the average total catch during the period 1980-84 increased to 48.52% from 31.85% of the corresponding five-year period 1975-79, registering an increase of about 17%.

It is also observed that while the average catch from non-mechanised boat during the last five years (1980-84) declined to 125,352 tonnes from 150,104 tonnes in the corresponding five-year period 1975-79, the percentages of the average catch of the non-mechanised boats to the average total catch were 51.48 and 68.15 respectively during the above periods showing a decrease of about 17%.

### Landings From Mechanised Boats of Major Centres

Out of the 70 landing centres where mechanised boats operate 6 major centres were observed exclusively, as the intensity of catch was high in these centres. They were Pudumaniakuppam in Madras district, Cuddalore Fisheries Harbour in South Arcot district, Nagapatinam in Thanjavoor district, Mandapam and Rameswaram in Ramanathapuram district and Tuticorin Fisheries Harbour in Thirunelveli district.

The catch figures for the 6 centres and the total mechanised catch of the State are shown below:

(Fig. in tonnes)

S.No.	Name of Centre	1980	1981	1982	1983	1984	Average
1.	Pudumaniakuppam	1,496	6,540	9,340	9,401	9,766	7,309
2.	Cuddalore Fisheries Harbour	1,969	1,108	3,549	3,912	3,247	2,757
3.	Nagapatinam	2,007	3,873	6,491	11,195	11,178	6,949
4.	Mandapam	2,533	5,459	5,606	6,968	7,218	5,557
5.	Rameswaram	14,378	20,586	22,796	28,836	23,738	22,067
6.	Tuticorin Fisheries harbour	6,585	12,408	9,522	13,487	16,814	11,763
Total of 6 Centres		28,968	49,974	57,304	73,799	71,961	56,402
%		30.77	46.85	44.93	50.47	61.93	47.74
Total mechanised boat catch in the State		94,131	106,664	127,542	146,225	116,190	118,150

From the above table it is seen that the total catch of mechanised boats in all 6 centres showed a steady increase from 28,968 tonnes in 1980 to 73,799 tonnes in 1983 and a minor decline to 71,961 tonnes in 1984. The percentage of total mechanised boat catch in these centres to the total State's mechanised boats catch, however, increased from 30.77 in 1980 to 61.93, showing a two-fold increase (Fig. 3). The gearwise catch particular of different categories of mechanised boat in the 6 centres are described below in the order of abundance (Fig. 4).

**Rameswaram:** This centre is situated in the Rameswaram island of Ramanathapuram district. Mostly trawlers operated in this centre although few gill netters operated in 1981 and 1982.

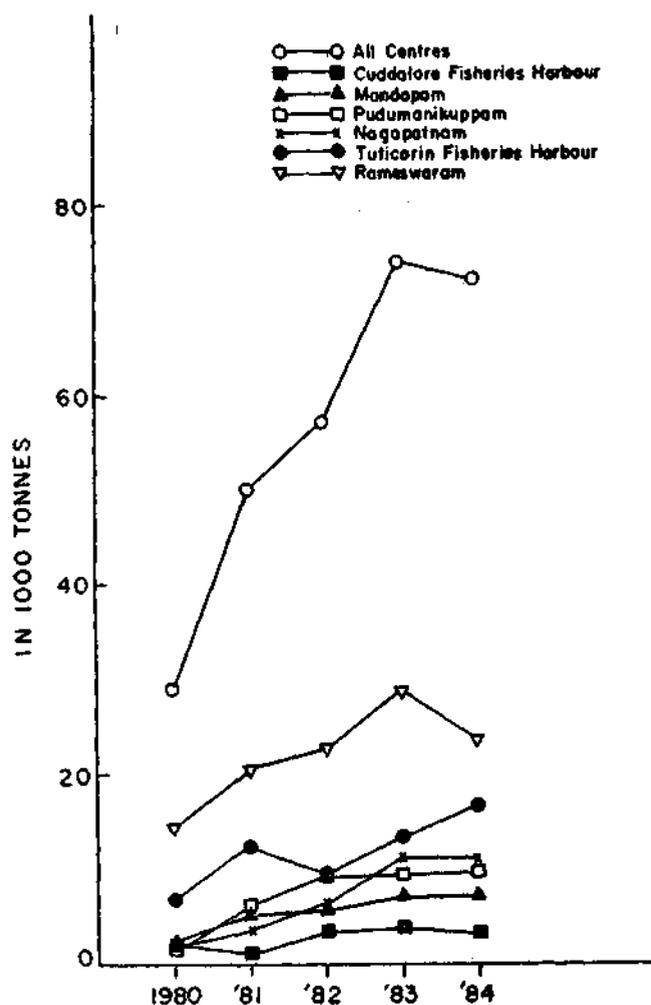


Fig. 3 Harbourwise annual marine fish landings in Tamil Nadu during 1980-84.

The detailed quarterwise and specieswise catch particulars and the fishing effort are shown in Appendix. It is observed that this centre constituted about 39% of the combined total catch of all the 6 centres.

*Trawl net:* The landings from trawl net showed a minimum of 14,378 tonnes in 1980 and a maximum of 28,836 tonnes in 1983 with an average of 22,064 tonnes for the five year period 1980 to 1984. While the fishing effort fluctuated between 78,758 in 1980 and 105,053 number in 1983, the catch per unit effort,

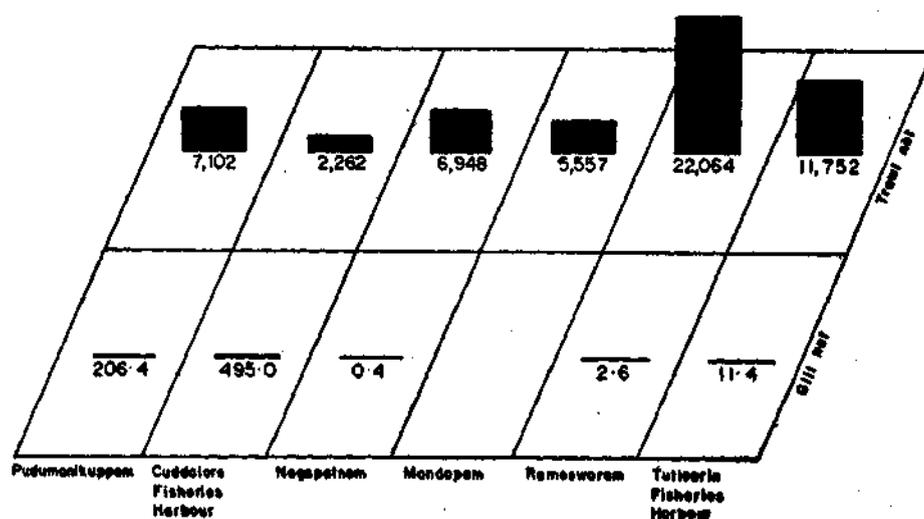


Fig. 4. Harbourwise gearwise average annual landings in Tamil Nadu during 1980-84

however, showed a steady increase from 182.56 kg in 1980 to 279.07 kg in 1984. The annual catch rate was 10.55%.

The relation between catch and fishing effort is of the form.

$C = 4510.2436e^{0.0073f}$  where C is the catch in tonnes and f is the fishing effort in 1000 numbers of operation of unit. From table it is seen that the effective rate of increase per unit effort 0.73% at present indicating no further scope to increase the operation of trawlers to augment the catch rate in this centre. The major groups of fishes and prawns that are caught by trawl net during the five year period are shown below:

	1980	1981	1982	1983	1984	Average	%
Silver bellies	7,474	10,310	12,717	14,800	11,269	11,314	51.28
Elasmobranchs	2,370	3,453	2,059	3,451	3,330	2,933	13.29
Croakers	816	2,126	2,562	3,112	1,833	2,090	9.47
Pen.prawns	1,367	2,101	1,751	2,450	2,677	2,069	9.38
Others	2,351	2,588	3,702	5,023	4,629	3,658	16.58
<b>Total</b>	<b>14,378</b>	<b>20,578</b>	<b>22,791</b>	<b>28,836</b>	<b>23,738</b>	<b>22,064</b>	<b>100.00</b>

From the above table it seen that silverbellies formed the major fishery in trawl net, the catch fluctuating between 7,474 and 14,800 tonnes in 1980 and 1983 respectively with an average of 11,314 tonnes constituting about 51.28% of the total catch from trawl net. The other important groups in the order of abundance are elasmobranchs, crockers, and penaeid prawns whose average catches were 2,933 (13.29), 2,090 (9.47) and 2,067 tonnes (9.38) respectively. The four major groups of fishes and prawns together constituted about 83% the total trawl net catch.

**Gill net:** Gill nets were operated in this centre only for two years 1981 and 1982, and that too realising small catches of 8 and 5 tonnes respectively. The fishing effort for the 2 years were 79 and 28 numbers of operations of units respectively, the corresponding CPUE being 101.27 and 178.57 kg showing a substantial increase of about 77.30 kg (76.33%). The gill netters landed mostly elasmobranchs, catfishes and wolf herring (*Chirocentrus dorab*) and the catches were very poor.

**Tuticorin Fisheries Harbour**

Tuticorin Fisheries Harbour is one of the major fisheries harbours of the State and is situated in the Thirunelveli District of Tamil Nadu. In this centre also mostly trawlers operated although gillnetters operated during 1981 and 1982. The annual gearwise catch for the five-year period 1980 to 1984 are shown in Fig 5. The detailed quarterwise and specieswise catch particulars for the 5 year period are shown in the Appendix. It is noticed that Tuticorin Fisheries Harbour on an average contributed 11,763 tonnes constituting about 21% of the total catch of mechanised boats in all the 6 centres and occupies the place second to Rameswaram.

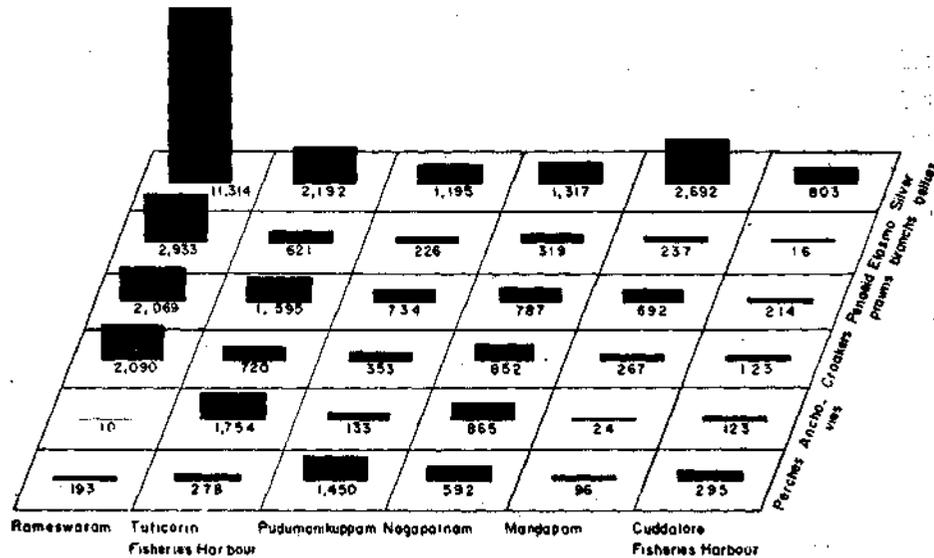


Fig. 5 Harbourwise, major-groupwise average annual landings in Tamil Nadu during 1980-84.

**Trawl net:** A minimum of 6,585 tonnes during 1980 and a maximum of 16,814 tonnes during 1984 in the catch of trawlers were noticed, the average catch for the five year period being 11,752 tonnes. The fishing effort, however, fluctuated between 24,445 numbers in 1982 and 52,068 numbers in 1984. The catch per unit effort increased from 214.44 kg in 1980 to 322.92 kg in 1984 showing an increase of 108.50 kg (50.60%). The relation between catch and fishing effort is found to be  $C = 4659.0782 e^{0.01087f}$

where C and f represent catch and fishing effort. It is observed that the effective rate of increase (per unit effort is 1.09% showing that only Marginal increase) in the catch will be possible even if the effort is increased.

The contribution (in tonnes) of major group of fishes and prawns from the trawlers during 1980 to 1984, is as follows,

	1980	1981	1982	1983	1984	Average	%
Silver bellies	543	1,714	1,631	2,397	4,673	2,192	18.65
Penaeid prawns	626	3,431	801	1,173	1,945	1,595	13.57
Anchovies	110	1,346	1,988	1,468	3,860	1,754	14.93
Croakers	1,010	704	679	698	510	720	6.13
Elasmobranchs	751	603	1,034	693	22	621	5.28
Others	3,545	4,571	3,371	7,058	5,804	4,870	41.44
<b>Total</b>	<b>6,585</b>	<b>12,369</b>	<b>9,504</b>	<b>13,487</b>	<b>16,814</b>	<b>11,752</b>	<b>100.00</b>

It is observed from the above table that silverbellies is the major component, constituting about 19% of the total trawl catch in this centre. It, however, fluctuated between 543 and 4673 tonnes with an average of 2,192 tonnes, Penaeid prawns are also caught in substantial quantities, the average catch and its share in the total trawl catch being 1,595 tonnes and 13.57%. Anchovies, croakers and elasmobranchs are the other major groups of fishes that are caught in this centre. These five categories of fishes and prawns jointly contribute about 59% of the total landings from trawlers.

**Gill net:** Only during 1981 and 1982, gill netters operated in this centre, the respective catch from them being 39 and 18 tonnes. The fishing effort for the two years was 235 and 93 numbers respectively the CPUE being 165.96 and

193.55 kg. showing an increase of about 28kg. Elasmobranchs, big-jawed jumber (*Lactarius lactarius*), seer fishes, and barracudas were the major groups of fishes that were caught by this gear.

#### Pudumanaikuppam

Pudumanaikuppam is situated in Madras district of Tamil Nadu and there is a major fisheries harbour with all facilities. It occupies the third place with an average catch of about 7,300 tonnes forming about 13% of the total mechanised boats catch in all the 6 centres. Trawlers operated predominantly although gillnetters were also operated in small numbers during the five years. The gear-wise catch for the period 1980 to 1984 is shown in fig 4. The specieswise and quarterwise catch particulars are given in the Appendix.

*Trawl net*; The catch trends of trawlers during 1980 to 1984, show a minimum of 1,416 tonnes in 1980 and a maximum of 9,411 tonnes in 1984 with an average of 7,102 tonnes. The fishing effort in terms of number of operations of units fluctuated between 13,514 in 1980 and 35,414 in 1982. The corresponding catch per unit effort showed a steady increase from 107.65 kg in 1980 to 310.25 kg in 1983 and declined to 27.170 kg in 1984.

The relation between catch and fishing effort is found to be

$$C = 511.3285 e^{0.03794f}$$

where C and f represent catch and fishing effort. It is observed that the effective rate of increase per unit effort is 3.87% showing that there is scope to increase the catch further.

The landings (in tonnes) of major group of fishes and prawns during the five year period 1980 to 1984 are shown below:

	1980	1981	1982	1983	1984	Average	%
Perches	208	1,152	2,313	1,984	1,593	1,450	20.4
Silver bellies	162	1,577	1,426	1,464	1,345	1,195	16.82
Penaeid prawns	165	1,023	1,267	706	509	734	10.33
Croakers	143	507	281	445	390	353	4.97
Elasmobranchs	98	312	196	93	433	226	3.19
Others	640	1,630	3,708	4,600	5,141	3,144	44.27
<b>Total</b>	<b>1,416</b>	<b>6,201</b>	<b>9,191</b>	<b>9,292</b>	<b>9,411</b>	<b>7,102</b>	<b>100.00</b>

From the table it is seen that perches formed the major group of fishes in Pudumanaikuppam with an average catch of about 1,450 tonnes forming about

20% of the total trawl catches of this centre. The landings, however, fluctuated between 208 tonnes in 1980 and 2,313 tonnes in 1982. Silverbellies were the next major group of fishes with an average catch of 1,195 tonnes constituting about 17% of the total trawl catch. Penaeid prawns, croakers and elasmobranchs also landed in substantial quantities by trawlers. The five major group of fishes together contributed about 56% of the total landings of trawlers in this centre.

*Gill net:* Gill netters operated during all the five years with landings ranging from 80 tonnes in 1980 to 355 tonnes in 1984 with an average of 206 tonnes. The annual catch rate worked out to 34.72%. The fishing effort in terms of number of operations of units fluctuated between 975 in 1980 and 2,127 in 1981. The catch per unit effort increased from 82.05 kg in 1980 to 188.73 kg in 1984 showing an increase of 106.68 kg (130.02%)

The major groups of fishes that are caught by gill netters in this centre are shown below (Fig. in tonnes).

	1980	1981	1982	1983	1984	Average	%
Elasmobranchs	47	167	36	18	112	76	36.89
Seer fishes	23	109	67	39	81	64	31.07
Tunnies	4	21	10	7	17	12	5.83
Carangids	6	15	1	12	7	8	3.88
Others	—	27	35	33	138	46	22.33
<b>Total</b>	<b>80</b>	<b>339</b>	<b>149</b>	<b>109</b>	<b>355</b>	<b>206</b>	<b>100.00</b>

As seen in the above table, elasmobranchs are predominantly caught by gillnetters, the catch fluctuating between 18 tonnes in 1983 and 167 tonnes in 1981 with an average of 76 tonnes constituting about 37% of the average total catch by gillnetters. Seer fishes are the next important group of fishes with an average catch of 64 tonnes forming about 31% of the average total gill net catch. The other important groups which are also caught by this gear are tunnies and carangids whose share are 12 (5.83%) and 8 (3.88%) tonnes respectively. All these four groups of fishes jointly contributed about 78% of the total gillnet catch.

#### **Nagapattinam**

Nagapattinam is one of the major ports of Tamil Nadu in Thanjavoor district and mostly trawlers operate in this centre. During 1983 operations of four gillnetters were recorded in addition to trawler operations.

With an average catch of 6,949 tonnes, contributing about 12% of the total mechanised boats catch of all the 6 centres, this centre occupies fourth place. Mostly trawler operated during the five year period 1980 to 1984. During 1983 some stray catches were recorded by gillnetters. The gearwise catch for the five year period is shown in Fig 4p.

*Trawl net:* A minimum catch of 2,007 tonnes in 1980 and a maximum catch of 11,193 tonnes in 1983 with an average of 6,949 tonnes were recorded in the centre. The fishing effort in terms of number of operatives of gears fluctuated between 9,307 in 1980 and 47,667 in 1984. But the CPUE which showed a steady increase from 215.64 kg in 1980 to 481.61 kg in 1983 sharply declined to 234.50 kg in 1984, eventhough the total catch during 1984 remained more or less the same as compared to 1983. This is due to lower catch per unit inspite of higher input of effort.

The relation between catch and fishing effort is found to be

$$C = 2291.9229 e^{0.01711f}$$

where C is the catch in tonnes and f is the fishing effort in terms of number of operations.

The effective rate of increase per unit effort will be only 1.72% showing that there may not be any appreciable increase in the catch with more effort.

The catches (in tonnes) of major group of fishes and prawns during the five year period 1980 to 1984 are shown below

	1980	1981	1982	1983	1984	Average	%
Silver bellies	449	756	824	2,601	1,953	1,316	18.95
Anchovies	270	468	674	1,502	1,413	865	12.45
Croakers	199	500	701	1,412	1,446	852	12.26
Penaeid prawns	112	349	733	974	1,766	787	11.33
Perches	142	360	816	1,160	482	592	8.52
Elasmobranchs	78	163	285	576	493	319	4.59
Others	757	1,277	2,408	2,968	3,625	2,217	31.90
<b>Total</b>	<b>2,007</b>	<b>3,873</b>	<b>6,491</b>	<b>11,193</b>	<b>11,178</b>	<b>6,948</b>	<b>100.00</b>

From the above table it is observed that silver bellies dominated the landings of trawl net with an average catch of 1,316 tonnes during the five year period accounting for about 19% of the total trawl catch. The landings of silver bellies

fluctuated between 449 tonnes in 1980 and 2,601 tonnes in 1983. Anchovies and croakers were the next major groups with an average catch of 855 tonnes and 852 tonnes respectively accounting for 12% each of the total trawl catch. Penaeid prawns also contributed substantially with an average catch of 787 tonnes representing 11% of trawler landings. With a catch of 319 tonnes (5%), elasmobranchs was one of the important groups. As seen in the above table silver bellies, Anchovies, croakers, penaeid prawns, perches and elasmobranchs jointly accounted for about 68% of the trawler catch in this centre.

#### Mandapam

In Ramanathapuram district, Mandapam is situated on the south east coastal strip which is connected with the Rameswaram Island by the Pamban railway bridge. Fishing takes place on both Palk bay and Gulf of Mannar sides during the two monsoon seasons, fishing on Palk bay side being for a longer period. Only trawlers operated during the five year period 1980 to 1984, the landings fluctuating between 2,533 tonnes in 1980 and 7,218 tonnes in 1984 with an average of 5,557 tonnes accounting for about 10% of the total average mechanised catch in all the 5 major centres. Table in the Appendix gives the annual landings during 1980 to 1984.

*Trawl net:* It is observed that the fishing effort during the five year period showed a steady increase from 25,143 numbers in 1980 to 62,416 in 1984 except in 1982 when the effort expended declined to 40,643 from 47,840 numbers in 1981. The CPUE which showed a steady increase from 100.74 kg in 1980 to 137.93 kg in 1982 declined to 133.23 kg in 1983 and further declined to 115.64 kg in 1984.

The relation between catch and fishing effort is of the form

$$C = 1438.1361 e^{0.01227f}$$

Where C is the catch in tonnes and f is the fishing effort in 1000 number of operations of units. It is seen that the effective rate of increase per unit effort is 1.23% showing that any increase in the fishing effort will not result in appreciable catch in trawl fishery.

The contribution (in tonnes) of major groups of fishes by trawl net during 1980 to 1984 in Mandapam is as follows.

	1980	1981	1982	1983	1984	Average	%
Silverbellies	1,592	3,194	3,447	2,860	2,366	2,692	48.44
Penaeid prawns	217	803	598	774	1,068	692	12.45
Croakers	64	280	308	337	346	267	4.81
Elasmobranchs	142	290	222	195	335	237	4.26
Others	518	892	1,031	2,802	3,103	1,669	30.04
<b>Total</b>	<b>2,533</b>	<b>5,459</b>	<b>5,606</b>	<b>6,968</b>	<b>7,218</b>	<b>5,557</b>	<b>100.00</b>

It is seen from the above table that silver bellies accounted for about 48% of the total catch of trawlers with an average catch of 2,692 tonnes. The landings fluctuated between 1592 tonnes in 1980 and 3,447 tonnes in 1982. Penaeid prawns with an average catch of 692 tonnes formed the next major fishery accounting for about 12% of the trawl catch. Croakers and elasmobranchs also contributed substantially with an average catch of 267 and 237 tonnes respectively, accounting for about 5% and 4% of the catch. The four major groups of fishes together accounted for about 70% of the total trawler catch.

#### Cuddalore Fisheries Harbour

Situated in South Arcot district of Tamil Nadu, Cuddalore fisheries Harbour is one of the major fishries harbours of Tamil Nadu. Both trawlers and gill netters operated in this centre during 1980 to 1984. The total catch from mechanised boats fluctuated between 1,108 tonnes in 1981 and 3,912 tonnes in 1983 with an average catch of 2,757 tonnes contributing about 5% of all 6 major centres of Tamil Nadu (see Appendix).

*Trawl net:* The trawl net catches in this centre during 1980 to 1984 fluctuated between 1,004 tonnes in 1981 and 3,304 tonnes in 1983 with an average catch of 2,262 tonnes. The annual catch rate is worked out to 7.96%. The fishing effort in terms of number of operations of gears fluctuated between 8043 in 1981 and 16,012 in 1980. But this catch per unit effort showed a steady increase from 122.97 kg in 1980 to 319.43 kg in 1984 an increase of 196.46 kg (160%) inspite of decrease in the fishing effort from 16,012 number in 1980 to 9,041 number in 1984.

The relation between catch and fishing effort is of the form

$$C = 1450.7748 e^{0.014888f}$$

where C and f are catch in tonnes and fishing effort in terms of 1000 numbers of operations of units respectively.

It is observed that the effective rate of increase per unit effort is only 1.50% indicating that there may not be appreciable increase in the catch even if the fishing effort is increased further.

The catches (in tonnes) from the major groups of fishes and prawns for the period 1980 to 1984 are shown below:

	1980	1981	1982	1983	1984	Average	%
Silver bellies	643	334	631	1436	969	803	35.50
Perches	292	126	358	444	254	295	13.04
Lizard fishes	199	117	215	381	354	253	11.18
Penaeid prawns	121	104	233	196	418	214	9.46
Anchovies	150	17	49	220	177	123	5.44
Croakers	83	73	132	59	266	123	5.44
Others	481	233	527	568	450	451	19.94
<b>Total</b>	<b>1,969</b>	<b>1,004</b>	<b>2,145</b>	<b>3,304</b>	<b>2,888</b>	<b>2,262</b>	<b>100.00</b>

It is observed from the above table that silverbellies had formed the major fishery in trawl net with an average catch of 803 tonnes, constituting about 36% of the total trawl catch. The catch, however, fluctuated between 334 tonnes in 1981 and 1,436 tonnes in 1983. Perches, lizard fishes and penaeid prawns also substantially contributed to the total trawl catch with an average catch of 295 (13%), 253(11%) and 214 (9%) tonnes respectively. Anchovies and croakers are the other two important groups of fishes with an average catch of 123 tonnes (5%) each. The six major groups of fishes jointly contributed about 80% of the total trawl catch.

*Gillnet:* The gill netters operated from 1981 to 1984 with an average catch of 495 tonnes, the catch varying from 104 tonnes in 1981 to 1,404 tonnes in 1982. The annual catch rate is worked out to 36.31. The fishing effort fluctuated between 863 numbers of operations in 1981 and 3,364 numbers in 1982. The CPUE fluctuated between 120.51 kg in 1981 and 417.36kg in 1982, the same in 1984, however, declined to 312.72 kg.

The following table furnishes the catches (in tonnes) of major groups of fishes from gillnetters during 1981 to 1984 in Cuddalore Fisheries Harbour.

	1981	1982	1983	1984	Average	%
Seer fishes	23	652	163	114	238	38.55
Elasmobranchs	44	254	320	137	189	30.53
Tunnies	23	342	100	69	134	21.65
Others	14	156	25	39	58	9.37
<b>Total</b>	<b>104</b>	<b>1404</b>	<b>608</b>	<b>359</b>	<b>619</b>	<b>100.00</b>

From the table above it is observed that seer fishes formed bulk of the catch of gillnetters with an average catch of 238 tonnes forming about 38% of the total catch from gillnetters. Elasmobranchs and tunnies also formed major fisheries next to seer fishes with 189 and 134 tonnes of average catch respectively contributing 31% and 22%. The above three fisheries jointly contributed about 91% of the total catch of gillnetters.

#### **Districtwise Estimates of Marine Fish Landings**

In Tamil Nadu there are 8 maritime districts, namely Chengalpattu, Madras, South Arcot, Thanjavoor, Pudukottai, Ramanathapuram, Thirunelveli and Kanyakumari. The estimated annual landings for each district for the years 1981-1984, the average annual landings and percentage it forms in the state's average annual landings are shown in Table. 1.

Table 1 *Districtwise Estimates of Marine fish landings in tonnes in Tamil Nadu during 1981 to 1984*

District	1981	1982	1983	1984	Average	%
Chengalpattu	8203	8294	9056	10459	9003	3.60
Madras	9942	12558	12630	11434	11641	4.65
South Arcot	16461	16648	21099	19171	18344	7.34
Thanjavoor	38979	49694	54748	42003	46356	18.54
Pudukottai	31179	42771	38382	13885	31554	12.62
Ramanathapuram	44712	48929	73032	58028	56175	22.46
Thirunelveli	43240	35509	39396	43515	40400	16.16
Kanyakumari	28580	31558	32539	53625	36576	14.63
<b>TOTAL</b>	<b>221296</b>	<b>245961</b>	<b>280882</b>	<b>252120</b>	<b>250064</b>	

It may be seen that Ramanathapuram district with about 22% of the total annual average landings of the State ranks first. The rest of the districts in the order of ranking are : Thanjavoor (18.54%), Kanyakumari (15%), Thirunelveli (16.16%), Pudukottai (12.62%), South Arcot (7.34%), Madras (4.65%) and Chengalpattu (3.60%).

#### Ramanathapuram District

The total marine fish landings in Ramanathapuram district steadily increased from 44,700 tonnes in 1981 to 73,000 tonnes in 1983 and declined to 58,000 tonnes in 1984, the average for the four years working out to 56,000 tonnes.

*Quarterwise landings:* The quarterwise estimated marine fish landings in tonnes of Ramanathapuram district for the period 1981 to 1984 are shown below:

	1981	1982	1983	1984	Average	%
January to March	12615	14461	13406	12852	13334	23.74
April to June	9616	11867	27295	16553	16333	29.08
July to September	11834	12343	13459	16028	13415	23.88
October to December	10647	10258	18872	12595	13093	23.30
<b>TOTAL</b>	<b>44712</b>	<b>48929</b>	<b>73032</b>	<b>58028</b>	<b>56175</b>	

From the above table it may be seen that, although there is no large-scale variation in the landings pattern during the four quarters, the quarter April to

June is the best recording about 29% of the total landings. The intensity of landings is more or less the same during January-March, July-September and October-December.

*Landings From Mechanised and Non-Mechanised Fishing Craft* : The details of marine fish landings from mechanised and non-mechanised fishing craft fishing effort and CPUE during 1981 to 1984 are shown in Table 2.

Table 2. *The landings of mechanised and nonmechanised craft in Ramanathapuram district, 1981-1984*

		Mechanised		Total	Non mechanised	Grand total
		Trawl net	Gill net			
1981	L	33,451	211	33,662	11,050	44,712
	E	206,172	2,084			
	U	162.24	101.25			
1982	L	36,088	68	36,156	12,773	48,929
	E	193,592	471			
	U	186.41	144.37			
1983	L	47,548	164	47,712	25,320	73,032
	E	238,670	2,181			
	U	199.22	75.19			
1984	L	44,708	71	44,779	13,249	58,028
	E	240,849	1,322			
	U	185.63	53.71			
Average	L	40,449	128	40,577	15,598	56,175
	E	219,821	1514	72.23%	27.77%	
	U	184.01	84.54			

L— landings in tonnes, E— fishing effort in terms of number of operations of fishing units and U—CPUE in kg.

From the above table it may be seen that the landings of mechanised boats constituted about 72% of the annual landings in the district. Out of the total mechanised craft landings of 40,600 tonnes, the share of trawlers is 40,500 tonnes (99.68%). The Balance of 130 tonnes is the share (0.32%) of gill nets. In Ramanathapuram district the mechanised boats are operating at Mandapam, Rameswaram and 14 other centres. While Rameswaram has recorded an average annual landings of 22,067 tonnes (55.75%), Mandapam accounts for 5,557 tonnes (14.04%) and the balance of 11953 tonnes (30.20%) comes from the other 14 centres.

*Trawl net:* The landings from trawl nets in this district shows a steady increase from 33,500 tonnes in 1981 to 44,700 tonnes in 1984 with a peak of 47,500 tonnes in 1983 with an average of about 40,400 tonnes. The fishing effort in terms of number of operations, however, fluctuated between 193,600 in 1982 to 240,800 in 1984, with an average of 219,800. The CPUE also fluctuates between 162 kg in 1981 to 200 kg in 1983 with an average of 184 kg.

*Gill net:* The gillnet landings shows a wide fluctuation during 1981 to 1984. Whereas the minimum of 68 tonnes is in 1982, the maximum of 211 tonnes is in 1981. The average for the four year period is 128 tonnes. The fishing effort fluctuates between 471 in 1982 and 2181 in 1983, with an average of 1514. The CPUE varies from 53.71 kg in 1984 to 144.37 kg in 1982. The average CPUE is 84.50kg. The analysis reveals that gillnet operation in Ramanathapuram district has declined sharply. The CPUE has also declined, from 101 kg in 1981 to 54kg in 1984.

*Non-mechanised units:* During the 4-year period, total landings from non-mechanised units have varied between 1100 tonnes in 1981 and 25,300 tonnes in 1983. The average landings from non-mechanised units during this period are estimated at 15,600 tonnes. In the total landings, the contribution from this sector is about 28%.

#### **Thanjavoor District:**

With the average landings at 46,356 tonnes, forming about 19% of the state's total landings, Thanjavoor district ranks second. During 1981 to 1984 the landings have a trend fluctuating between 38,979 tonnes in 1981 and 54,748 tonnes in 1983.

*Seasonal landings:* The quarterwise marine fish landings in tonnes in Thanjavoor district for the period 1981 to 1984 are as follows:

	1981	1982	1983	1984	Average	%
January to March	13,961	22,185	16,883	21,232	18,565	40.05
April to June	4,940	7,395	11,131	6,843	7,577	16.34
July to September	11,763	10,310	14,244	6,824	10,786	23.27
October to December	8,315	9,804	12,490	7,104	9,428	20.34
<b>TOTAL</b>	<b>38,979</b>	<b>49,694</b>	<b>54,748</b>	<b>42,003</b>	<b>46,356</b>	

It may be seen that January to March is the best fishing season, when about 40% of the average annual landings of the district take place and April to June is the lean fishing season, with only 16%. July to September is moderate

recording about 23%. Monsoon during October to December does not seem to affect fishing, as about 20% of the total catch are landed during this period.

*Landings from mechanised and non-mechanised fishing craft:* The landings particulars from mechanised and nonmechanised fishing craft, fishing effort and CPUE during 1981 to 1984 in Thanjavoor district are shown in Table 3.

Table 3. *Mechanised and Nonmechanised landings in Thanjavoor district, 1981-84*

	Mechanised			Nonmechanised	Grand total	
	Trawl net	Gill net	Total			
1981	L	20,260	41	20,301	18,678	38,979
	E	75,912	1,096			
	U	266.89	37.41			
1982	L	30,024	17	30,041	19,653	49,694
	E	105,865	191			
	U	283.61	89.01			
1983	L	29,773	180	29,953	24,795	54,748
	E	112,852	1,394			
	U	263.82	129.12			
1984	L	23,268	101	23,369	18,634	42,003
	E	116,525	852			
	U	199.68	118.54			
Average	L	25,831	85	25,916	20,440	46,356
	E	102,789	883			
	U	251.30	96.27			

L — landings in tonnes; E — fishing effort in terms of number of operations ; U — CPUE in kg.

It is observed from the above table that, while about 56% of the average total annual landings come mechanised fishing craft, 44% come from nonmechanised. While trawl nets have contributed 25,831 tonnes (99.67%), gill nets contribute a mere 85 tonnes (0.33%). The mechanised boats in this district are operating from Nagapattinam and other 15 centres. Out of the average total landings of 25,900 tonnes from mechanised boats the share of Nagapattinam is 6950 tonnes (27%) and the balance, 18,950 t (73%) is from other 15 centres.

**Trawl net:** During the four year period, the trawler landings are the highest in 1982, with about 30,000 tonnes and the lowest is in 1981, with 20,300 tonnes. The average annual landings for the four-year period are 25,800 tonnes. The fishing effort, however, shows a steady increase from 75,900 in 1981 to 116,500 in 1984 with the average at 102,800. The CPUE declines from 267 kg in 1981 to 200 kg in 1984, with the average at 251 kg.

**Gill net:** The gill net landings in this district are highly fluctuating. A maximum of 180 tonnes is seen in 1983 and a minimum of only 17 tonnes in 1982. The average of the landings is at 85 tonnes. The fishing effort also fluctuates between 190 in 1982 and 1400 in 1983, the average being 880. The CPUE, however, shows an increase from 37 kg in 1981 to 129 kg in 1983 and then declines to 119 kg in 1984.

**Non-mechanised Units:** The contribution from this sector fluctuates between 18,600 tonnes in 1984 and 24,800 in 1983 with an average of 20,400 tonnes forming about 44% of the total landings.

#### Kanyakumari District

The annual landings in Kanyakumari District have a steady increase from 28,600 tonnes in 1981 to 53,600 tonnes in 1984. With the annual average working out at 36,600 tonnes (16%), the district occupies the third place in the order of production.

**Quarterwise landings:** The quarterwise landings (in tonnes) of Kanyakumari during 1981 to 1984 are as follows

	1981	1982	1983	1984	Average	%
January to March	5,067	4,426	6,573	8,491	6,139	16.78
April to June	4,631	8,910	7,897	16,248	9,422	25.76
July to September	11,916	13,002	12,961	22,306	15,046	41.14
October to December	6,966	5,220	5,108	6,580	5,969	16.32
<b>Total</b>	<b>28,580</b>	<b>31,558</b>	<b>32,539</b>	<b>53,625</b>	<b>36,576</b>	

As is seen from the table, July to September is the best fishing season, when about 41% of the landings are recorded. October to December and January to March, are the lean season when about 17% and 16% of the landings are recorded. The remaining 26% of the landings are in April-June.

**Contributions by mechanised and non-mechanised fishing craft:** The details of catch particulars by mechanised and nonmechanised fishing craft, fishing

effort and CPUE during the year 1981 to 1984 in Kanyakumari district are given in Table 4

Table 4. *Mechanised and Nonmechanised landings of Kanyakumari District, 1981-84.*

	Mechanised					Nonmecha- nised	Grand total	
	Trawl net	Gill net	Hooks & lines	Total				
1981	L	412	971	433	1816	26,764	28,580	
	E	769	4,562	490				
	U	535.76	212.85	883.67				
1982	L	384	1,606	232	2,222	29,336	31,558	
	E	1,296	6,473	1,386				
	U	296.30	248.11	167.39				
1983	L	384	951	734	2,069	30,470	32,539	
	E	1,296	7,393	2,249				
	U	296.30	128.64	326.37				
1984	L	1,088	4,037	272	5,397	48,228	53,625	
	E	3,872	22,401	807				
	U	280.99	180.22	337.05				
Average:	L	567	1,891	418	2,876	33,700	36,576	
	E	1,808	10,207	1,233	7.86%			92.14%
	U	313.61	185.27	339.01				

L - landings in tonnes, E — fishing effort in terms of number of operations, U — CPUE in kg.

From the above table it may be seen that the bulk of the landings in this district comes from nonmechanised fishing craft, with a share of about 92% and only 8% is from mechanised boats. Out of the average 2880 tonnes from mechanised craft, the shares of trawl nets, gill nets and hooks and lines are 570, 1890 and 420 tonnes, respectively. The mechanised boat in this district are operating mainly from Kanyakumari, Chinnamuttom, Melamuttom, Colachel, Thoothoor, Chinnathurai, Vellavilai, Vellai and Periathalai as stated earlier. There are no major landing centres exclusively for mechanised boats.

*Trawl net:* The trawler landings which have declined from 410 tonnes in 1981 to 380 tonnes each in 1982 and 1983 improve considerably in 1984, to 1090 tonnes. However, the catch per unit effort declines from 536kg in 1981 to 281 kg in 1984, even though the fishing effort has had a steady increase from 770 in 1981 to 3870 in 1984.

*Gill net:* The maximum landings of 4,040 tonnes were in 1984 and the minimum of 950 tonnes in 1983, and the average catch for the period 1981 to 1984 was 1,890 tonnes. The fishing effort expended showed a steady increase from 4,560 in 1981 to 22,400 in 1984 with the average at 10,210. But the CPUE declined to 180 kg in 1984 from 213 kg in 1981.

*Hooks & lines:* The landings by hooks and lines fluctuated between 230 tonnes in 1982 and 730 tonnes in 1983, with an average of 420 tonnes. The fishing effort showed a wide variation from 490 in 1981 to 2250 in 1983 with the average at 1230. The CPUE during 1984 declined to 337 kg from 884 kg in 1981.

*Non-mechanised units:* Total landings from this sector varied between 26,800 tonnes in 1981 and 48,200 in 1984 with an increasing trend throughout. The percentage contribution of this sector to the total marine fish landings in the district was 92%.

#### Thirunelveli District

The estimated annual average marine fish landings were 40,400 tonnes for the period 1981 to 1984, contributing about 16% to the state's average annual landings. The minimum of 35,500 tonnes was recorded in 1982 and the maximum of 43,500 tonnes in 1984.

*Seasonal landings:* The quarterwise marine fish landings (in tonnes) in Thirunelveli district for the period 1981 to 1984 are shown in Table 5

Table 5. *Quarterwise annual landings in Thirunelveli district during 1981-84*

	1981	1982	1983	1984	Average	%
January to						
March	14,019	10,354	12,923	8,258	11,388	28.19
April to June	9,077	5,253	5,880	10,121	7,583	18.77
July to						
September	10,864	9,799	9,875	10,706	10,311	25.52
October to						
December	9,280	10,103	10,657	14,430	11,118	27.52
<b>TOTAL</b>	<b>43,240</b>	<b>35,509</b>	<b>39,335</b>	<b>43,515</b>	<b>40,400</b>	

From the above Table it is seen that the maximum landings were in the periods January to March and October to December, each recording about 28% of the district's average total annual landings. The lean fishing season in this district was during April to June.

*Landings from mechanised and nonmechanised fishing craft:* The landing particulars of mechanised and nonmechanised craft fishing effort and CPUE during the year 1981 to 1984 in Thirunelveli district are shown in Table 6

Table 6. *The landings particulars of mechanised and nonmechanised craft in Thirunelveli district during 1981-84.*

	Mechanised			Nonmechanised	Grand Total	
	Trawl net	Gill net	Total			
1981	L 12,927	39	12,966	30,274	43,240	
	E 35,051	235				
	U 368.81	165.96				
1982	L 10,589	18	10,607	24,902	35,509	
	E 27,117	93				
	U 390.49	193.55				
1983	L 14,135	—	14,135	25,200	39,335	
	E 37,285	—				
	U 379.11	—				
1984	L 17,289	193	17,482	26,033	43,515	
	E 57,863	1,065				
	U 298.79	181.22				
Average	L 13,735	63	13,798	26,602	40,400	
	E 39,329	348	(34.15%)			(65.85%)
	U 349.23	181.03				

(L — landings in tonnes; E — effort in terms of number of operations; U — CPUE in kg)

It is seen from the above table that the landings of nonmechanised boats are higher, accounting for 66% of the total average annual landings of the district. Among the mechanised boats whose average annual landings were 13,800 tonnes, and the share of trawlers was 13,700 tonnes and the share of gill nets was 100 tonnes. The mechanised fishing craft in this district were operated from Tuticorin Fisheries Harbour and 8 other centres.

*Trawl net* : The trawler landings increased from 12,900 tonnes in 1981 to 17,300 tonnes in 1984, the average for the period being 13,700 tonnes. However, the CPUE which increased to 390 kg in 1982 from 369 kg in 1981 declined to 379 kg in 1983 and to 299 kg in 1984. It is noticeable that, in spite of higher input of fishing effort during 1983 and 1984, there was no corresponding increase in the landings.

*Gill net* : The Gill net landings were not appreciable in this district as the average annual landings of only 63 tonnes were recorded. The CPUE which showed an increase of 194 kg in 1982 from 166 kg in 1981 declined to 181kg in 1984, which was due to lack of increase in landings corresponding to the fishing effort during 1984.

*Nonmechanised Units* : During the period 1981-84, maximum contribution from nonmechanised units was 30,300 tonnes in 1981 and minimum was 24,900 in 1982. After 1982 there was a gradual increase till 1984, recording landings of about 26,000 tonnes. The overall contribution from this sector to the total marine fish landings in this district was estimated at 66%.

#### **Pudukkottai District**

During the four year period 1981 to 1984, the average marine fish landings in this district were estimated at about 32,000 tonnes forming about 12.62% of the landings in the state. Annual landing during this period varied from 14,000 in 1984 to 43,000 tonnes in 1982.

*Seasonal landings* : The quarterwise landings in tonnes in this district are as follows.

	1981	1982	1983	1984	Average	%
January-March	10,215	19,187	7,408	2,480	9,822	31
April-June	16,201	14,320	14,564	3,930	12,254	39
July-September	2,328	5,719	12,744	4,318	6,277	20
October-December	2,435	3,545	3,666	3,157	3,201	10
<b>TOTAL</b>	<b>31,179</b>	<b>42,771</b>	<b>38,382</b>	<b>13,885</b>	<b>31,554</b>	

The second quarter recorded on an average 12,000 tonnes, forming 39% of the average annual landings, followed by first quarter with 9,800 tonnes (31%), third quarter with 6,300 tonnes (20%) and the fourth quarter with 3,200 tonnes (10%). Thus the second quarter was the most productive and the fourth quarter the least.

*Landings from mechanised and nonmechanised fishing craft:* The landings by mechanised and nonmechanised units, along with the effort expended and CPUE during the four year period are given in Table 7. In this district, only trawlers

Table 7. *The year wise landings in tonnes (L), effort in terms of number of operations (E) and CPUE in kg (U) during 1981-84 in Pudukottai District.*

Year		Mechanised (Trawlers)	Nonmechanised	Total
1981	L	29,422	1,757	31,179
	E	77,126		
	U	381.48		
1982	L	40,745	2,026	42,771
	E	147,189		
	U	276.82		
1983	L	35,461	2,921	38,382
	E	76,205		
	U	465.34		
1984	L	11,107	2,778	13,885
	E	20,189		
	U	550.15		
Average	L	29,183	2,371	31,554
	E	80,177		
	U	363.99		

were operating under mechanised units, contributing to 92.5% of the total landing of the district. Contribution from the nonmechanised units were very low, forming only about 7.5% of the total landings. The landings from the trawlers fluctuated between 11,100 tonnes in 1984 and 40,700 tonnes in 1982, without any clear trend. The average annual contribution from this sector is about 29,000 tonnes. Regarding the landings from nonmechanised units, the fluctuation was very narrow, the landings ranging from 1800 tonnes in 1981 to 2,900 tonnes in 1983. Effort expended by trawlers varied between 20,000 units in 1984 and 77,000 in 1981, CPUE ranged from 277 kg in 1982 to 550 kg. in 1984 with an average at 364 kg. during the four-year period, The important centres from where mechanised units operated were Jegadapattinam and Kottaipattinam.

### South Arcot District

In the South Arcot district, the average annual landings during 1981 to 1984 varied between 16,500 in 1981 and 21,100 tonnes in 1983 with the average at 18,300 tonnes, showing a slight increasing trend from 1981 to 1983.

*Seasonal landings:* Quarterwise landings during the four-year period did not show much variation. The average landings in the four quarters fluctuated between 3,800 tonnes in the second quarter and 5,700 tonnes in the third quarter. In the percentage contribution, third quarter ranked first (31%), followed by first quarter (25%), fourth quarter (23%) and second quarter (21%) in that order. The quarterwise landings in tonnes are given below:

	1981	1982	1983	1984	Average	%
I	7,324	1,716	5,228	4,196	4,666	25
II	2,521	3,090	5,027	4,742	3,845	21
III	4,314	6,842	5,361	6,431	5,737	31
IV	2,302	5,600	5,483	3,602	4,096	23
Total	16,461	16,648	21,099	19,171	18,344	

*Landings from mechanised and nonmechanised fishing craft:* In the South Arcot district, both trawl nets and gill nets, under mechanised gear, operated during 1981-84, contributing to only 22% of the total landings. The rest 78% of the landings came from non mechanised units. The important mechanised landing centres in this district are Cuddalore, Pazhayar and Devanampattinam.

*Trawl net:* The average annual landings from this gear were estimated at 3200 tonnes, with an effort of about 20,000 units and CPUE of 163 kg. Annual contribution varied between 2,200 tonnes in 1981 and 4,600 tonnes in 1983, without showing a trend. The effort pattern also did not show any trend. The minimum effort was 13,000 units in 1982 and maximum was 25,000 units in 1983. The CPUE during the four year period fluctuated between 98 kg in 1983 and 204 kg in 1982.

*Gill net:* The contribution from gill nets was not significant, the average annual contribution being only 740 tonnes. There were wide fluctuations in the annual landings, ranging from 100 tonnes in 1981 to 1400 tonnes in 1982. CPUE ranged from 120 kg in 1981 to 420 kg in 1982.

*Nonmechanised units:* Maximum contribution to the total landings came from nonmechanised units. The average annual landings from this sector was estimated at 14,400 tonnes. No significant variation was found in the annual landings,

which fluctuated between 12,600 tonnes in 1982 and 15,600 tonnes in 1983. The details are given in Table 8.

Table 8. Annual mechanised and nonmechanised landings in South Arcot district during 1981-84.

(L — landings in tonnes E — Fishing effort in terms of number of operations of fishing units and U — CPUE in kg).

		Mechanised		Total	Non mechanised	Grand total
		Trawl net	Gill net			
1981	L	2,154	104	2,258	14,203	16,461
	E	22,009	863			
	U	97.87	120.51			
1982	L	2,646	14,04	4,050	12,598	16,648
	E	12,943	3,364			
	U	204.43	417.36			
1983	L	4,598	895	5,493	15,606	21,099
	E	25,288	2,559			
	U	181.83	349.75			
1984	L	3,527	539	4,066	15,105	19,171
	E	19,036	1,975			
	U	185.28	272.91			
Average	L	3,231	736	3,967	14,377	18,344
	E	19,819	2,190			
	U	163.03	336.07			

#### Madras District

Average annual landings in the Madras district was estimated at 11,600 tonnes during 1981-84. The annual landings varied between 9,900 tonnes in 1981 and 12,600 tonnes in 1982.

*Quarterwise landings:* Among the four quarters, the third quarter contributed more, with an average landings of about 3,400 tonnes, followed by the second quarter with 2,900 tonnes, fourth quarter with 2,800 tonnes and first quarter with 2,500 tonnes. The quarterwise percentage contribution was 29% in the third quarter, followed by the second quarter (25%), fourth quarter (24%) and

first quarter (22%), indicating no significant variation among the quarters. The details in tonnes are as follows.

	1981	1982	1983	1984	average	%
I	2,054	2,876	2,531	2,672	2,533	22
II	2,617	2,923	2,774	3,229	2,886	25
III	3,131	3,983	3,778	2,626	3,379	29
IV	2,140	2,776	3,547	2,907	2,843	24
Total	9,942	12,558	12,630	11,434	11,641	

*Landings from mechanised and nonmechanised fishing craft:* Under mechanised units, both trawl nets and gill nets operated in the Madras district during 1981-84. The contribution from this sector was about 75%. The rest 25% being accounted for by nonmechanised units.

Table 9. Annual mechanised and nonmechanised landings in Madras District during 1981-84.

(L—landings in tonnes, E—fishing effort in terms of number of operations of fishing units and U—CPUE in kg)

		Mechanised			Nonmechanised	Grand total	
		Trawl	Gill net	Total			
1981	L	6,201	339	6,540	3,402	9,942	
	E	26,671	2,127				
	U	232.50	159.28				
1982	L	9,191	149	9,340	3,218	12,558	
	E	35,414	1,296				
	U	259.53	114.97				
1983	L	9,374	109	9,483	3,147	12,630	
	E	29,950	836				
	U	312.99	130.38				
1984	L	9,411	355	9,766	1,668	11,434	
	E	34,637	1,881				
	U	271.70	188.73				
Average	L	8,544	238	8,782	2,859	11,641	
	E	31,668	1,535	(75.44%)			(24.56%)
	U	269.80	155.05				

*Trawl net:* An average annual landings of about 8,500 tonnes came from trawl nets with an effort of 31,700 units and CPUE of 270 kg. Over the years, the landings were fluctuating between 6200 tonnes in 1981 and 9,400 tonnes in 1984, showing a clear increasing trend. Regarding effort also more or less the same trend was noticed, the expended effort increasing from 26,700 units in 1981 to 35,000 units in 1982.

*Gill net:* The landings from the gill nets were very low, averaging only about 240 tonnes annually. The effort was 1,500 units and the CPUE was 155 kg. The annual landings, however, fluctuated between 109 tonnes in 1983 and 355 tonnes in 1984; the effort also varied, between 840 units in 1983 and 2100 units in 1981. CPUE varied between 115 kg in 1982 and 189 kg in 1984.

*Nonmechanised units:* The contribution from this sector during the four year period was about 25% of the annual total landings, the average landings being 2,900 tonnes. Over the years, the annual landings fluctuated between 1,700 tonnes in 1984 and 3,400 tonnes in 1981, showing a declining trend.

#### Chengalpattu District

The average annual contribution during 1981-84, was estimated at 9,000 tonnes. The annual landings did not show much fluctuation during this period, the range being 8,200-10,500 tonnes.

Quarterwise, the maximum contribution of 32% came from the second quarter, followed by the third quarter (26%), first quarter (25%) and fourth quarter (17%). The average quarterwise landings in the second quarter were about 2900 tonnes, the third and first quarters 2,300 tonnes each, and the fourth quarter 1,500 tonnes. There was no contribution from the mechanised sector in this district, during the four year period. Landing details in tonnes are given below.

	1981	1982	1983	1984	Average	%
I	2404	2074	2004	2737	2305	25
II	2402	2771	2128	4262	2891	32
III	2343	2168	2368	2362	2310	26
VI	1054	1281	2556	1098	1497	17
<b>TOTAL</b>	<b>8203</b>	<b>8294</b>	<b>9056</b>	<b>10459</b>	<b>9003</b>	

## MANAGEMENT OF MARINE FISHERIES IN TAMIL NADU

*Present Yield:* As seen in the earlier chapter, marine fish landings in Tamil Nadu have shown wide fluctuations during the decade 1975-84, the landings varying from 2.06 lakh tonnes in 1977 to 2.81 lakh tonnes in 1983. Among the mechanised units, lion's share of about 97% has been accounted for by small trawlers and the rest by gill netters. In the total landings mechanised units have contributed 45%, of which gill nets have accounted for 60%, followed by boat seines (15%), shore seines and hooks and lines (10% each) and others (5%). Clupeids have ranked first among the groups contributing 25% of the total landings, followed by silverbellies (17%), elasmobranchs (7%), croakers and ribbon-fish (6% each) and penaeid prawns and crabs (5% each).

*Potential Yield:* Attempts have been made to assess the potential yield of marine fishes in this coast. As elsewhere in India, here also the area up to 50 m depth is intensively exploited, and strong data base is available for this region to get an estimate of its potential yield. Using Maximum Contribution Approach (Alagaraja 1986, MSS), the potential yield from 0-50 m depth region is estimated to be 3.25 lakh tonnes.

For this approach, the landings of important groups during the decade 1975-84 are considered and the maximum contribution of each group during this period is taken. These maxima are added to obtain the estimate on the potential yield. For example, elasmobranchs have contributed 20,614 tonnes in 1975 which is the maximum during the decade. Similarly the maximum contribution of other sardines is 37,124 tonnes in 1983. (See Table. 1.)

**Table 1** *Estimate of Potential Yield Using Maximum Contribution Approach*

Group	Maximum Landings (in tonnes)	Year	Percentage
Elasmobranchs	20,600	1975	6.34
Other sardines	37,100	1983	11.42
Anchovies	23,100	1984	7.11
Other clupeids	15,900	1976	4.89
Perches	14,300	1983	4.40
Croakers	22,000	1982	6.77
Ribbon fish	28,700	1978	8.83
Carangids	17,300	1984	5.32
Silverbellies	62,100	1983	19.11
Mackerel	10,500	1976	3.23
Penaeid prawns	15,200	1984	4.68
Crabs	16,400	1976	5.05
Others	41,800		12.85
<b>Total</b>	<b>3,25,000</b>		<b>100.00</b>

*Scope for increasing the present yield:* The average annual marine fish landings during 1975-84 works out to 2.32 lakh tonnes. However, considering the landings during the last three years of the decade, the average of the three years is 2.60 lakh tonnes. In the light of this it may be indicated that the present yield may be increased by another 65,000 tonnes. As the region in 0-50 m depth is intensively exploited there may not be any group of fish remaining unexploited in this area. Hence this additional increase should necessarily come from already exploited groups. Table 1 gives the percentage contribution of important groups. On this basis the additional increase could be obtained as indicated in Table-2.

Table 2 *Groupwise contribution to the additional increase*

Group	Additional contribution (fig. in tonnes)
Elasmobranchs	4,000
Other sardines	7,500
Anchovies	4,500
Other clupeids	3,000
Perches	3,000
Croakers	4,500
Ribbon fish	6,000
Carangids	3,500
Silver bellies	12,500
Mackerel	7,000
Penaeid prawns	3,000
Crabs	3,000
Others	8,500
<b>Total</b>	<b>65,000</b>

At present pattern of exploitation, the mechanised units take a share of about 35,000 tonnes and nonmechanised units the rest. As the bulk of the mechanised landings is accounted by the trawlers, an additional 35,000 tonnes as mentioned above may be exploited with an additional effort by the trawlers. The average catch per unit operation of trawler during 1982-84 is about 250 kg. Assuming that the trawlers operate for about 250 days in a year an additional 560 trawlers may be required to exploit 35,000 tonnes. The introduction of trawler may be done in a phased manner by adding 200 trawlers to the existing numbers up to 2000 A. D., which is expected to result in about 12,500 tonnes. Further, increase in the trawler may be contemplated after assessing the effect of the introduction of this additional effort on the stocks. It has already been mentioned that at six

important mechanised centres further increase in effort may not result increased catches. So, any addition to the existing trawler fleet may have to be done at the other mechanised centres indicated earlier.

As regards the exploitation of 30,000 tonnes by the nonmechanised units, It may not be advisable to increase the effort in this sector, since the major portion of the catch is accounted by the gill netters. It may be worthwhile to increase their operational efficiency to yield high catches. This may be done by powering the existing country boats which will increase their mobility and ensure better capture.

At this juncture, it is important to make note of the socio-economic problem of clashes between mechanised and non mechanised sectors before contemplating any further increase in the effort. These clashes could be avoided by powering the existing nonmechanised boats and implementing rational and viable fishery regulating measures. Also at present, the efficiency of trawlers appear to be not encouraging. On an average the contribution of trawlers may be expected to be not less than 500 kg. per operation. The present catch rate of about 250 kg. may hence be doubled at least. In that case, increase in smaller trawlers may be restricted to 200 only as mentioned earlier.

## SUMMARY

1. The total marine fish landings in Tamil Nadu during 1975-84 ranged from 2.06 lakh tonnes in 1977 to 2.81 lakh tonnes in 1983 with an average of about 2.32 lakh per year.
2. In general, the third quarter was more productive than the other quarters.
3. The demersal component dominated the marine fish landings with an average contribution of 55% during the ten year period.
4. Among the commercially important varieties, silver bellies, lesser sardines, anchovies, elasmobranchs, crabs, carangids, croakers, ribbon fish, penaeid prawns and perches accounted for about 72% of the marine fish landings in the state.
5. The landings by the mechanised craft have shown gradual progression and during 1980-84 accounted for about 49% of the total landings. Among the mechanised craft the landings by trawlers accounted for the bulk (97%) of the mechanised landings.
6. At the exclusively covered mechanised landing centres, it was found that any further increase in effort may not result significant increase in the catch.
7. The potential harvestable yield is estimated at 3.25 lakh tonnes.
8. To exploit the additional 65,000 tonnes from the present level of 2.60 lakh tonnes, it has been suggested to increase the trawlers in a phased manner avoiding conflict with traditional sector. It has also been suggested to increase the mobility and the capture efficiency of the nonmechanised boats by powering them.
9. Mesh regulation has to be strictly adhered to for trawlers. The size of cod-end mesh should be at least 30 mm.

## EXPLOITED MARINE FISHERY RESOURCES IN PONDICHERRY AND KARAIKAL

As for the overall marine fish landings in Pondicherry and Karaikal during 1975-'84 period, fluctuations were observed during the years 1975-'79 and a steady increase thereafter until 1984 (Table-3). The average annual marine fish production in Pondicherry and Karaikal for the ten year period 1975-'84 was estimated at 10,340 tonnes. The maximum catch of about 14,940 tonnes was registered in 1984 and a minimum of 6,500 tonnes in 1977.

*Quarterwise contribution:* Quarterwise analysis of the fish landings for the above period showed that there were no marked differences in the fish production during different quarters of the year (see Appendix). However, it was observed that the third quarter (July-September) had given the maximum yield, among all the four quarters of an year, accounting for 31.2% of the total fish production during 1975-'84. This was followed by the second-quarter (25.8%), the first-quarter (22.5%) and the fourth-quarter (20.5%).

### Contribution From Mechanised and Non-Mechanised Units

Annual contribution of marine fish landings from mechanised units during 1975-'84 was 3,150 tonnes, accounting for 30.5% of the total landings. The contribution from non-mechanised units was estimated at 7,200 tonnes (69.5%) (Table 3). The catch per unit effort (CPUE) of mechanised sector fluctuated

Table 3 *Marine fish landings (in tonnes) from mechanised and nonmechanised units in Pondicherry and Karaikal during 1975-84.*

Year	Catch from Mechanised units	Catch from Non-mechanised units	Total
1975	1157	6993	8150
1976	2215	7908	10123
1977	1679	4783	6462
1978	1774	5054	6828
1979	3650	6418	10068
1980	2959	6431	9390
1981	3781	6974	10755
1982	4098	7960	12058
1983	5348	9306	14654
1984	4878	10063	14941
Average	3153.9	7189.0	10342.9

between 82 kg and 161 kg for the 1975-'79 period, while, during 1980-'84, CPUE steadily increased from 107 kg per boat in 1980 to 139 kg per boat in 1984. No such significant trend was observed in the CPUE of non-mechanised sector during 1975-'84 period and the CPUE showed a fluctuation between 25 kg and 41 kg.

Two types of gears viz. trawl net and gill net were in operation in the mechanised sector during 1981-'84 period. The trawl net accounted for 91.1% of the total mechanised catch while the contribution from gill net was 8.8% (see Appendix). Hooks and lines were also in operation in 1982, but its contribution to total mechanised catch was very meagre (0.1%).

#### Contribution From Pelagic and Demersal Group

The contributions of pelagic and demersal fisheries to the total fish production during 1975-'84 period were estimated at 61,907 tonnes (60%) and 41,607 tonnes (40%) respectively (Table 4). The pelagic fisheries, during 1975-'79 showed a slight fluctuation the landings varying between 3,750 tonnes (in 1977) and 6,260 tonnes (in 1976), whereas a steady increase, from 5,530 tonnes (in 1980) to 9,040 tonnes (in 1984), was observed during 1980-'84. The ratio of the contribution from pelagic fisheries to that of demersal fisheries showed a declining trend from 1975 to 1979 and started increasing from 1980 onwards, with a narrow fluctuation during 1982-'83.

Table 4 *Groupwise marine fish landings (in tonnes) in Pondicherry and Karaikal during 1975-'84.*

Year	Pelagic	Demersal	Total
1975	5997	2153	8150
1976	6262	3861	10123
1977	3752	2710	6462
1978	3949	2879	6828
1979	5795	4273	10068
1980	5532	3858	9390
1981	6418	4337	10755
1982	6875	5183	12058
1983	8261	6393	14,654
1984	9037	5904	14,941
Average	6187.8	4155.1	10,342.9

## Contributions From Major Fisheries

The major fisheries of Pondicherry and Karaikal during 1975-'84, in the order of their abundance, were 'other sardines', carangids, anchovies, perches, Indian-mackerel, silver bellies, crabs, croakers, penaeid prawns, flying fishes and elasmobranchs. They accounted for 74% of the overall average annual marine fish production of 10342.9 tonnes. In the following analysis of each of the major species the average annual production of the individual species and this average represented as percentage of overall average annual marine fish landings correspond to the time period 1975-'84. The other percentages given refer to 1980-'84 period.

*Other sardines:* All sardines other than oil sardine termed as 'other sardines' - formed the major pelagic fishery of Pondicherry and Karaikal during 1975-'84 with an average annual production of 1725.3 tonnes accounting for 16.68% of the overall average annual fish landings. Non-mechanised units accounted for 84.14% of the landings of other sardines while mechanised sector (mostly trawlers) contributed 15.86%. The catch was dominated by *Sardinella*.

*Carangids:* The average annual production of carangids during 1975-'84 was estimated at 935.3 tonnes and its share in the overall average annual fish landings was 9.04%. Non-mechanised units accounted for 95.48% of the landings of carangids while trawlers and gillnetters contributed 4.52% on the mechanised sector. *Decapterus*, *Caranx* and *Selaroides* dominated the landings of carangids. *Anchovies:* The estimated average annual production of anchovies during 1975-'84 was 865.9 tonnes accounting for 8.37% of the overall average annual fish landings. Non-mechanised sector accounted for three-fourths (76.67%) of total landings of anchovies during 1980-'84 while trawlers contributed one-fourths (23.33%) on the mechanised sector. The catch constituted species mainly of *Stolephorus*, *Thryssa* and *Coilia*.

*Perches:* This formed the major demersal fishery in Pondicherry and Karaikal during 1975-'84. The estimated average annual production of perches was 814.4 tonnes and accounted for 7.87% of the overall average annual fish landings. Mechanised units (mostly trawlers) contributed 78.8% of landings of perches while non-mechanised sector accounted for 21.2%. The landings consisted species mainly of *Sillago*, *Pomadasy*, *Gerres*, *Epinephelus*, *Lutjanus*, *Lethrinus* and *Nemipterus*.

*Indian mackerel:* The average annual production of Indian mackerel was estimated at 802.7 tonnes accounting for 7.76% of the overall average fish landings during 1975-'84. The non-mechanised units accounted for most of the landings (99.68%). *Rastrelliger kanagurta* was the species caught in abundance. *Silver bellies:* The estimated average annual production of silver bellies during

1975-'84 was 733.3 tonnes accounting for 7.09% of the overall average annual fish landings. Mechanised sector (mostly trawlers) contributed three-fourths (76.56%) of the landings of silver bellies while non-mechanised units accounted for one-fourths (23.44%). The catch was dominated by *Leiognathus* and *Secutor*.

**Crabs:** The average annual production of crabs during 1975-'84 was estimated 424.4 tonnes which accounted for 4.10% of the overall average annual fish landings. Mechanised units (mostly trawlers) contributed 40.31% of the landings of crabs while non-mechanised sector accounted for 59.69%. *Portunus* was the species caught in abundance.

**Croakers:** The estimated average annual production of croakers during 1975-'84 was 400.7 tonnes which accounted for 3.87% of the overall average annual fish landings. Mechanised units (mostly trawlers) accounted for 45.05% of the landings of croakers while the non-mechanised sector contributed 54.35%. The landings consisted species mainly of *otolithes* and *Johnius* (*Sciaena*).

**Penaeid prawns:** The average annual production of penaeid prawns during 1975-'84 was estimated at 328.7 tonnes which accounted for 3.18% of the overall average annual fish landings. Mechanised units (mostly trawlers) accounted for 80.64% of the landings of penaeid-prawns while non-mechanised sector contributed 19.36%. The landings of penaeid prawns consisted a number of species of the Genera *Penaeus*, *Metapenaeus*, *Parapenaeopsis* and *Metapenaeopsis*.

**Flying Fishes:** The average annual production of flying fishes during 1975-'84 was estimated at 321.3 tonnes which accounted for 3.11% of the overall average annual fish landings. Non-mechanised units accounted for most of the landings (99.94%). The landings of flying fishes were dominated by *Exocoetus*.

**Elasmobranchs:** The estimated average annual production of elasmobranchs during 1975-'84 was 301.9 tonnes which accounted for 2.92% of the overall average annual fish landings. Mechanised units accounted for 56.40% of the landings of elasmobranchs while non-mechanised sector contributed 43.60%. The landings of elasmobranchs were dominated by *Scoliodon*, *Aetobatus*, *Dasyatis* and *Trygon*.

## FISHING VILLAGES, LANDING CENTRES AND FISHERMEN POPULATION IN PONDICHERRY AND KARAİKAL

The total number of fishing villages of Pondicherry, Karaikal, Mahe and Yenam is 26, the maximum of 15 being in Pondicherry. Karaikal comes next with 9 fishing villages followed by Mahe and Yenam with one fishing village each. The number of landing centres in these regions also totals to 26—the distribution being the same as for the fishing villages. That is, Pondicherry and Karaikal have 15 and 9 landing centres, respectively, while Mahe and Yenam have one each.

The total number of fishermen household is about 4,600, Pondicherry accounting for the maximum (62%) followed by Karaikal (27%), Mahe (8%) and Yenam (3%).

The total fishermen population is about 25,000 of which male adults constitute 29% and female adults 30%. Children constitute about 41% of the total fishermen population. Except Pondicherry, in other regions viz. Karaikal, Mahe and Yenam, the sex ratio is slightly in favour of female adults. The average family size works out to 5.5. Pondicherry and Karaikal, which respectively account for 58% and 27% of the total fishermen population, are the major regions of fishing.

The literacy rate of the fishing community on the whole is 25%. About 19% have completed primary standard, 5% secondary and 1% above secondary standard. Karaikal records the highest literacy rate (29%) among the fishermen population, followed by Pondicherry (27%), Mahe (18%) and Yenam (6%).

About 22% of the fishermen population are engaged in actual fishing. Among them, 91% are engaged on full time basis, 3% on part time and 6% are engaged in fishing occasionally. Pondicherry stands first in the total number of fishermen who are actually engaged in fishing while Karaikal comes second, followed by Mahe and Yenam.

Regionwise census figures of marine fishing villages and landing centres, fishermen population, educational status, etc. are given in Table-1.

As regards the fishing craft in the four regions, there are 176 trawlers owned by fishermen of which Pondicherry accounts for 57% of the trawlers and Karaikal 41%. About 1750 units operate on the non-mechanised sector of which catamaran accounts for 91% followed by plank-built boats 5% and dug-out canoes 4%. Pondicherry accounts for 63% of the nonmechanised units in operation, Karaikal 31%, Mahe 4% and Yenam (where only non-mechanised units operate) accounts for about 2%.

Table 1. *Regionwise figures of marine fishing villages and fishermen population-Union Territory of Pondicherry, Karaikal, Mahe and Yenam 1980*

Sl. No.	Items	REGIONS				Total
		Pondiche- rry	Karai- kal	Mahe	Yenam	
1.	No. of fishing villages	15	9	1	1	26
2.	No. of landing centres	15	9	1	1	26
3.	No. of fishermen- households	2864	1252	392	117	4625
4.	Fishermen population					
a)	Male	4142	2044	1054	122	7362
b)	Female	4124	2156	1139	125	7544
c)	Children	6506	2585	1108	207	10406
	Total	14,772	6785	3301	454	25,312
5.	Educational status					
a)	Primary	3038	1375	483	26	4922
b)	Secondary	493	483	94	—	1370
c)	Above secondary	181	74	15	—	270
	Total	4002	1942	592	26	6562
6.	No. of fishermen engaged in actual fishing					
a)	Full time	2777	1491	648	105	5021
b)	Part time	137	49	1	—	187
c)	Occasional	118	143	43	—	304
	Total	3,032	1,683	692	105	5,512

In case of fishing gears, there are about 440 trawl nets, Pondicherry and Karaikal accounting for 63% and 36% respectively. Drift/gill nets form the major gear among the non-mechanised gears. Hooks and lines, boat seines and scoop nets are the other important gears. In Pondicherry and Karaikal regions the drift/gill nets and hooks & lines form the important gears. While boat seine forms the third important gear in Pondicherry and Karaikal, it is the dominant gear in Mahe. However, fixed bagnets are predominant in Yenam. See Table 2.

Table 2. *Regionwise figures of marine fishing craft and gear in the Union Territory of Pondicherry, Karaikal, Mahe and Yenam, 1980*

Sl. No.	Items	REGIONS				Total
		Pondicherry	Karaikal	Mahe	Yenam	
1.	No. of fishing craft					
	a) Mechanised					
	Trawlers	101	72	3	—	176
	Gillnetters	—	—	—	—	—
	Total	101	72	3	—	176
	b) Non-mechanised					
	Dugout canoes	—	—	72	—	72
	Plank built boats	56	2	—	25	83
	Catamarans	1049	546	—	—	1595
	Total	1105	548	72	25	1750
2.	No. of fishing gear					
	Trawl nets	273	159	5	—	437
	Drift/gill nets	1203	588	56	4	1851
	Boat seine	145	158	70	2	375
	Fixed bag net	63	—	—	89	152
	Hooks & Lines	438	282	—	—	720
	Shore seine	45	39	—	—	84
	Traps	—	9	—	—	9
	Scoop nets	297	65	—	—	362
	Others	45	75	—	—	120

## MANAGEMENT OF MARINE FISHERIES IN PONDICHERRY AND KARAIKAL

During the decade 1975-'84 the average annual marine fish landings in this region works out to 10,300 tonnes. However, in the last two years the catches were relatively high, resulting in an annual average of about 14,800 tonnes. In order to assess the potentiality of this region, two methods have been applied to the data on annual marine fish landings, the 'Relative Response Model' (Alagaraja 1984) and the 'Maximum Contribution Approach' (Alagaraja, MSS).

### Relative Response Model

For this model, the data for the five years 1980-'84 have been considered to be as follows:

$C_t$ (in thousand tonnes)	$C_{t+1}$
9.4	10.8
10.8	12.0
12.0	14.7
14.7	14.9

Using the relationship

$$C_{t+1} = C_{\infty} [1 - e^{-k}] + e^{-k} C_t$$

where  $C_t$  and  $C_{t+1}$  represent the catches in the successive years,  $C_{\infty}$  represents, the maximum catch that can be expected from the fishery and  $e^{-k}$  represents the exponential decay of the system. Thus one obtains:

$$C_{t+1} = 3.713 + 0.8006 C_t \quad \dots\dots(2)$$

From the above relationship,  $C_{\infty}$  is estimated at 19,000 tonnes.

### Maximum Contribution Approach

According to this procedure the maximum landings of each of the important groups during the decade has been considered. For example, the landings of other sardines was 3400 tonnes in 1983, which was the maximum during the decade. Such maxima of all the groups are added to find the expected catch from this region, as follows:

	Maximum landings (in tonnes)	Contribution (%)	Year
Other sardine	3400	16.10	1983
Carangids	2300	10.90	1982
Anchovies	1300	6.16	1984
Perches	1400	6.64	1983
Indian mackerel	2300	10.90	1975
Silverbellies	1800	8.53	1983
Crabs	900	4.27	1982
Croakers	700	3.32	1984
Penaeid prawns	900	4.27	1984
Flyingfishes	900	4.27	1979
Elasmobranchs	400	1.90	1980
Others	4800	22.74	1984
<b>Total</b>	<b>21,100</b>		

#### **Potential Yield**

From the above, the potential estimates are obtained as 19,000 tonnes and 21,000 tonnes as per relative response model and maximum contribution approach respectively. From these two estimates it may be pointed out that the potential yield could be expected at 20,000 tonnes.

#### **Scope for Increasing the Present Yield**

Though the average annual catch during the decade in this region was estimated at 10,300 tonnes, the landings in the last two years have improved and the average annual landings for this two-year period were 14,800 tonnes. On the basis of this, the additional catch expected from this region is 5,200 tonnes. This quantity should come from the groups already exploited in that region. Accordingly, the additional contribution from the important groups is obtained

on the basis of the percentage given in the table given under Maximum Contribution Approach, as shown below.

	Additional expected catch (in tonnes)
Other sardines	840
Carangids	570
Anchovies	320
Perches	350
Indian mackerel	570
Silverbellies	440
Crabs	220
Croakers	170
Penaeid prawns	220
Flyingfishes	220
Elasmobranches	100
Others	1180
<b>Total</b>	<b>5200</b>

During the decade, the contribution from the mechanised units works out to 35%, and the rest 65% is from non-mechanised units. Accordingly the additional 5,200 tonnes could be distributed to mechanised and non-mechanised units. From the expected additional contribution of 1800 tonnes from mechanised units the contribution from trawl net is expected to be 1600 tonnes (90%) the rest is expected from gill netters. The average catch of a trawler per day works out to about 140 kg during the last two years of the decade, which is on the lower side of the efficiency of a small trawler. However, the average catch per unit operation of a small trawler can be increased to at least 250 kg. If so, the existing number of trawlers will easily bring in the additional quantity of 1600 tonnes. Similarly the remaining 200 tonnes may be expected from the existing gillnetters once they also improve the efficiency. Regarding the additional contribution of 3400 tonnes from the non-mechanised units it may be stated that about 60% of the contribution may be expected from gillnets, 15% from boat seines, 10% each from shore seines and hooks & lines and the rest 5% from others. Accordingly the additional contribution from non-mechanised gill nets is expected to be 2000 tonnes, from boat seines 500 tonnes, from shore seines and hooks & lines, 350 tonnes each and the rest 200 tonnes from others. These additional contributions could easily be obtained from existing units if they too were motorised. Hence it is suggested that motorisation of existing non-mechanised fishing craft may be encouraged

**APPENDIX**

## QUARTERWISE AND SPECIESWISE MARINE FISH LANDINGS

Name of fish	1975					1976				
	I	II	III	IV	Total	I	II	III	IV	Total
1. ELASMOBRANCHS	3525	9046	3903	4140	20614	3994	4340	8227	2478	19039
2. EELS	29	26	31	24	110	254	51	230	85	620
3. CATFISHES	1943	3227	968	1331	7469	1195	761	2568	509	5033
4. CLUPEIDS										
a. Wolf-herring	588	514	199	510	1811	936	343	169	610	2058
b. Oil sardine	—	—	—	—	—	—	—	—	—	—
c. Other sardines	10291	5419	7791	12109	35610	8439	4012	5967	6751	25169
d. Hilsa shad	—	70	31	20	121	22	—	—	—	22
e. Other shads	663	291	181	23	1158	916	282	984	149	2331
f. Anchovies										
<i>Stolephorus</i>	895	1229	3292	5457	10873	1060	1736	2746	2327	7869
<i>Thryssa</i>	1308	428	840	551	3127	5596	910	481	1375	8362
g. Other clupeids	1886	1553	1328	639	5406	13314	576	267	1694	15851
5. BOMBAYDUCK	—	—	1	—	1	—	—	—	—	—
6. LIZARD FISHES	204	222	346	254	1026	107	233	343	140	823
7. HALFBEAKS & FULL BEAKS	334	320	213	615	1482	112	173	246	186	717
8. FLYING FISHES	34	115	1494	14	1657	7	797	428	—	1232
9. PERCHES	2210	2112	1983	1848	8153	984	1818	1297	1242	5341
10. GOATFISHES	412	276	493	385	1566	258	74	168	126	626
11. THREADFINS	414	449	36	440	1339	94	225	251	1374	1944
12. CROAKERS	3192	1782	2228	2894	10096	1402	1694	5021	2445	10562
13. RIBBON FISHES	1233	1736	9784	5029	17782	280	1805	14686	2283	19504

TABLE-I

**(IN TONNES) IN TAMIL NADU DURING 1975-79**

1977					1978					1979				
I	II	III	IV	Total	I	II	III	IV	Total	I	II	III	IV	Total
3179	3811	6927	4410	18327	4807	4880	3672	1762	15121	3638	3069	2938	2748	12393
3	126	50	53	232	148	16	73	88	325	66	21	23	9	119
2762	2299	1094	9050	15205	1701	1461	1404	686	5252	1467	608	2526	1016	5617
847	258	629	741	2475	333	410	363	630	1736	557	303	288	691	1839
32	54	617	11	714	23	13	—	—	36	206	537	—	268	1011
4834	3237	7465	10723	26259	6493	4419	2099	8039	21050	10709	6518	5519	10543	33289
4	27	102	210	343	—	156	—	5	161	—	5	36	—	41
467	221	414	4682	5784	1053	285	891	1937	4166	1784	471	181	325	2761
593	1919	8865	2011	13388	373	988	3581	2505	7447	2926	2136	3453	2546	11061
557	855	583	1013	3008	1585	1788	383	963	4719	2199	1437	723	1183	5542
1270	328	263	791	2652	817	988	564	674	3043	2041	567	449	507	3564
6	7	—	1	14	—	—	—	—	—	1	—	—	—	1
78	158	245	91	572	121	175	375	429	1100	407	260	559	272	1498
534	164	116	760	1574	114	110	145	390	759	264	131	65	164	624
—	526	—	—	526	—	280	872	—	1092	4	1398	194	3	1599
3129	2201	1424	1164	7918	4653	1556	1862	1170	9241	1638	1054	1870	1357	5919
108	248	340	136	832	189	449	1010	315	1963	489	335	330	294	1448
82	393	843	274	1592	235	256	125	90	706	158	23	88	84	353
2867	2489	3137	5263	13756	4904	3089	2332	3914	14239	5492	3904	3737	5815	18948
335	1192	2348	719	4594	321	2279	25745	319	28664	266	1360	18880	534	21040

Name of fish	1975					1976				
	I	II	III	IV	Total	I	II	III	IV	Total
<b>14. CARANGIDS</b>										
a. Leather-jackets	424	507	78	81	1090	94	418	49	85	646
b. Other carangids	966	1746	1363	2310	6385	1451	1563	3203	2122	8339
<b>15. SILVER BELLIES</b>	5775	7698	3569	3129	20171	1874	2959	18302	6535	29670
<b>16. BIG-JAWED JUMPER</b>	202	491	751	378	1822	108	159	200	308	775
<b>17. POMFRETS</b>	130	797	90	286	1303	38	481	79	224	822
<b>18. INDIAN MACKEREL</b>	809	3750	806	461	5826	2026	5170	2468	824	10488
<b>19. SEER FISHES</b>	1431	445	338	1886	4100	1017	709	966	1092	3784
<b>20. TUNNIES</b>	304	412	130	939	1785	490	490	1065	878	2923
<b>21. BILL FISHES</b>	—	—	—	—	—	—	—	—	—	—
<b>22. BARRACUDAS</b>	411	344	184	567	1506	139	129	209	1077	1554
<b>23. MULLET</b>	809	57	220	480	1566	42	74	73	96	285
<b>24. UNICORN COD</b>	—	—	—	—	—	—	—	—	—	—
<b>25. FLATFISHES</b>										
a. Soles	115	249	215	206	785	102	252	265	290	909
<b>26. CRUSTACEANS</b>										
a. Penaeid prawns	1437	1485	6373	2165	11460	1930	2082	3010	1842	8864
b. Non penaeid prawns	1	206	313	53	573	2	135	32	—	169
c. Lobsters	173	128	22	142	465	57	61	292	115	525
d. Crabs	1860	3958	5717	2361	13896	356	5037	6013	5007	16413
e. Stomatopods	—	—	—	—	—	—	—	—	—	—
<b>27. CEPHALOPODS</b>	224	1064	733	932	2953	443	265	323	420	1451
<b>28. MISCELLANEOUS</b>	3276	4259	4828	3765	16128	2809	2670	1865	4464	11808
<b>Total</b>	<b>47508</b>	<b>56411</b>	<b>60872</b>	<b>56424</b>	<b>221215</b>	<b>51948</b>	<b>42484</b>	<b>82493</b>	<b>49153</b>	<b>226078</b>

TABLE-1 (Contd.)

1977					1978					1979				
I	II	III	IV	Total	I	II	III	IV	Total	I	II	III	IV	Total
993	153	52	267	1465	470	241	146	114	971	326	244	129	145	844
1203	830	3019	1451	6503	664	701	1237	1014	3616	877	1067	3669	2186	7799
4661	5134	3636	4406	17837	9243	6406	9109	5627	30385	13755	11588	7589	10151	43083
74	380	201	85	740	135	222	395	88	840	179	135	772	237	1323
128	130	158	212	628	341	244	177	27	789	115	403	215	144	877
2446	1654	394	1180	5674	472	468	171	342	1453	925	1212	168	1216	3521
743	501	3857	1323	6424	1025	347	940	2388	4700	1401	840	1330	1657	5228
657	531	1383	667	3238	283	152	394	340	1169	42	404	1890	875	3211
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
430	<del>225</del> 255	808	209	1702	98	281	1179	589	2147	456	297	360	350	1463
401	236	104	182	923	601	39	138	51	829	63	46	60	60	229
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
150	132	302	324	908	411	492	471	206	1580	500	598	586	653	2337
1368	1785	1293	3751	8197	3695	2371	5105	2156	13327	2292	3931	2084	1915	10222
2	125	21	11	159	64	33	88	64	249	51	132	551	163	897
44	65	95	82	286	33	80	235	237	585	117	26	79	118	340
3322	3711	1430	2555	11018	2496	3261	2478	1055	9290	808	1395	1961	1719	5883
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
359	102	585	329	1375	164	123	469	286	1042	291	270	810	532	1903
4753	3958	3953	6540	19204	5224	4405	5842	3636	19107	5739	3349	3334	4759	17181
43421	40195	56753	65677	206046	53289	43404	74070	42136	212899	62249	50074	67446	55239	235008

## QUARTERWISE AND SPECIESWISE MARINE FISH LANDINGS

Name of fish	1980					1981				
	I	II	III	IV	Total	I	II	III	IV	Total
<b>1. ELASMOBRANCHS</b>	3766	3584	5348	2744	15442	—	—	—	—	—
a. Sharks	—	—	—	—	—	675	607	560	406	2248
b. Skates	—	—	—	—	—	23	27	4	70	124
c. Rays	—	—	—	—	—	3253	2574	2692	2351	10870
<b>2. EELS</b>	20	36	28	11	95	13	4	51	25	93
<b>3. CATFISHES</b>	874	1142	1275	756	4047	1292	754	1099	647	3792
<b>4. CLUPEIDS</b>										
a. Wolf-herring	636	404	801	854	2695	605	229	391	595	1820
b. Oil sardine	—	256	—	64	320	46	81	—	68	195
c. Other sardines	7690	6095	8252	7903	29940	8128	4449	6933	4938	24448
d. Hilsa shad	—	2	21	14	37	35	—	15	2	52
e. Other shads	1494	942	353	295	3084	1057	308	1018	323	3516
f. Anchovies										
<i>Coilia</i>	—	—	—	—	—	3	2	62	136	203
<i>Setipinna</i>	—	—	—	—	—	—	10	249	26	285
<i>Stolephorus</i>	1147	1051	3962	6966	13126	1214	2062	3509	1572	8357
<i>Thryssa</i>	1433	1097	739	1779	5048	2988	989	563	1925	6465
g. Other clupeids	438	714	257	424	1833	1965	570	1546	957	5038
<b>5. BOMBAYDUCK</b>	5	1	—	—	6	3	—	—	—	3
<b>6. LIZARD FISHES</b>	187	209	385	342	1123	176	280	589	410	1455
<b>7. HALFBEAKS &amp; FULLBEAKS</b>	190	166	62	331	749	278	104	92	345	819
<b>8. FLYING FISHES</b>	—	1040	66	—	1106	11	432	2008	9	2460
<b>9. PERCHES</b>	1145	2692	2424	625	6886	—	—	—	—	—
a. Rock cods	—	—	—	—	—	306	88	107	48	549
b. Snappers	—	—	—	—	—	309	106	89	49	553
c. Pig-face breams	—	—	—	—	—	368	151	141	111	771
d. Threadfin breams	—	—	—	—	—	218	351	753	362	1684
e. Other perches	—	—	—	—	—	678	540	1018	660	2896
<b>10. GOATFISHES</b>	180	446	206	247	1079	217	226	272	401	1116
<b>11. THREADFINS</b>	35	27	470	97	629	103	32	27	74	236
<b>12. CROAKERS</b>	6634	6900	2048	3965	19547	3216	3911	2440	3573	13140
<b>13. RIBBON FISHES</b>	576	784	5758	744	7862	370	457	5555	1223	7605
<b>14. CARANGIDS</b>										
a. Horse Mackerel	—	—	—	—	—	6	9	—	1	16
b. Scads	—	—	—	—	—	18	313	890	44	1265
c. Leather-jackets	350	394	156	211	1111	243	132	87	146	608
d. Other carangids	998	1457	1959	1506	5920	5591	1903	3901	1340	12735

## (IN TONNES) IN TAMIL NADU DURING 1980-84

TABLE-2

1982					1983					1984				
I	II	III	IV	Total	I	II	III	IV	Total	I	II	III	IV	Total
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1020	513	993	364	2890	1536	514	640	393	3083	837	637	724	197	2395
15	260	171	2	448	33	474	238	21	766	15	103	24	7	149
2551	2895	2906	2092	10444	3353	6800	3472	2445	16070	2586	2264	3115	1416	9381
110	14	17	14	155	35	73	96	7	211	49	30	58	151	288
2987	713	1818	530	6048	1231	1445	1231	709	4616	1938	927	787	545	4197
1005	292	350	1019	2666	708	831	360	811	2710	643	519	765	714	2641
146	419	249	270	1084	156	128	251	785	1320	32	158	—	1005	1195
6421	4502	5303	7065	23291	8385	11766	7298	9675	37124	5638	7524	2580	10481	26223
96	10	30	38	174	86	133	160	184	563	616	429	74	8	1127
2235	267	387	1122	4011	2486	400	1857	1354	6097	2985	442	667	1095	5189
77	—	67	28	172	166	3	101	364	634	274	95	139	204	712
—	—	—	18	18	—	—	3	3	6	2	4	6	—	12
538	4378	4217	564	9697	380	3729	4973	641	9723	884	4878	8226	533	14521
2772	814	512	814	4912	2348	973	725	1354	5400	1482	2297	2009	1933	7721
1696	822	1458	1564	5540	2238	1139	1644	2135	7156	1814	1721	892	1240	5667
—	—	—	2	2	6	—	—	—	6	—	4	—	—	4
462	402	799	269	1932	282	655	712	179	1828	290	392	881	621	2184
282	134	69	340	825	295	312	101	619	1327	232	195	224	270	921
15	580	1022	—	1617	9	1025	14	—	1048	—	1033	1121	3	2157
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
765	190	197	142	1294	1118	150	181	189	1638	520	408	250	296	1474
480	425	114	180	1199	564	59	160	280	1063	215	206	131	170	722
755	547	564	390	2256	1056	328	315	566	2265	797	452	231	175	1655
743	573	1646	775	3737	685	1123	1197	446	3451	497	338	1557	488	2880
824	625	1572	890	3911	1397	1494	2095	864	5850	1055	1372	1660	986	5073
348	216	610	283	1457	659	376	893	491	2419	321	409	624	404	1758
107	28	119	125	379	102	86	63	136	387	115	152	82	126	475
10070	5907	3003	3049	22029	4623	2962	1966	3579	13130	4449	2695	3295	2268	12707
278	815	4818	454	6365	167	54	4816	309	5346	295	7633	3678	297	11903
137	12	2	1	152	—	34	—	22	56	6	33	33	2	74
79	173	212	185	643	133	309	256	83	781	359	33	2117	102	2611
462	86	72	83	703	215	3027	177	55	3474	214	1075	179	135	1603
1010	1800	1914	1432	6156	2436	1529	1624	1446	7035	2248	1886	4006	2243	10383

Name of fish	1980					1981				
	I	II	III	IV	Total	I	II	III	IV	Total
15. SILVER BELLIES	10774	12848	4974	9641	38237	17918	17015	6580	9429	50942
16. BIG-JAWED JUMPER	120	145	453	220	938	551	89	90	88	818
17. POMFRETS	143	597	356	210	1306	—	—	—	—	—
a. Black pomfret	—	—	—	—	—	49	96	143	236	524
b. Silver pomfret	—	—	—	—	—	40	21	71	11	143
c. Chinese pomfret	—	—	—	—	—	—	1	2	—	3
18. MACKEREL	1491	1250	1308	3180	7229	1577	1258	690	391	3916
19. SEERFISHES	1639	1526	2393	1621	7179	—	—	—	—	—
a. <i>S. Commersoni</i>	—	—	—	—	—	1479	1171	947	1303	4900
b. <i>S. guttatus</i>	—	—	—	—	—	101	67	150	197	515
c. <i>S. lineolatus</i>	—	—	—	—	—	—	10	6	—	16
d. <i>Acanthocybium</i> sp.	—	—	—	—	—	—	—	—	—	—
20. TUNNIES	546	541	2432	714	4233	—	—	—	—	—
a. <i>E. affinis</i>	—	—	—	—	—	309	1308	1248	197	3062
b. <i>Auxis</i> spp.	—	—	—	—	—	2	53	17	5	77
c. <i>K. pelamis</i>	—	—	—	—	—	—	1	8	10	19
d. <i>T. tonggol</i>	—	—	—	—	—	—	—	—	—	—
e. Other tunnies	—	—	—	—	—	207	34	269	152	662
21. BILLFISHES	—	—	—	—	—	34	2	87	25	148
22. BARRACUDAS	226	297	287	122	932	180	260	284	224	948
23. MULLET	171	48	90	268	577	128	144	85	52	409
24. UNICORN COD	—	—	—	—	—	—	—	—	—	—
25. FLATFISHES	—	—	—	—	—	—	—	—	—	—
a. Halibut	—	—	—	—	—	18	72	59	55	204
b. Flounders	—	—	—	—	—	—	—	—	29	29
c. Soles	416	776	513	389	2094	192	357	306	343	1198
26. CRUSTACEANS	—	—	—	—	—	—	—	—	—	—
a. Penaeid prawns	1562	2865	2227	2428	9082	2079	3319	5267	2883	13548
b. Non penaeid prawns	69	125	645	107	946	36	270	293	105	704
c. Lobsters	61	14	6	9	90	83	45	23	87	238
d. Crabs	966	2528	1502	1178	6174	1509	3890	1798	1971	9168
e. Stomatopods	—	—	—	—	—	69	88	34	126	317
27. CEPHALOPODS	363	603	156	350	1472	210	352	398	727	1687
28. MISCELLANEOUS	4359	4118	3481	3272	15230	2177	2505	4312	2690	11684
<b>Total</b>	<b>50704</b>	<b>57720</b>	<b>55393</b>	<b>53577</b>	<b>217394</b>	<b>63166</b>	<b>54129</b>	<b>59828</b>	<b>44173</b>	<b>221296</b>

TABLE-2 (Contd)

1982					1983					1984				
I	II	III	IV	Total	I	II	III	IV	Total	I	II	III	IV	Total
19658	12566	12018	8335	52577	12782	18096	17193	14038	62109	11547	9023	11025	8317	39912
182	84	332	81	679	40	7	208	102	357	27	344	423	40	834
—	—	9	—	9	—	—	1	—	1	—	—	—	—	—
142	458	73	81	754	68	304	227	30	629	47	334	265	70	716
346	25	86	64	521	213	52	159	220	644	103	77	75	97	352
1	2	8	62	73	2	5	2	6	15	—	1	—	—	1
2086	1205	176	980	4447	1383	1496	802	2198	5879	3513	1742	557	728	6540
—	—	—	—	—	—	—	3	—	3	—	—	—	—	—
1017	556	1544	1259	4376	1673	573	858	934	4038	968	804	2776	1250	5798
129	68	174	144	515	121	89	55	44	309	22	80	143	141	386
19	12	21	29	81	23	62	24	61	170	—	81	82	2	165
—	—	1	—	1	8	—	—	—	8	—	—	44	—	44
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
213	895	1070	342	2521	358	397	512	248	1515	844	298	248	311	1701
51	269	18	33	371	180	169	28	29	406	161	21	21	13	216
4	1	—	—	5	—	33	1	—	34	29	21	5	—	55
—	—	—	—	—	4	2	—	—	6	1	9	—	119	129
15	265	35	2	317	—	7	37	—	44	1	12	447	—	460
64	36	125	33	258	47	32	26	19	124	129	37	64	16	246
422	275	498	592	1787	256	236	496	423	1411	361	268	563	651	1843
92	200	173	46	511	30	54	106	261	451	84	161	140	38	423
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
31	107	170	39	347	23	87	130	22	262	9	33	6	63	111
3	—	4	—	7	—	3	10	—	13	2	26	1	4	33
906	705	782	516	2909	830	764	692	493	2779	462	333	301	474	1570
4113	3283	3310	3380	14086	3067	3524	3769	3098	13458	4638	3938	4353	2225	15154
135	28	108	105	376	178	73	13	11	275	49	599	802	3	1453
52	44	79	137	312	65	50	78	162	355	157	144	107	158	566
3505	3536	3163	2464	12668	1809	3632	2675	2056	10172	1634	2488	1935	2529	8586
1039	491	335	231	2096	184	108	304	282	878	276	132	149	97	654
986	628	936	688	3238	1340	932	941	664	3877	576	548	1610	950	3694
3603	2376	3686	4247	13912	5385	3978	7738	6833	23934	6107	4041	5461	4867	20476
77294	56528	64145	47994	245961	66957	76696	74707	62379	280739	63155	65939	71738	51288	252120

## QUARTERWISE TRAWL LANDINGS AT PUDUMANIKUPPAM

Name of fish	1980					1981				
	I	II	III	IV	Total	I	II	III	IV	Total
<b>1. ELASMOBRANCHS</b>	17	16	21	44	98	—	—	—	—	—
a. Sharks	—	—	—	—	—	19	18	32	18	87
b. Skates	—	—	—	—	—	2	2	5	2	11
c. Rays	—	—	—	—	—	45	45	79	45	214
<b>2. EELS</b>	—	—	—	—	—	2	2	3	2	9
<b>3. CATFISHES</b>	2	—	—	—	2	4	3	5	3	15
<b>4. CLUPEIDS</b>										
a. Wolf herring	—	—	—	—	—	—	—	1	—	1
c. Other sardines	—	—	—	—	—	—	1	1	—	2
f. Anchovies										
<i>Stolephorus</i>	1	7	13	—	21	34	35	62	35	166
<i>Thryssa</i>	—	—	—	—	—	12	12	22	13	59
g. Other clupeids	—	—	—	—	—	—	—	—	—	—
<b>5. BOMBAYDUCK</b>	—	—	—	—	—	—	—	—	—	—
<b>6. LIZARD FISHES</b>	23	26	31	28	108	97	97	172	98	464
<b>7. HALFBEAKS &amp; FULLBEAKS</b>	—	—	—	—	—	—	—	—	—	—
<b>8. FLYING FISHES</b>	—	—	—	—	—	—	—	—	—	—
<b>9. PERCHES</b>	48	61	70	29	208	—	—	—	—	—
a. Rock cods	—	—	—	—	—	—	—	—	—	—
b. Snappers	—	—	—	—	—	—	—	—	—	—
c. Pig-face breams	—	—	—	—	—	—	—	—	—	—
d. Threadfin breams	—	—	—	—	—	167	166	295	167	795
e. Other perches	—	—	—	—	—	75	75	132	75	357
<b>10. GOATFISHES</b>	2	1	3	—	6	1	1	2	2	6
<b>11. THREADFINS</b>	—	—	4	2	6	1	—	1	—	2
<b>12. CROAKERS</b>	29	15	11	88	143	106	106	188	107	507
<b>13. RIBBON FISHES</b>	4	14	9	80	107	39	39	69	39	186
<b>14. CARANGIDS</b>										
a. Scads	—	—	—	—	—	2	2	4	2	10
b. Leather-jackets	—	—	—	—	—	—	1	1	—	2
c. Other carangids	—	—	—	2	2	8	8	15	8	39

TABLE-3

## IN TAMIL NADU DURING 1980 TO 1984 (IN TONNES)

1982					1983					1984				
I	II	III	IV	Total	I	II	III	IV	Total	I	II	III	IV	Total
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
14	3	16	5	38	7	1	6	4	18	3	181	73	28	285
15	1	2	1	19	8	2	9	5	24	7	64	2	2	75
57	25	47	10	139	12	20	9	10	51	7	25	23	18	73
16	7	5	1	29	1	—	—	—	1	—	5	—	—	5
4	2	2	—	8	1	3	3	8	15	1	173	84	4	262
1	—	—	1	2	1	—	—	2	3	1	26	5	1	33
—	—	—	—	—	3	—	—	5	8	4	—	—	—	4
2	5	7	1	15	—	20	54	13	87	—	18	55	152	225
12	6	8	2	28	7	3	1	6	17	7	37	—	5	49
3	—	1	—	4	14	—	—	—	14	14	—	—	1	15
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
172	190	417	110	889	12	86	137	52	287	13	165	257	390	825
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	73	52	7	132
—	—	—	—	—	—	—	2	—	2	—	71	11	54	136
4	—	3	—	7	4	—	—	—	4	4	—	—	—	4
426	363	607	228	1624	326	295	531	121	1273	324	192	159	262	937
146	118	344	74	682	192	256	197	60	705	164	86	68	66	384
29	25	42	17	113	7	13	19	26	65	4	30	11	34	79
3	—	1	—	4	2	2	5	8	17	2	16	—	4	22
184	43	32	22	281	127	52	59	207	445	87	121	82	100	390
12	10	63	215	300	15	17	54	80	166	13	233	177	164	587
3	—	84	2	89	117	73	179	27	396	115	29	9	—	153
—	—	—	—	—	—	—	—	6	6	—	22	—	—	22
10	7	13	2	32	4	7	22	3	36	2	156	69	196	423

Name of fish	1980					1981				
	I	II	III	IV	Total	I	II	III	IV	Total
15. SILVER BELLIES	23	33	49	57	162	330	330	586	331	1577
16. BIG-JAWED JUMPER	—	—	—	—	—	—	—	—	—	—
17. POMFRETS										
a. Black pomfret	—	—	—	—	—	—	1	1	—	2
b. Silver pomfret	—	—	—	—	—	1	—	1	—	2
18. INDIAN MACKEREL	—	—	—	—	—	2	2	3	2	9
19. SEER FISHES	1	—	—	1	2	—	—	—	—	—
a. <i>S. commersoni</i>	—	—	—	—	—	3	3	4	2	12
b. <i>S. guttatus</i>	—	—	—	—	—	—	1	2	1	4
c. <i>S. lineolatus</i>	—	—	—	—	—	—	—	—	—	—
20. TUNNIES										
a. <i>E. affinis</i>	—	—	—	—	—	—	—	—	—	—
b. <i>Auxis</i> spp.	—	—	—	—	—	—	—	—	—	—
c. <i>K. pelamis</i>	—	—	—	—	—	—	—	—	—	—
d. <i>T. tonggol</i>	—	—	—	—	—	—	—	—	—	—
21. BILLFISHES	—	—	—	—	—	—	—	—	—	—
22. BARRACUDAS	—	1	5	—	6	2	2	4	3	11
23. MULLET'S	—	—	—	—	—	—	—	—	—	—
24. UNICORN COD	—	—	—	—	—	—	—	—	—	—
25. FLATFISHES										
a. Halibut	—	—	—	—	—	—	—	—	—	—
b. Flounders	—	—	—	—	—	—	—	—	—	—
c. Soles	3	—	—	1	4	10	10	16	10	46
26. CRUSTACEANS										
a. Penaeid prawns	16	18	10	121	165	214	214	380	215	1023
b. Non penaeid prawns	—	—	—	—	—	36	36	65	37	174
c. Lobsters	—	—	—	—	—	—	—	—	—	—
d. Crabs	11	13	9	18	51	—	—	—	—	—
e. Stomatopods	—	—	—	11	11	—	—	—	—	—
27. CEPHALOPODS	7	13	9	15	44	26	27	48	27	128
28. MISCELLANEOUS	25	31	34	180	270	59	59	104	59	281
<b>Total</b>	<b>212</b>	<b>249</b>	<b>278</b>	<b>677</b>	<b>1416</b>	<b>1297</b>	<b>1298</b>	<b>2303</b>	<b>1303</b>	<b>6201</b>
<b>No of operations of fishing units (in '000)</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>4</b>	<b>13</b>	<b>5</b>	<b>6</b>	<b>10</b>	<b>6</b>	<b>27</b>

TABLE-3 (Conted.)

1982					1983					1984				
I	II	III	IV	Total	I	II	III	IV	Total	I	II	III	IV	Total
341	381	367	337	1426	251	400	429	384	1464	319	364	280	382	1345
1	—	—	—	1	1	—	—	2	3	—	16	30	—	46
—	—	1	1	2	2	4	1	4	11	1	17	9	20	49
—	—	—	—	—	—	—	—	—	—	—	32	31	59	122
1	4	2	—	7	2	1	58	2	63	2	6	—	—	8
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12	—	1	—	13	1	7	3	1	12	—	78	48	3	129
7	—	—	1	8	—	—	—	—	—	—	42	17	128	187
3	—	—	—	3	—	—	—	—	—	—	—	—	—	—
10	—	1	—	11	—	1	1	—	2	—	31	—	80	111
—	—	—	—	—	—	1	—	—	1	—	7	20	13	40
4	—	—	—	4	—	13	—	—	13	—	32	2	1	35
—	—	—	—	—	—	—	—	—	—	1	—	—	—	1
20	—	—	—	20	—	—	—	—	—	—	19	24	11	54
—	14	49	—	63	2	2	42	9	55	2	32	17	58	109
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	1	2	—	3	1	—	—	3	4	—	3	—	20	23
—	—	4	—	4	—	—	—	—	—	—	—	—	—	—
12	11	7	10	40	4	5	8	8	25	3	7	7	9	26
183	398	427	259	1267	97	217	176	216	706	161	156	91	101	509
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4	4	10	4	22	12	31	14	11	68	12	36	54	38	140
87	29	19	131	266	53	44	14	33	144	43	86	45	116	290
9	5	5	5	24	13	2	3	16	34	14	—	—	—	14
27	59	349	67	502	60	70	278	17	425	53	54	37	52	196
88	213	476	425	1202	463	418	432	1309	2622	446	144	120	149	859
1922	1924	3414	1931	9191	1822	2066	2746	2658	9292	1829	2885	1969	2728	9411
8	8	11	8	35	6	9	8	7	30	6	10	9	10	35

## QUARTERWISE TRAWL LANDINGS AT CUDDALORE

Name of fish	1980					1981				
	I	II	III	IV	Total	I	II	III	IV	Total
1. ELASMOBRANCHS	4	6	2	14	26	—	—	—	—	—
a. Sharks	—	—	—	—	—	—	—	—	—	—
b. Skates	—	—	—	—	—	—	—	—	—	—
c. Rays	—	—	—	—	—	1	2	3	3	9
2. EELS	—	—	—	—	—	—	—	—	—	—
3. CATFISHES	3	—	—	1	4	—	—	—	1	1
4. CLUPEIDS										
<i>Stolephorus</i>	62	38	15	22	137	3	1	5	7	16
<i>Thryssa</i>	6	—	—	7	13	—	—	—	1	1
g. Other clupeids	7	9	3	4	23	4	4	7	9	24
5. BOMBAYDUCK	—	—	—	—	—	—	—	—	—	—
6. LIZARD FISHES	28	21	37	113	199	18	19	36	44	117
7. HALFBEAKS & FULL BEAKS	—	—	—	—	—	—	—	—	—	—
8. FLYING FISHES	—	—	—	—	—	—	—	—	—	—
9. PERCHES	62	86	86	58	292	—	—	—	—	—
a. Rock cods	—	—	—	—	—	—	—	—	—	—
b. Snappers	—	—	—	—	—	—	—	—	—	—
c. Pig-face breama	—	—	—	—	—	—	—	—	—	—
d. Threadfin breama	—	—	—	—	—	15	16	30	37	98
e. Other perches	—	—	—	—	—	4	5	9	10	28
10. GOATFISHES	41	27	22	7	97	4	4	8	11	27
11. THREADFINS	—	—	—	—	—	—	—	—	—	—
12. CROAKERS	22	11	6	44	83	12	11	23	27	73
13. RIBBON FISHES	6	—	6	45	57	—	1	—	1	2

**IN TAMIL NADU DURING 1980 - 1984 (IN TONNES)**

**TABLE-4**

1982					1983					1984				
I	II	III	IV	Total	I	II	III	IV	Total	I	II	III	IV	Total
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
36	—	—	—	36	—	—	—	—	—	—	—	—	—	—
—	—	3	—	3	—	—	—	—	—	—	—	—	—	—
4	—	—	—	4	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
30	5	—	6	41	11	55	112	11	189	—	123	12	2	137
8	—	—	—	8	—	8	—	23	31	24	—	16	—	40
2	—	—	—	2	—	—	48	25	73	16	44	11	21	92
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
43	41	87	44	215	53	172	122	34	381	47	121	120	66	354
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
19	52	166	54	291	56	153	76	10	295	17	25	69	46	157
11	35	8	13	67	1	117	31	—	149	—	43	43	11	97
3	5	10	9	27	16	34	—	2	52	2	13	7	13	35
—	—	—	—	—	—	—	6	—	6	—	—	—	—	—
—	1	17	114	132	10	3	14	32	59	50	87	74	55	266
—	—	—	—	—	—	—	9	16	25	2	—	—	—	2

Name of fish	1980					1981				
	I	II	III	IV	Total	I	II	III	IV	Total
14. CARANGIDS	—	4	2	—	6	—	—	—	—	—
a. Leather-jackets	—	—	—	—	—	—	—	—	—	—
b. Other carangids	—	—	—	—	—	3	2	5	6	16
15. SILVER BELLIES	164	108	146	225	643	52	54	103	125	334
16. BIG-JAWED JUMPER	—	—	—	4	4	—	—	—	—	—
17. POMFRETS	2	—	—	—	2	—	—	—	1	1
18. INDIAN MACKEREL	—	—	—	—	—	—	—	—	—	—
19. SEER FISHES	1	—	—	—	1	—	—	—	—	—
20. TUNNIES	—	—	—	1	1	—	—	—	—	—
21. BILL FISHES	—	—	—	—	—	—	—	—	—	—
22. BARRACUDAS	—	1	—	—	1	—	—	—	—	—
23. MULLET	—	—	—	—	—	—	—	—	—	—
24. UNICORN COD	—	—	—	—	—	—	—	—	—	—
25. FLATFISHES	—	—	—	—	—	—	—	—	—	—
a. Soles	—	—	5	8	13	2	2	5	5	14
26. CRUSTACEANS	—	—	—	—	—	—	—	—	—	—
a. Penaeid prawns	50	26	15	30	121	16	17	32	39	104
b. Crabs	3	10	3	9	25	5	5	10	11	31
c. Stomatopods	2	—	1	3	6	—	—	—	2	2
27. CEPHALOPODS	13	11	9	7	40	5	5	8	10	28
28. MISCELLANEOUS	68	51	27	29	175	12	13	24	29	78
<b>Total</b>	<b>544</b>	<b>409</b>	<b>385</b>	<b>631</b>	<b>1969</b>	<b>156</b>	<b>161</b>	<b>308</b>	<b>379</b>	<b>1004</b>
<b>No of operations of fishing units (in'000)</b>	<b>5</b>	<b>3</b>	<b>3</b>	<b>5</b>	<b>16</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>8</b>

TABLE-4 (contd.)

1982					1983					1984				
I	II	III	IV	Total	I	II	III	IV	Total	I	II	III	IV	Total
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7	—	—	—	7	—	—	—	—	—	—	—	—	—	—
1	—	—	—	1	—	—	—	—	—	—	26	18	—	44
61	126	152	292	631	256	464	414	302	1436	260	282	267	160	969
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8	—	—	—	8	—	—	—	—	—	—	—	—	—	—
18	—	—	—	18	—	19	—	—	19	—	—	—	—	—
1	—	—	—	1	—	—	—	—	—	—	—	—	—	—
19	—	—	—	19	—	—	—	—	—	—	—	8	—	8
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2	3	10	1	16	6	5	6	—	17	—	—	—	3	4
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
28	35	133	37	233	29	67	40	60	196	129	134	113	42	418
—	9	7	170	186	11	19	1	37	68	7	26	38	24	95
—	—	—	—	—	—	—	—	7	7	19	—	8	4	31
8	10	18	8	44	18	39	31	10	98	4	6	21	3	34
24	23	46	62	155	57	53	49	44	203	27	34	34	10	105
333	345	657	810	2145	524	1208	959	613	3304	604	964	860	460	2888
2	2	2	3	9	2	4	3	3	12	2	2	3	2	9

## QUARTERWISE TRAWL LANDINGS AT NAGAPATTINAM

Name of fish	1980					1981				
	I	II	III	IV	Total	I	II	III	IV	Total
<b>1. ELASMOBRANCHS</b>	32	23	12	11	78	—	—	—	—	—
a. Sharks	—	—	—	—	—	6	3	10	6	25
b. Skates	—	—	—	—	—	—	—	—	—	—
c. Rays	—	—	—	—	—	36	17	57	28	138
<b>2. EELS</b>	2	3	—	—	5	3	1	5	3	12
<b>3. CATFISHES</b>	—	—	4	—	4	13	6	21	11	51
<b>4. CLUPEIDS</b>										
a. Wolf-herring	—	—	—	—	—	4	2	6	3	15
b. Oil sardine	—	—	—	—	—	—	—	—	—	—
c. Other sardines	2	—	—	—	2	1	—	1	—	2
f. Anchovies										
<i>Coilia</i>	—	—	—	—	—	44	21	71	35	171
<i>Setipinna</i>	—	—	—	—	—	—	—	—	—	—
<i>Stolephorus</i>	153	76	23	1	253	48	22	76	37	183
<i>Thryssa</i>	9	2	1	5	17	30	14	47	23	114
g. Other clupeids	87	66	31	57	241	64	30	102	51	247
<b>5. BOMBAYDUCK</b>	—	—	—	—	—	—	—	—	—	—
<b>6. LIZARD FISHES</b>	43	24	19	5	91	38	18	60	30	146
<b>7. HALFBEAKS &amp; FULLBEAKS</b>	—	—	—	—	—	—	—	—	—	—
<b>8. FLYING FISHES</b>	—	—	—	—	—	—	—	—	—	—
<b>9. PERCHES</b>	52	32	48	10	142	—	—	—	—	—
a. Threadfin breams	—	—	—	—	—	64	30	103	51	248
e. Other perches	—	—	—	—	—	29	13	47	23	112
<b>10. GOATFISHES</b>	6	7	6	—	19	3	1	4	2	10
<b>11. THREADFINS</b>	—	—	—	—	—	—	—	—	—	—
<b>12. CROAKERS</b>	71	51	27	50	199	131	60	207	102	500
<b>13. RIBBON FISHES</b>	17	1	3	5	26	20	9	31	15	75
<b>14. CARANGIDS</b>										
a. Horse Mackerel	35	17	10	3	65	—	—	—	—	—
b. Leather-jackets	—	—	—	—	—	—	—	—	—	—
c. Other carangids	—	—	—	—	—	37	17	59	29	142

TABLE-5

## IN TAMIL NADU DURING 1980 TO 1984 (IN TONNES)

1982					1983					1984				
I	II	III	IV	Total	I	II	III	IV	Total	I	II	III	IV	Total
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	3	—	1	4	—	—	—	—	—	1	17	21	—	39
—	3	—	—	3	23	—	—	—	23	—	—	—	—	—
82	47	84	65	278	99	142	200	112	553	150	100	67	137	454
14	7	8	13	42	9	6	3	6	24	12	—	—	2	14
53	14	70	21	155	70	21	44	75	210	10	82	13	47	152
4	—	—	—	4	—	2	—	1	3	6	—	—	—	6
—	—	—	—	—	—	—	—	—	—	—	1	—	1	2
—	—	—	—	—	—	—	—	4	4	—	2	—	—	2
77	—	4	46	127	141	3	90	311	545	127	33	37	156	353
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
119	6	138	75	338	74	59	512	14	659	303	120	129	32	584
65	18	94	32	209	81	47	55	115	298	192	129	46	109	476
79	97	240	103	519	105	104	192	160	561	270	214	119	102	705
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
39	21	98	38	196	39	81	135	24	279	28	51	132	51	262
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
72	66	303	94	535	62	169	255	32	518	11	55	128	109	303
43	1	233	4	281	43	88	482	29	642	2	14	118	45	179
2	—	22	2	26	8	27	31	12	78	9	15	2	32	58
—	—	—	—	—	—	—	—	—	—	—	2	—	4	6
165	68	241	227	701	330	204	383	495	1412	484	393	130	439	1446
66	25	90	40	221	80	9	19	65	173	160	44	9	49	262
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	4	—	4
30	41	105	43	219	44	78	161	48	331	41	77	109	93	320

Name of fish	1980					1981				
	I	II	III	IV	Total	I	II	III	IV	Total
15. SILVER BELLIES	189	115	116	26	449	197	91	313	155	756
16. BIG-JAWED JUMPER	5	23	10	1	39	13	6	20	10	49
17. POMFRETS	4	1	2	—	7	—	—	—	—	—
a. Black pomfret	—	—	—	—	—	1	1	2	1	5
b. Silver pomfret	—	—	—	—	—	7	3	12	6	28
18. INDIAN MACKEREL	—	1	—	—	1	—	—	—	—	—
19. SEERFISHES	—	—	—	—	—	—	—	—	—	—
20. TUNNIES	—	—	—	—	—	—	—	—	—	—
21. BILLFISHES	—	—	—	—	—	—	—	—	—	—
22. BARRACUDAS	—	1	—	—	1	4	2	7	4	17
23. MULLETS	—	2	—	—	2	1	—	1	1	3
24. UNICORN COD	—	—	—	—	—	—	—	—	—	—
25. FLATFISHES										
a. Halibut	—	—	—	—	—	16	7	25	12	60
b. Flounders	—	—	—	—	—	—	—	—	—	—
c. Soles	23	15	15	13	66	24	11	38	19	92
26. CRUSTACEANS										
a. Penaeid prawns	43	16	30	23	112	91	42	144	72	349
b. Non penaeid prawns	13	—	—	—	13	6	3	10	5	24
c. Lobsters	—	—	—	—	—	1	—	1	1	3
d. Crabs	9	20	—	6	35	24	11	38	18	91
e. Stomatopods	—	—	—	—	—	—	—	—	—	—
27. CEPHALOPODS	3	4	5	1	13	5	3	9	5	22
28. MISCELLANEOUS	53	36	25	13	127	48	21	76	38	183
<b>Total</b>	<b>851</b>	<b>536</b>	<b>387</b>	<b>233</b>	<b>2007</b>	<b>1009</b>	<b>465</b>	<b>1603</b>	<b>796</b>	<b>3873</b>
No. of operations of fishing units (in '000)	3	3	2	1	9	4	2	7	3	16

TABLE-5 (Contd)

1982					1983					1984				
I	II	III	IV	Total	I	II	III	IV	Total	I	II	III	IV	Total
149	165	304	206	824	292	626	1289	394	2601	716	418	407	412	1953
3	22	18	6	49	—	—	2	1	3	1	7	8	—	16
—	4	—	—	4	—	—	—	—	—	—	—	—	—	—
1	—	1	—	2	—	—	11	—	11	2	—	1	—	3
1	—	11	9	21	13	—	4	22	39	11	17	—	9	37
—	2	—	—	2	—	—	4	2	6	2	7	—	—	9
—	—	—	—	—	—	—	3	1	4	2	—	—	—	2
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9	13	57	11	90	14	36	35	12	97	15	20	3	20	58
2	—	—	—	2	2	—	—	—	2	—	22	—	—	22
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
13	10	51	23	97	15	30	59	13	117	5	21	—	36	62
—	—	—	—	—	—	—	—	—	—	—	26	—	—	26
43	26	64	38	171	65	39	53	69	226	59	54	65	80	258
316	63	257	97	733	331	161	223	259	974	900	367	121	378	1766
79	—	3	—	82	62	—	—	—	62	42	85	—	—	127
2	2	11	5	20	2	4	8	3	17	—	—	16	5	21
63	21	30	85	199	66	50	53	179	348	120	183	35	212	550
16	—	—	—	16	16	—	—	1	17	—	—	—	4	4
7	7	52	10	76	8	34	21	3	66	7	9	54	5	75
80	27	98	40	245	88	52	84	66	290	155	129	190	88	562
1691	779	2687	1334	6491	2182	2072	4411	2528	11193	3843	2714	1964	2657	11178
6	3	8	4	21	7	4	7	5	23	17	11	13	7	48

## QUARTERWISE TRAWL LANDINGS AT MANDAPAM

Name of fish	1980					1981				
	I	II	III	IV	Total	I	II	III	IV	Total
1. ELASMOBRANCHS	18	50	49	25	142	—	—	—	—	—
a. Sharks	—	—	—	—	—	—	—	—	1	1
b. Rays	—	—	—	—	—	37	101	99	52	289
2. EELS	—	—	—	—	—	1	1	1	1	4
3. CATFISHES	10	28	28	15	81	21	53	52	27	153
4. CLUPEIDS										
a. Wolf herring	—	—	—	—	—	—	1	1	1	3
b. Oil sardine	—	—	—	—	—	—	—	—	—	—
c. Other sardines	5	13	12	6	36	6	16	16	9	47
d. Hilsa shad	—	—	—	—	—	2	4	4	2	12
e. Other shads	1	4	4	2	11	2	6	6	2	16
f. Anchovies										
<i>Coilia</i>	—	—	—	—	—	—	—	—	—	—
<i>Stolephorus</i>	—	—	—	—	—	—	—	—	—	—
<i>Thryssa</i>	1	2	2	1	6	5	13	12	6	36
g. Other clupeids	1	1	1	1	4	8	22	21	11	62
5. BOMBAYDUCK	—	—	—	—	—	—	—	—	—	—
6. LIZARD FISHES	—	2	2	1	5	1	4	3	2	10
7. HALFBEAKS & FULLBEAKS	—	1	—	—	1	—	—	—	—	—
8. FLYING FISHES	—	—	—	—	—	—	—	—	—	—
9. PERCHES	—	1	—	—	1	—	—	—	—	—
a. Rock cods	—	—	—	—	—	1	3	3	2	9
b. Pig-face breams	—	—	—	—	—	—	1	1	—	2
c. Threadfin breams	—	—	—	—	—	—	1	1	—	2
d. Other perches	—	—	—	—	—	9	24	24	13	70
10. GOATFISHES	4	11	11	6	32	7	18	18	9	52
11. THREADFINS	—	—	—	—	—	—	—	—	1	1
12. CROAKERS	8	22	22	12	64	36	98	96	50	280
13. RIBBON FISHES	—	—	—	—	—	1	4	4	2	11

TABLE-6

## IN TAMIL NADU DURING 1980 - 1984 (IN TONNES)

1982					1983					1984				
I	II	III	IV	Total	I	II	III	IV	Total	I	II	III	IV	Total
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	1	—	—	—	1
39	50	73	60	222	53	28	40	74	195	66	173	45	50	334
—	—	—	—	—	—	4	—	—	4	—	—	—	—	—
30	7	9	11	57	21	8	14	15	58	13	26	17	5	61
—	—	—	1	1	1	2	1	—	4	2	—	—	—	2
—	—	—	—	—	—	10	5	1	16	11	6	—	—	17
6	2	14	6	28	9	3	4	12	28	22	21	11	10	64
—	—	—	—	—	6	2	—	5	13	1	—	—	—	1
2	3	—	1	6	1	—	3	—	4	11	30	2	—	43
—	—	—	—	—	—	—	—	—	—	2	—	—	—	2
—	—	—	—	—	—	—	2	—	2	1	2	1	1	5
8	5	3	8	24	11	5	3	3	22	3	7	11	3	24
34	45	24	22	125	26	10	12	12	60	8	7	8	5	28
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	2	1	3	6	4	1	1	2	8	2	—	—	2	4
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2	2	2	8	14	8	7	—	12	27	4	4	2	3	13
—	—	—	—	—	2	1	—	—	3	—	—	2	—	2
22	17	35	32	106	10	22	20	41	93	26	53	35	26	140
6	16	30	12	64	15	30	34	26	105	6	27	46	11	90
—	—	—	—	—	—	—	—	1	1	1	—	2	—	3
68	62	106	72	308	79	76	80	102	337	90	104	90	62	346
6	3	2	1	12	1	2	—	—	3	1	—	—	3	4

Name of fish	1980					1981				
	I	II	III	IV	Total	I	II	III	IV	Total
<b>14. CARANGIDS</b>										
a. Leather-jackets	—	—	—	—	—	1	2	2	1	6
b. Other carangids	—	1	—	—	1	4	10	10	5	29
<b>15. SILVER BELLIES</b>	206	556	546	284	1592	413	1117	1095	569	3194
<b>16. BIG-JAWED JUMPER</b>	—	—	1	—	1	—	1	1	—	2
<b>17. POMFRETS</b>	—	1	1	—	2	—	—	—	—	—
a. Black pomfret	—	—	—	—	—	—	—	1	—	1
b. Silver pomfret	—	—	—	—	—	—	1	1	1	3
c. Chinese pomfret	—	—	—	—	—	—	—	—	—	—
<b>18. INDIAN MACKEREL</b>	—	—	1	—	1	—	—	—	—	—
<b>19. SEER FISHES</b>	—	—	—	—	—	—	—	—	—	—
<b>20. TUNNIES</b>	—	—	—	—	—	—	—	—	—	—
<b>21. BILLFISHES</b>	—	—	—	—	—	—	—	—	—	—
<b>22. BARRACUDAS</b>	—	—	—	—	—	—	—	—	—	—
<b>23. MULLET</b>	—	—	—	—	—	—	—	—	—	—
<b>24. UNICORN COD</b>	—	—	—	—	—	—	—	—	—	—
<b>25. FLATFISHES</b>										
a. Soles	5	11	12	6	34	8	23	22	12	65
<b>26. CRUSTACEANS</b>										
a. Penaeid prawns	28	76	74	39	217	104	281	275	143	803
b. Non penaeid prawns	—	—	—	—	—	—	—	—	—	—
c. Crabs	19	53	51	27	150	30	81	80	41	232
d. Stomatopods	—	1	—	—	1	1	5	5	2	13
<b>27. CEPHALOPODS</b>	5	11	11	6	33	4	11	11	5	31
<b>28. MISCELLANEOUS</b>	16	41	40	21	118	3	7	7	3	20
<b>Total</b>	<b>327</b>	<b>886</b>	<b>868</b>	<b>452</b>	<b>2533</b>	<b>705</b>	<b>1909</b>	<b>1872</b>	<b>973</b>	<b>5459</b>
<b>No of operations of fishing units (in '000)</b>	<b>3</b>	<b>9</b>	<b>9</b>	<b>4</b>	<b>25</b>	<b>6</b>	<b>17</b>	<b>16</b>	<b>9</b>	<b>48</b>

TABLE-6 (Conted.)

1982					1983					1984				
I	II	III	IV	Total	I	II	III	IV	Total	I	II	III	IV	Total
—	—	—	—	—	1	1	—	—	2	—	1	1	—	2
6	10	14	7	37	9	2	14	13	38	9	18	29	17	73
306	1505	1320	316	3447	518	1123	793	426	2860	568	824	609	365	2366
—	—	—	1	1	—	1	—	—	1	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	2	—	2	1	—	—	—	1	—	—	—	—	—
19	1	1	3	24	8	3	—	2	13	11	—	2	—	13
—	—	—	—	—	—	—	—	—	—	—	1	—	—	1
—	—	—	—	—	—	—	—	—	—	—	—	1	1	2
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	1	—	—	1	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	14	14	—	7	1	—	8
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
15	3	8	12	38	19	3	18	14	54	20	13	10	19	62
111	145	164	178	598	194	226	190	164	774	214	513	243	98	1068
—	—	—	—	—	—	—	—	—	—	2	—	—	—	2
15	34	66	52	167	46	62	58	83	249	69	361	190	89	709
14	8	1	—	23	—	—	—	—	—	—	—	—	—	—
9	40	27	5	81	7	29	18	14	68	26	35	33	18	112
6	—	20	189	215	431	562	507	410	1910	319	625	389	283	1616
724	1960	1922	1000	5606	1481	2224	1817	1446	6968	1509	2858	1780	1071	7218
9	10	13	9	41	13	13	12	14	52	15	22	15	10	62

## QUARTERWISE TRAWL LANDINGS AT RAMESWARAM

Name of fish	1980					1981				
	I	II	III	IV	Total	I	II	III	IV	Total
1. ELASMOBRANCHS	772	492	616	490	2370	—	—	—	—	—
a. Sharks	—	—	—	—	—	—	—	—	—	—
b. Skates	—	—	—	—	—	—	—	—	—	—
c. Rays	—	—	—	—	—	1125	717	898	713	3453
2. EELS	—	—	—	—	—	—	—	—	—	—
3. CATFISHES	58	37	47	37	179	26	16	21	16	79
4. CLUPEIDS										
a. Wolf-herring	—	—	—	—	—	—	—	—	—	—
b. Oil sardine	—	—	—	—	—	—	—	—	—	—
c. Other sardines	7	5	6	5	23	4	2	3	2	11
d. Hilsa shad	—	—	—	—	—	—	—	—	—	—
e. Other shads	25	16	20	16	77	30	20	25	20	95
f. Anchovies										
<i>Stolephorus</i>	—	—	—	—	—	—	—	—	—	—
<i>Thryssa</i>	4	2	3	2	11	—	—	—	1	1
g. Other clupeids	4	2	3	2	11	3	2	2	2	9
5. BOMBAYDUCK	—	—	—	—	—	—	—	—	—	—
6. LIZARD FISHES	44	28	35	28	135	68	42	53	42	205
7. HALFBEAKS & FULLBEAKS	—	—	—	—	—	—	—	—	—	—
8. FLYING FISHES	—	—	—	—	—	—	—	—	—	—
9. PERCHES	4	3	3	3	13	—	—	—	—	—
e. Other perches	—	—	—	—	—	18	11	14	12	55
10. GOATFISHES	110	71	89	70	340	165	106	132	105	508
11. THREADFINS	—	—	—	—	—	—	—	—	—	—
12. CROAKERS	266	169	212	169	816	692	442	553	439	2126
13. RIBBON FISHES	—	—	—	—	—	—	—	—	—	—
14. CARANGIDS										
d. Other carangids	5	3	4	3	15	5	3	5	4	17

TABLE-7

## IN TAMIL NADU DURING 1980 TO 1984 (IN TONNES)

1982					1983					1984				
I	II	III	IV	Total	I	II	III	IV	Total	I	II	III	IV	Total
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5	—	—	—	5	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
754	603	414	283	2054	1030	1082	369	970	3451	828	786	1162	554	3330
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
136	19	78	20	253	85	17	12	93	207	103	150	89	52	394
15	—	—	—	15	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	17	10	27	11	—	—	—	11
—	—	—	28	28	24	29	47	216	316	95	107	198	119	519
89	—	—	—	89	5	42	—	1	48	5	—	—	—	5
8	6	—	—	14	—	5	8	9	22	40	50	25	19	134
—	—	—	—	—	9	—	—	—	9	—	—	3	—	3
—	—	7	5	12	3	—	—	1	4	11	—	—	—	11
319	5	13	85	422	248	2	1	8	259	79	13	—	4	96
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
31	27	34	33	125	62	77	75	40	254	53	—	12	18	83
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9	5	12	47	73	39	68	110	106	323	49	155	199	96	499
97	74	88	63	322	119	148	183	171	621	105	95	143	91	434
—	—	—	—	—	—	—	—	—	—	—	73	—	—	73
987	495	525	555	2562	1179	1062	307	564	3112	600	316	518	399	1833
1	—	—	3	4	—	—	—	—	—	—	—	—	—	—
29	4	—	28	61	71	13	17	12	113	18	19	79	48	164

Name of fish	1980					1981				
	I	II	III	IV	Total	I	II	III	IV	Total
15. SILVER BELLIES	2433	1552	1944	1545	7474	3358	2141	2681	2130	10310
16. BIG-JAWED JUMPER	--	--	--	--	--	--	--	--	--	--
17. POMFRETS										
a. Silver pomfret	--	--	--	--	--	--	--	--	--	--
b. Chinese pomfret	--	--	--	--	--	--	--	--	--	--
18. INDIAN MACKEREL	--	1	1	--	2	1	1	1	1	4
19. SEERFISHES	--	--	--	--	--	--	--	--	--	--
20. TUNNIES	--	--	--	--	--	--	--	--	--	--
21. BILLFISHES	--	--	--	--	--	--	--	--	--	--
22. BARRACUDAS	--	--	--	--	--	--	--	--	--	--
23. MULLETS	--	--	--	--	--	--	--	--	--	--
24. UNICORN COD	--	--	--	--	--	--	--	--	--	--
25. FLATFISHES										
a. Halibut	--	--	--	--	--	--	--	--	--	--
b. Soles	45	28	35	28	136	55	35	44	35	169
26. CRUSTACEANS										
a. Penaeid prawns	444	284	356	283	1367	685	436	546	434	2101
b. Non penaeid prawns	--	--	--	--	--	--	--	--	--	--
c. Lobsters	--	--	--	--	--	--	--	--	--	--
d. Crabs	131	83	104	83	401	208	134	166	132	640
e. Stomatopods	66	42	52	41	201	16	11	13	10	50
27. CEPHALOPODS	30	18	23	19	90	52	32	41	33	158
28. MISCELLANEOUS	234	149	186	148	717	191	122	153	121	587
<b>Total</b>	<b>4682</b>	<b>2985</b>	<b>3739</b>	<b>2972</b>	<b>14378</b>	<b>6702</b>	<b>4273</b>	<b>5351</b>	<b>4252</b>	<b>20578</b>
<b>No. of operations of fishing units (in '000)</b>	<b>26</b>	<b>16</b>	<b>21</b>	<b>16</b>	<b>79</b>	<b>33</b>	<b>21</b>	<b>26</b>	<b>21</b>	<b>101</b>

TABLE-7 (contd.)

1982					1983					1984				
I	II	III	IV	Total	I	II	III	IV	Total	I	II	III	IV	Total
3887	2548	3739	2543	12717	3543	4905	3421	2931	14800	2772	2867	3843	1787	11269
—	—	—	—	—	—	—	—	4	4	—	—	—	—	—
261	3	7	22	293	53	1	—	—	54	22	—	—	—	22
1	—	—	—	1	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	1	—	—	1	—	—	1	5	6
4	—	—	—	4	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	1	—	—	1	—	—	1	—	1
—	—	—	—	—	—	—	—	3	3	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1	—	1	14	16	—	—	—	—	—	—	—	—	—	—
47	40	44	24	155	52	41	45	49	187	44	37	34	32	147
373	437	426	515	1751	527	954	489	480	2450	506	1039	837	293	2677
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	1	—	1	—	—	—	—	—	—	—	—	—	—
144	229	205	175	753	87	441	370	126	1024	79	332	374	113	898
—	—	—	—	—	—	—	—	—	—	30	56	86	33	207
39	55	52	46	192	49	87	60	70	266	45	53	44	38	180
185	182	281	221	869	259	252	405	364	1280	206	146	224	166	742
7422	4732	5927	4710	22791	7444	9228	5936	6228	28836	5701	6294	7872	3871	23738
29	23	21	21	94	29	23	25	28	105	22	23	26	14	85

## QUARTERWISE TRAWL LANDINGS AT TUTICORIN

Name of fish	1980					1981				
	I	II	III	IV	Total	I	II	III	IV	Total
1. ELASMOBRANCHS	192	182	179	198	751	—	—	—	—	—
a. Sharks	—	—	—	—	—	115	41	60	62	278
b. Rays	—	—	—	—	—	135	48	70	72	325
2. EELS	—	—	—	—	—	1	—	—	1	2
3. CATFISHES	—	—	—	5	5	163	58	84	88	393
4. CLUPEIDS										
a. Wolf herring	—	—	—	7	7	38	13	20	21	92
b. Oil sardine	—	—	—	—	—	—	—	—	—	—
c. Other sardines	—	—	—	—	—	21	7	11	11	50
d. Other shads	—	—	—	8	8	—	—	—	—	—
f. Anchovies										
<i>Stolephorus</i>	—	—	—	90	90	94	33	49	50	226
<i>Thryssa</i>	—	—	—	20	20	466	164	240	250	1120
g. Other clupeids	—	—	—	34	34	180	64	92	96	432
5. BOMBAYDUCK	—	—	—	—	—	—	—	—	—	—
6. LIZARD FISHES	—	—	—	37	37	7	3	4	4	18
7. HALFBEAKS & FULLBEAKS	—	—	—	—	—	—	—	—	—	—
8. FLYING FISHES	—	—	—	—	—	—	—	—	—	—
9. PERCHES	—	—	—	19	19	—	—	—	—	—
a. Rock cods	—	—	—	—	—	2	1	1	—	4
b. Snappers	—	—	—	—	—	3	1	2	1	7
c. Pig-face breams	—	—	—	—	—	2	1	1	—	4
d. Threadfin breams	—	—	—	—	—	6	2	3	4	15
e. Other perches	—	—	—	—	—	4	1	2	2	9
10. GOATFISHES	—	—	—	—	—	—	—	—	—	—
11. THREADFINS	—	—	—	—	—	—	—	—	—	—
12. CROAKERS	268	123	340	279	1010	292	103	152	157	704
13. RIBBON FISHES	—	—	—	32	32	37	13	18	19	87

TABLE-8

## IN TAMIL NADU DURING 1980 - 1984 (IN TONNES)

1982					1983					1984				
I	II	III	IV	Total	I	II	III	IV	Total	I	II	III	IV	Total
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
239	85	102	19	445	175	103	—	16	294	—	—	—	—	—
280	106	116	87	589	203	136	6	54	399	12	10	—	—	22
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
33	35	—	5	73	—	—	—	1	1	3	—	—	—	3
34	10	6	24	74	60	15	6	14	95	8	—	—	—	8
—	—	—	—	—	—	1	—	—	1	—	—	—	—	—
79	—	—	3	82	12	9	—	—	21	46	—	—	2	48
—	—	—	7	7	—	—	—	—	—	2	—	—	—	2
77	—	47	42	166	—	—	75	44	199	—	48	220	—	268
1154	140	56	472	1822	929	282	—	138	1349	519	760	1310	1003	3592
45	78	169	102	394	471	267	—	56	794	—	85	—	12	97
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
118	12	8	14	152	16	—	16	—	32	4	1	—	—	5
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
58	22	5	2	87	116	—	—	—	116	15	—	—	—	15
32	2	9	—	43	—	—	—	—	—	1	—	—	—	1
35	9	—	—	44	—	—	—	5	5	4	—	—	—	4
88	35	323	81	527	7	2	47	53	109	7	7	—	—	14
20	—	—	13	33	—	—	—	1	1	24	309	—	—	333
7	—	—	7	14	—	—	—	4	4	4	1	1	—	6
—	—	—	1	1	—	—	—	1	1	—	1	—	—	1
333	83	114	149	679	407	205	4	82	698	147	352	2	9	510
33	12	8	6	59	9	1	—	3	13	—	—	—	—	—

TABLE-8 (contd.)

1982					1983					1984				
I	II	III	IV	Total	I	II	III	IV	Total	I	II	III	IV	Total
83	94	—	15	192	—	10	2	36	48	745	261	374	230	1610
302	252	417	660	1631	815	290	125	1167	2397	1201	1006	1403	1063	4673
58	12	43	6	119	—	2	—	3	5	5	—	—	—	5
—	—	—	—	—	—	—	—	2	2	5	—	—	—	5
15	—	—	2	17	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	2	—	2	—	4
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
21	—	1	—	22	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	189	—	—	—	189
1	—	—	—	1	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
29	37	—	13	79	11	3	2	9	25	112	1	1	—	114
2	—	—	—	2	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
49	14	27	3	93	—	—	—	4	4	—	—	—	—	—
340	155	149	157	801	269	268	461	175	1173	110	573	1063	199	1945
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	8	—	3	11	—	—	—	—	—	—	—	—	—	—
19	16	—	—	35	—	—	—	—	—	—	4	—	—	4
—	—	—	—	—	12	—	—	—	12	—	—	—	—	—
1	9	—	—	10	1	4	1	—	6	—	—	—	—	—
366	169	441	224	1200	375	226	2968	2194	5763	326	728	1266	1016	3336
3951	1395	2041	2117	9504	3888	1824	3713	4062	13487	3491	4147	5642	3534	16814
6	6	7	6	25	6	4	14	12	36	11	14	18	9	52

TABLE-9

**LANDINGS OF MECHANISED BOATS (IN TONNES)  
AT MAJOR CENTRES IN TAMIL NADU, 1980-84**

	1980	1981	1982	1983	1984	Average	Annual catch rate in percentage
<b>Pudumanaikuppam</b>							
Trawl net	1416	6201	9191	9292	9411	7102	46.05
Gill net	80	339	149	109	355	206	34.72
Total	149	6540	9340	9401	9766	7308	45.53
<b>Cuddalore Fisheries Harbour</b>							
Trawl net	1969	1004	2145	3304	2888	2262	7.96
Gill net	—	104	1404	608	359	215	36.31
Total	1969	1108	3549	3912	3247	2757	10.53
<b>Nagapattinam</b>							
Trawl net	2007	3873	6491	11193	11178	6949	40.98
Gill net	—	—	—	1	—	0.2	—
Total	2007	3873	6491	11194	11178	6949	40.98
<b>Mandapam</b>							
Trawl net	2533	5459	5606	6968	7218	5557	23.29
Gill net	—	—	—	—	—	—	—
Total	2533	5459	5606	6968	7218	5557	23.29
<b>Rameswaram</b>							
Trawl net	14378	20578	22791	28836	23738	22064	10.55
Gill net	—	8	5	—	—	2.6	—
Total	14378	20586	22796	28836	23738	22067	10.55
<b>Tuticorin Fisheries Harbour</b>							
Trawl net	6585	12369	9504	13487	16814	11752	20.62
Gill net	—	39	18	—	—	11.4	—
Total	6585	12408	9522	13487	16814	11763	20.62
<b>All centres together</b>							
Trawl net	28888	49484	55728	73080	71247	55685	19.79
Gill net	80	490	1576	718	714	716	54.93
<b>Total</b>	<b>28968</b>	<b>49974</b>	<b>57304</b>	<b>73798</b>	<b>71961</b>	<b>56401</b>	<b>19.96</b>

## FISHING EFFORT AND CPUE (KG) OF MECHANISED BOATS AT MAJOR CENTRES IN TAMIL NADU, 1980-84

In terms of no. of operations of units

	1980	1981	1982	1983	1984
<b>Pudumanaikuppam</b>					
Trawl net	13154 (107.65)	26671 (232.50)	35414 (259.53)	29950 (310.25)	34637 (271.70)
Gill net	975 (82.05)	2127 (159.38)	1296 (114.97)	836 (130.38)	1881 (188.73)
Total	14129 (105.88)	28798 (227.10)	36710 (254.43)	30786 (305.37)	36518 (267.43)
<b>Cuddalore Fisheries Harbour</b>					
Trawl net	16012 (122.97)	8043 (124.83)	9197 (233.23)	11450 (288.56)	9041 (319.43)
Gill net	—	863 (120.51)	3364 (417.36)	1971 (308.47)	1148 (312.72)
Total	16012 (122.97)	8906 (124.41)	12561 (282.54)	13421 (291.48)	10189 (318.68)
<b>Nagapattinam</b>					
Trawl net	9307 (215.64)	15827 (244.71)	20874 (310.96)	23241 (481.61)	47667 (234.50)
Gill net	—	—	—	4 (250.00)	—
Total	9307 (215.64)	15827 (244.71)	20874 (310.96)	23245 (481.61)	47667 (234.50)
<b>Mandapam</b>					
Trawl net	25143 (100.74)	47840 (114.11)	40643 (137.93)	52302 (133.23)	62416 (115.64)
Gill net	—	—	—	—	—
Total	25143 (100.74)	47840 (114.11)	40643 (137.93)	52302 (133.23)	62416 (115.64)
<b>Rameswaram</b>					
Trawl net	78758 (182.56)	101449 (202.84)	94466 (241.26)	105053 (274.49)	85061 (279.07)
Gill net	—	79 (101.27)	28 (178.57)	—	—
Total	78758 (182.56)	101528 (202.76)	94494 (305.16)	105053 (274.49)	85061 (279.07)
<b>Tuticorin Fisheries Harbour</b>					
Trawl net	30711 (214.42)	31846 (388.40)	24445 (388.79)	35989 (374.75)	52068 (322.92)
Gill net	—	235 (165.96)	93 (193.55)	—	—
Total	30711 (214.42)	32081 (386.77)	24538 (388.05)	35989 (374.75)	52068 (322.92)
<b>All centres</b>					
Trawl net	173085 (166.90)	231676 (213.59)	225039 (247.64)	257985 (283.27)	290890 (244.93)
Gill net	975 (82.05)	3304 (148.31)	4781 (329.64)	2811 (255.78)	3029 (235.72)
Total	174060 (166.43)	234980 (212.67)	229820 (249.34)	260796 (282.98)	293919 (284.83)

N. B. : Figures in the brackets show the C. P. U. E.

## QUARTERWISE AND SPECIESWISE MARINE FISH LANDINGS

Name of fish	1975					1976				
	I	II	III	IV	Total	I	II	III	IV	Total
1. ELASMOBRANCHS	74	20	22	13	129	31	74	35	25	165
2. BELS	—	—	4	—	4	—	—	—	6	6
3. CATFISHES	24	10	19	2	55	5	8	26	27	66
4. CLUPEIDS										
a. Wolf herring	23	—	12	15	50	26	—	—	37	63
b. Other sardines	68	221	329	428	1046	559	381	320	579	1839
c. Hilsashad	—	—	23	8	31	—	—	—	—	—
d. Other shads	73	163	41	—	277	50	41	30	—	121
e. Anchovies										
<i>Stolephorus</i>	209	168	16	19	412	72	52	21	33	178
<i>Thryssa</i>	146	42	102	47	337	164	250	113	38	565
g. Other clupeids	47	1	2	—	50	—	1	—	—	1
5. BOMBAYDUCK	—	—	—	—	—	—	—	—	—	—
6. LIZARD FISHES	15	3	14	12	44	41	13	33	18	105
7. HALF BEAKS & FULL BEAKS	—	31	24	—	55	2	—	—	—	2
8. FLYINGFISHES	—	67	75	—	142	—	—	165	—	165
9. PERCHES	20	119	231	19	389	57	113	462	137	769
10. GOATFISHES	44	1	52	3	100	2	27	18	30	77
11. THREADFINS	4	—	—	10	14	1	—	—	25	26
12. CROAKERS	40	47	67	58	212	80	69	204	81	434
13. RIBBONFISHES	160	48	62	44	314	141	22	159	106	428

**(IN TONNES) IN PONDICHERRY AND KARAIKAL, 1975-79**

TABLE-11

1977					1978					1979				
I	II	III	IV	Total	I	II	III	IV	Total	I	II	III	IV	Total
61	53	188	50	352	68	35	77	19	199	27	70	44	81	222
2	—	—	3	5	—	—	—	—	—	20	50	6	12	88
26	15	88	8	137	12	17	107	32	168	3	24	16	8	51
13	2	32	16	63	33	18	38	22	111	18	77	24	48	167
514	81	355	206	1156	408	159	263	354	1184	250	265	663	820	1998
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
27	—	2	14	43	100	—	7	1	108	4	—	7	1	12
26	55	16	451	548	38	250	97	136	521	42	39	130	135	346
107	63	200	35	405	110	48	73	27	258	80	132	143	74	429
—	—	—	—	—	45	89	90	57	281	49	90	135	71	345
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
26	18	23	36	103	38	32	42	20	132	6	94	114	48	262
4	—	—	—	4	—	—	—	—	—	—	—	6	—	6
—	3	—	—	3	—	102	378	—	480	—	495	359	—	854
76	119	141	55	391	166	104	191	26	487	74	259	526	145	1004
5	16	10	1	32	9	17	76	7	109	5	89	67	42	203
1	—	3	1	5	2	7	16	2	27	—	—	1	13	14
79	26	77	76	258	96	92	110	76	374	37	52	135	82	306
56	6	20	61	143	45	43	33	18	139	28	19	27	55	129

Name of fish	1975					1976				
	I	II	III	IV	Total	I	II	III	IV	Total
<b>14. CARANGIDS</b>										
a. Leather-jackets	—	—	—	—	—	1	1	—	—	2
b. Other carangids	37	91	243	239	610	24	105	355	24	508
<b>15. SILVERBELLIES</b>	95	167	218	31	511	36	153	139	154	482
<b>16. BIG-JAWED JUMPER</b>	2	2	26	—	30	3	6	91	21	121
<b>17. POMFRETS</b>	2	—	7	4	13	—	24	—	20	44
<b>18. INDIAN MACKEREL</b>	1846	173	213	27	2259	168	936	336	158	1598
<b>19. SEER FISHES</b>	19	2	2	—	23	5	—	7	16	28
<b>20. TUNNIES</b>	—	—	—	—	—	—	—	—	1	1
<b>21. BILLFISHES</b>	—	—	—	—	—	—	—	—	—	—
<b>22. BARRACUDAS</b>	26	—	1	—	27	9	6	—	—	15
<b>23. MULLET</b>	—	—	17	14	31	2	—	—	2	4
<b>24. UNICORN COD</b>	—	—	—	—	—	—	—	—	—	—
<b>25. FLATFISHES</b>										
a. Soles	27	14	78	6	125	12	84	147	11	254
<b>26. CRUSTACEANS</b>										
a. Penaeid prawns	2	29	23	8	62	6	27	49	11	93
b. Non penaeid prawns	2	—	—	—	2	—	—	—	—	—
c. Lobsters	3	6	10	6	25	5	3	18	7	33
d. Crabs	9	23	70	158	260	160	65	80	211	516
<b>27. CEPHALOPODS</b>	—	4	53	1	58	160	20	20	11	211
<b>28. MISCELLANEOUS</b>	115	125	131	82	453	233	361	463	146	1203
<b>Total</b>	<b>3132</b>	<b>1577</b>	<b>2187</b>	<b>1254</b>	<b>8150</b>	<b>2055</b>	<b>2842</b>	<b>3291</b>	<b>1935</b>	<b>10123</b>

(TABLE-11 contd).

1977					1978					1979				
I	II	III	IV	Total	I	II	III	IV	Total	I	II	III	IV	Total
1	1	3	—	5	30	3	—	—	33	1	2	3	21	27
32	21	392	48	493	56	46	68	51	221	13	54	404	68	539
101	111	65	48	325	111	86	143	32	372	68	168	281	229	746
54	79	42	—	175	—	—	—	—	—	1	4	—	6	11
6	28	18	1	53	14	24	10	2	50	2	10	22	1	35
138	167	41	52	398	74	65	15	25	179	163	64	25	172	424
11	10	10	3	34	11	2	25	3	41	4	49	18	34	105
—	—	—	—	—	—	—	1	2	3	—	1	—	—	1
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1	1	6	1	9	3	—	20	2	25	1	8	3	10	22
4	—	—	10	14	—	26	—	—	26	4	14	9	—	27
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
13	17	21	27	78	40	15	47	7	109	15	63	53	31	162
7	34	45	17	103	79	111	32	23	245	64	156	253	59	532
1	1	—	—	2	—	69	—	2	71	—	56	—	16	72
9	7	—	4	20	1	1	—	—	2	—	—	1	4	5
77	22	23	174	296	104	19	74	54	251	10	62	51	119	242
17	17	16	12	62	15	17	—	4	36	1	19	26	4	50
129	186	267	165	747	106	225	166	89	586	59	156	255	162	632
1624	1159	2104	1575	6462	1814	1722	2199	1093	6828	1049	2641	3807	2571	10068

## QUARTERWISE AND SPECIESWISE MARINE FISH LANDINGS

Name of fish	1980					1981				
	I	II	III	IV	Total	I	II	III	IV	Total
1. ELASMOBRANCHS	28	300	72	35	435	—	—	—	—	—
a. Sharks	—	—	—	—	—	21	107	64	1	193
b. Skates	—	—	—	—	—	—	—	—	—	—
c. Rays	—	—	—	—	—	36	59	62	37	194
2. EELS	—	—	8	—	8	2	4	7	—	13
3. CATFISHES	3	24	31	20	78	14	14	56	18	102
4. CLUPEIDS										
a. Wolf herring	29	2	47	20	98	21	19	5	40	85
b. Oil sardine	—	—	—	—	—	—	—	—	—	—
c. Other sardines	814	580	689	653	2736	434	355	448	105	1342
d. Hilsa shad	—	24	1	—	25	—	—	—	—	—
e. Other shads	3	11	39	—	53	111	11	4	3	129
f. Anchovies										
<i>Colia</i>	—	—	—	—	—	—	—	1	5	6
<i>Setipinna</i>	—	—	—	—	—	—	—	—	70	70
<i>Stolephorus</i>	44	140	71	32	287	334	130	39	4	507
<i>Thryssa</i>	156	87	102	42	387	201	101	129	89	520
g. Other clupeids	78	31	108	56	273	229	72	73	20	394
5. BOMBAYDUCK	—	—	—	—	—	—	—	—	—	—
6. LIZARD FISHES	28	79	29	24	160	67	67	103	9	246
7. HALFBEAKS & FULLBEAKS	2	—	24	—	26	1	—	—	56	57
8. FLYING FISHES	—	—	3	—	3	—	521	93	—	614
9. PERCHES	145	330	145	46	666	—	—	—	—	—
a. Rock cods	—	—	—	—	—	3	1	5	4	13
b. Snappers	—	—	—	—	—	—	—	—	—	—
c. Pig-face breams	—	—	—	—	—	—	—	16	1	17
d. Threadfin breams	—	—	—	—	—	52	101	189	65	407
e. Other perches	—	—	—	—	—	64	187	187	57	495
10. GOATFISHES	40	45	54	11	150	33	30	85	7	155
11. THREADFINS	1	—	—	5	6	—	—	—	1	1
12. CROAKERS	60	56	91	113	320	50	46	119	115	330
13. RIBBON FISHES	33	3	59	84	179	96	43	21	57	217

TABLE-12

**(IN TONNES) IN PONDICHERRY AND KARAIKAL 1980-84**

1982					1983					1984				
I	II	III	IV	Total	I	II	III	IV	Total	I	II	III	VI	Total
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8	71	20	—	99	13	12	16	2	43	126	16	113	1	256
—	—	—	—	—	—	—	—	3	3	—	—	—	—	—
61	29	149	53	292	160	73	28	7	268	40	27	87	15	169
1	—	1	—	2	—	—	28	2	30	1	—	1	—	2
5	4	6	5	20	4	12	21	16	53	4	6	51	7	68
19	14	4	80	117	13	13	19	73	118	20	8	16	32	76
—	—	—	—	—	—	—	—	141	141	595	1	57	267	920
674	338	169	202	1383	1100	450	1185	679	3414	393	170	214	378	1155
—	—	1	—	1	—	—	15	4	19	—	—	—	—	—
85	3	13	2	103	38	14	243	38	333	223	69	11	—	303
—	—	—	—	—	—	—	1	26	27	5	—	—	13	18
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
95	171	110	8	384	98	94	64	35	291	168	323	75	20	586
196	103	102	57	458	148	81	23	135	387	92	98	497	45	732
221	128	96	47	492	101	135	172	85	493	151	256	117	58	582
—	—	—	—	—	2	—	—	—	2	—	—	—	—	—
62	69	60	49	240	65	66	150	19	300	11	24	54	41	130
—	20	22	146	188	8	71	—	65	144	8	—	—	2	10
—	136	39	—	175	—	322	4	—	326	—	451	—	—	451
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5	4	21	2	32	—	—	2	—	2	—	—	11	—	11
—	—	—	3	3	—	6	10	—	16	1	—	2	—	3
1	—	—	2	3	2	29	18	—	49	10	3	—	—	13
28	146	98	256	528	160	274	367	53	854	52	26	189	50	317
62	272	193	209	736	120	110	165	56	451	56	200	177	55	488
13	10	57	28	108	5	17	54	1	77	7	16	1	19	43
—	—	2	20	22	3	—	2	5	10	3	17	—	3	23
44	44	99	374	561	42	49	122	258	471	215	250	154	122	741
43	24	7	34	108	3	8	10	33	54	133	42	6	34	215

Name of fish	1980					1981				
	I	II	III	IV	Total	I	II	III	IV	Total
<b>14. CARANGIDS</b>										
a. Scads	—	—	—	—	—	—	—	162	—	162
b. Leather jackets	—	1	—	1	2	26	2	2	2	32
c. Other carangids	48	174	76	183	481	68	199	697	543	1507
<b>15. SILVER BELLIES</b>	185	214	194	88	681	184	293	315	183	975
<b>16. BIG-JAWED JUMPER</b>	—	—	27	2	29	15	—	9	20	44
<b>17. POMFRETS</b>	21	115	5	47	188	—	—	—	—	—
a. Black pomfret	—	—	—	—	—	1	42	34	19	96
b. Silver pomfret	—	—	—	—	—	18	—	9	—	27
<b>18. INDIAN MACKEREL</b>	68	241	58	78	445	107	100	68	41	316
<b>19. SEER FISHES</b>	39	26	14	6	85	—	—	—	—	—
a. <i>S. commersoni</i>	—	—	—	—	—	5	4	35	5	49
b. <i>S. guttatus</i>	—	—	—	—	—	26	10	15	1	52
<b>20. TUNNIES</b>										
a. <i>E. affinis</i>	—	—	—	—	—	—	6	—	—	6
b. <i>K. pelamis</i>	—	—	—	—	—	—	—	—	—	—
c. Other tunnies	—	—	—	—	—	14	15	19	1	49
<b>21. BILL FISHES</b>	—	—	—	—	—	—	—	17	—	17
<b>22. BARRACUDAS</b>	13	4	33	5	55	4	5	34	7	50
<b>23. MULLET</b>	—	7	42	—	49	—	1	4	—	5
<b>24. UNICORN COD</b>	—	—	—	—	—	—	—	—	—	—
<b>25. FLATFISHES</b>										
a. Halibut	—	—	—	—	—	—	5	—	1	6
b. Flounders	—	—	—	—	—	—	—	—	—	—
c. Soles	22	58	43	28	151	22	75	62	29	188
<b>26. CRUSTACEANS</b>										
a. Penaeid prawns	88	287	57	53	485	87	124	60	65	336
b. Non penaeid prawns	14	11	—	17	42	45	5	—	3	53
c. Lobsters	—	—	3	1	4	—	—	1	4	5
d. Crabs	41	57	51	23	172	19	39	25	153	236
e. Stomatopods	—	—	—	—	—	—	—	—	—	—
<b>27. CEPHALOPODS</b>	18	11	10	1	40	4	17	18	5	44
<b>28. MISCELLANEOUS</b>	195	162	158	76	591	87	123	105	78	393
<b>Total</b>	<b>2216</b>	<b>3080</b>	<b>2344</b>	<b>1750</b>	<b>9390</b>	<b>2501</b>	<b>2933</b>	<b>3397</b>	<b>1924</b>	<b>10755</b>

TABLE-12 (Contd.)

1982					1983					1984				
I	II	III	IV	Total	I	II	III	IV	Total	I	II	III	IV	Total
—	4	1554	41	1599	19	56	—	—	75	—	—	558	243	801
4	2	12	2	20	11	3	15	2	31	17	13	7	—	37
130	230	262	91	713	77	305	79	61	522	104	172	448	209	933
108	89	93	248	538	191	989	400	198	1778	199	214	362	150	925
14	13	—	—	27	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8	73	19	1	101	7	19	22	2	50	7	58	67	1	133
—	—	6	8	14	—	1	6	46	53	—	31	2	4	37
68	316	27	117	528	278	252	322	77	929	162	478	230	81	951
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6	4	58	1	69	43	38	7	9	97	41	57	172	12	282
2	—	2	—	4	—	7	6	8	21	—	—	3	8	13
4	2	15	—	21	3	1	1	—	5	1	52	6	—	59
—	—	—	—	—	—	102	—	—	102	—	—	—	—	—
8	—	23	—	31	11	—	—	—	11	—	1	31	—	32
3	9	73	—	85	5	—	6	—	11	—	15	—	—	15
9	—	28	12	49	—	2	2	25	29	2	14	52	6	74
4	—	—	—	4	—	—	47	—	47	3	—	—	—	3
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5	—	—	1	6	1	2	—	—	3	21	1	15	—	37
—	—	—	—	—	—	—	8	—	8	—	—	—	—	—
17	51	99	58	225	83	42	102	63	290	53	75	68	87	283
63	109	86	46	304	24	38	79	132	273	372	244	132	106	854
11	1	3	1	16	4	—	—	5	9	6	29	1	27	63
2	2	9	14	27	8	13	11	—	32	—	—	3	2	5
6	77	83	751	917	71	81	35	431	618	62	112	83	479	736
—	—	2	4	6	2	—	5	—	7	—	—	—	—	—
12	26	31	15	84	45	47	22	1	115	2	18	15	2	37
88	184	135	208	615	154	279	494	235	1162	196	290	566	269	1321
2195	2778	3889	3196	12058	3122	4113	4388	3031	14654	3562	3877	4654	2848	14941

TABLE-13

**GEARWISE - SPECIESWISE MECHANISED FISH LANDINGS (IN TONNES)  
IN PONDICHERRY AND KARAİKAL DURING 1980-84**

Name of fish	Trawl net					Gill net				
	1980	'81	'82	'83	'84	1980	'81	'82	'83	'84
<b>1. ELASMOBRANCHS</b>	69	—	—	—	—	—	—	—	—	—
a. Sharks	—	—	2	—	—	—	169	30	26	235
b. Skates	—	—	—	—	—	—	—	—	—	—
c. Rays	—	135	85	40	71	—	—	87	144	8
<b>2. EELS</b>	5	9	1	2	2	—	—	—	—	—
<b>3. CATFISHES</b>	32	28	7	14	15	—	—	—	1	1
<b>4. CLUPEIDS</b>										
a. Wolf herring	7	—	1	1	2	—	—	—	—	—
b. Other sardines	12	21	1	17	—	—	—	—	—	—
c. Hilsashad	—	—	—	—	—	—	—	—	—	—
d. Other shads	—	—	—	—	—	—	—	—	—	—
e. Anchovies										
<i>Coilia</i>	—	3	—	8	12	—	—	—	—	—
<i>Stolephorus</i>	146	199	42	192	300	—	—	—	—	—
<i>Thryssa</i>	23	71	17	5	53	—	—	—	—	—
g. Other clupeids	112	75	35	60	108	—	—	2	—	—
<b>5. BOMBAYDUCK</b>	—	—	—	—	—	—	—	—	—	—
<b>6. LIZARD FISHES</b>	141	216	192	290	128	—	—	—	—	—
<b>7. HALF BEAKS &amp; FULL BEAKS</b>	5	—	—	—	5	—	—	—	—	—
<b>8. FLYINGFISHES</b>	—	1	—	—	—	—	—	—	—	—
<b>9. PERCHES</b>	531	—	—	—	—	—	—	—	—	—
a. Rock cods	—	—	7	—	—	—	—	—	—	—
b. Pig-face breems	—	8	—	17	—	—	—	—	—	—
c. Threadfin breems	—	374	473	713	288	—	—	—	10	—
d. Other perches	—	378	616	278	328	—	—	—	1	—
<b>10. GOATFISHES</b>	145	148	55	77	42	—	—	—	—	—
<b>11. THREADFINS</b>	—	—	15	1	—	—	—	—	—	—
<b>12. CROAKERS</b>	109	149	411	175	262	—	—	—	—	—
<b>13. RIBBONFISHES</b>	43	56	27	12	129	—	—	—	—	—
<b>14. CARANGIDS</b>										
a. Leather-jackets	—	1	—	—	—	—	—	12	1	—
b. Other carangids	27	92	19	24	101	—	—	1	3	32

TABLE-13 (Contd.)

Name of fish	Trawl net					Gill net				
	1980	'81	'82	'83	'84	1980	'81	'82	'83	'84
15. SILVER BELLIES	535	743	373	1407	691	—	—	—	—	—
16. BIG-JAWED JUMPER	10	5	—	—	—	—	—	—	—	—
17. POMFRETS	5	—	—	—	—	—	—	—	—	—
a. Black pomfret	—	5	—	1	2	—	—	—	5	—
b. Silver pomfret	—	4	—	—	—	—	—	—	—	—
18. INDIANMACKERELS	3	—	5	1	1	—	—	—	—	—
19. SEER FISHES	5	—	—	—	—	—	—	—	—	—
a. <i>S. commersoni</i>	—	7	—	—	8	—	10	59	70	193
b. <i>S. guttatus</i>	—	—	—	—	—	—	13	—	—	—
20. TUNNIES	—	—	—	—	—	—	—	17	5	59
a. <i>E. affinis</i>	—	—	—	—	—	—	—	—	—	—
b. <i>K. pelamis</i>	—	—	—	9	—	—	—	—	93	—
c. Other tunnies	—	1	—	—	—	—	34	30	11	21
21. BILL FISHES	—	—	—	—	—	—	17	85	11	15
22. BARRACUDAS	18	34	3	1	28	—	—	—	—	15
23. MULLET	—	—	—	—	1	—	—	—	—	—
24. UNICORN COD	—	—	—	—	—	—	—	—	—	—
25. FLATFISHES	—	—	—	—	—	—	—	—	—	—
a. Halibut	—	1	1	3	36	—	—	—	—	—
b. Flounders	—	—	—	8	—	—	—	—	—	—
c. Soles	105	147	145	232	104	—	—	—	—	—
26. CRUSTACEANS	—	—	—	—	—	—	—	—	—	—
a. Penaeid prawns	418	288	267	236	607	—	—	—	—	—
b. Non penaeid prawns	25	12	6	—	57	—	—	—	—	—
c. Lobsters	4	5	26	32	5	—	—	—	—	—
d. Crabs	46	53	555	284	142	—	—	—	—	—
e. Stomatopods	—	—	6	7	—	—	—	—	—	—
27. CEPHALOPODS	38	44	69	98	37	—	—	—	—	—
28. MISCELLANEOUS	340	214	302	704	704	—	11	8	18	30
<b>Total</b>	<b>2959</b>	<b>3527</b>	<b>3764</b>	<b>4949</b>	<b>4269</b>	<b>—</b>	<b>254</b>	<b>331</b>	<b>399</b>	<b>609</b>
No of operations of fishing units	30681	33766	31990	36291	30467	—	1120	1404	3579	4592

## SPECIESWISE MARINE FISH LANDINGS (IN TONNES) BY MECHANISED DURING

Name of fish	1980			1981		
	mech.	non-mech.	Total	mech.	non-mech.	Total
1. ELASMOBRANCHS	69	366	435	—	—	—
a. Sharks	—	—	—	169	24	193
b. Skates	—	—	—	—	—	—
c. Rays	—	—	—	135	59	194
2. EELS	5	3	8	9	4	13
3. CATFISHES	32	46	78	28	74	102
4. CLUPEIDS						
a. Wolf herring	7	91	98	—	85	85
b. Oil sardine	—	—	—	—	—	—
c. Other sardines	12	2724	2736	21	1321	1342
d. Hilsa shad	—	25	25	—	—	—
e. Other shads	—	53	53	—	129	129
f. Anchovies	—	—	—	—	—	—
<i>Coilia</i>	—	—	—	3	3	6
<i>Stolephorus</i>	146	141	287	199	308	507
<i>Thryssa</i>	23	364	387	71	449	520
f. Other clupeids	112	161	273	75	319	394
5. BOMBAYDUCK	—	—	—	—	—	—
6. LIZARD FISHES	141	19	160	216	30	246
7. HALFBEAKS & FULLBEAKS	5	21	26	—	57	57
8. FLYING FISHES	—	3	3	1	613	614
9. PERCHES	531	135	666	—	—	—
a. Rock cods	—	—	—	—	13	13
b. Pig-face breems	—	—	—	8	9	17
c. Threadfin breems	—	—	—	374	33	407
d. Other perches	—	—	—	378	117	495
10. GOATFISHES	145	5	150	148	7	155
11. THREADFINS	—	6	6	—	1	1
12. CROAKERS	109	211	320	149	181	330
13. RIBBON FISHES	43	136	179	56	161	217
14. CARANGIDS						
a. Leather-jackets	—	2	2	1	31	32
b. Other carangids	27	454	481	92	1577	1669

TABLE-14

**AND NON-MECHANISED UNITS IN PONDICHERY AND KARAIKAL,  
1980-84**

1982			1983			1984		
mech.	non-mech.	Total	mech.	non-mech.	Total	mech.	non-mech.	Total
—	—	—	—	—	—	—	—	—
32	67	99	26	17	43	235	21	256
—	—	—	—	3	3	—	—	—
172	120	292	184	84	268	79	90	169
1	1	2	2	28	30	2	—	2
10	10	20	15	38	53	16	52	68
1	116	117	1	117	118	2	74	76
—	—	—	—	—	—	—	920	920
1	1382	1383	17	3397	3414	—	1155	1155
—	1	1	—	19	19	—	—	—
—	103	103	—	333	333	—	303	303
—	—	—	—	—	—	—	—	—
—	—	—	8	19	27	12	6	18
42	342	384	192	99	291	300	286	586
17	441	458	5	382	387	53	679	732
37	455	492	60	574	634	108	474	582
—	—	—	—	2	2	—	—	—
192	48	240	290	10	300	128	2	130
—	188	188	—	144	144	5	5	10
—	175	175	—	326	326	—	451	451
—	—	—	—	—	—	—	—	—
7	25	32	—	2	2	—	11	11
—	3	3	17	32	49	—	13	13
473	55	528	723	131	854	288	29	317
616	123	739	279	188	467	328	163	491
55	53	108	77	—	77	42	1	43
15	7	22	1	9	10	—	23	23
411	150	561	175	296	471	262	479	741
27	81	108	12	42	54	129	86	215
12	8	20	1	30	31	—	37	37
20	2292	2312	27	570	597	133	1601	1734

Name of fish	1980			1981		
	mech.	Non-mech.	Total	mech.	Non-mech	Total
15. SILVERBELLIES	535	146	681	743	232	975
16. BIG-JAWED JUMPER	10	19	29	5	39	44
17. POMFRETS	5	183	188	—	—	—
a. Black pomfret	—	—	—	5	91	96
b. Silver pomfret	—	—	—	4	23	27
18. INDIAN MACKEREL	3	442	445	—	316	316
19. SEER FISHES	5	80	85	—	—	—
a. <i>S. commersonii</i>	—	—	—	17	32	49
b. <i>S. guttatus</i>	—	—	—	13	39	52
20. TUNNIES	—	—	—	—	—	—
a. <i>E. affinis</i>	—	—	—	—	6	6
b. <i>K. pelamis</i>	—	—	—	—	—	—
c. Other tunnies	—	—	—	35	14	49
21. BILLFISHES	—	—	—	17	—	17
22. BARRACUDAS	18	37	55	34	16	50
23. MULLET	—	49	49	—	5	5
24. UNICORN COD	—	—	—	—	—	—
25. FLATFISHES	—	—	—	—	—	—
a. Halibut	—	—	—	1	5	6
b. Flounders	—	—	—	—	—	—
c. Soles	105	46	151	147	41	188
26. CRUSTACEANS	—	—	—	—	—	—
a. Penaeid prawns	418	67	485	288	48	336
b. Non penaeid prawns	25	17	42	12	41	53
c. Lobsters	4	—	4	5	—	5
d. Crabs	46	126	172	53	183	236
e. Stomatopods	—	—	—	—	—	—
27. CEPHALOPODS	38	2	40	44	—	44
28. MISCELLANEOUS	340	251	591	225	238	463
<b>Total</b>	<b>2959</b>	<b>6431</b>	<b>9390</b>	<b>3781</b>	<b>6974</b>	<b>10755</b>
<b>No of operations of fishing units</b>	<b>30681</b>	<b>231861</b>	<b>262542</b>	<b>34886</b>	<b>223897</b>	<b>258783</b>

(TABLE-14 contd).

1982			1983			1984		
mech.	Non-mech.	Total	mech.	Non-mech.	Total	mech.	Non-mech.	Total
373	165	538	1407	371	1778	691	234	925
—	27	27	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	101	101	6	44	50	2	131	133
—	14	14	—	53	53	—	37	37
5	523	528	1	928	929	1	950	951
—	—	—	—	—	—	—	—	—
59	10	69	70	27	97	201	81	282
—	4	4	—	21	21	—	11	11
17	4	21	5	—	5	59	—	59
—	—	—	102	—	102	—	—	—
30	1	31	11	—	11	21	11	32
85	—	85	11	—	11	15	—	15
3	46	49	1	28	29	43	31	74
—	4	4	—	47	47	1	2	3
—	—	—	—	—	—	—	—	—
1	5	6	3	—	3	36	1	37
—	—	—	8	—	8	—	—	—
145	80	225	232	58	290	104	179	283
267	37	304	236	37	273	607	247	854
6	10	16	—	9	9	57	6	63
26	1	27	32	—	32	5	—	5
555	362	917	284	334	618	142	594	736
6	—	6	7	—	7	—	—	—
69	15	84	98	17	115	37	—	37
310	305	615	722	440	1162	734	587	1321
4098	7960	12058	5348	9306	14654	4878	10063	14941
33514	247792	281306	39870	339599	379469	35059	341929	376988

## DISTRICTWISE LANDING CENTRES OF TAMIL NADU\*

### I CHENGALPATTU DISTRICT

- |                              |  |
|------------------------------|--|
| 1 Koonan Kuppam              | 33 Nainar Kuppam                       |
| 2 Sempasipalli Kuppam        | 34 Kanathur Reddi Kuppam               |
| 3 Thirumalainagar Kuppam     | 35 Karikattu Kuppam                    |
| 4 Nadoor Kuppam              | 36 Kovalam Kuppam                      |
| 5 Arangam Kuppam             | 37 Semmanjeri Kuppam                   |
| 6 Vairavan Kuppam            | 38 Pudu Kalpakkam Kuppam               |
| 7 Sattan Kuppam              | 39 Nemmili Kuppam                      |
| 8 Korai Kuppam               | 40 Sulleri Kadu Kuppam                 |
| 9 Kattupalli Kuppam          | 41 Patti Pullam Kuppam                 |
| 10 Ennore Kuppam             | 42 Pudu Edaiyur Kuppam                 |
| 11 Nettu Kuppam              | 43 Deveneri and Salavan Kuppam         |
| 12 Thalan Kuppam             | 44 Mahabalipuram Kuppam                |
| 13 Periya Kuppam             | 45 Vempurusham Kuppam                  |
| 14 Chinna Kuppam             | 46 Kokilamedu Kuppam                   |
| 15 Ernavur Kuppam            | 47 Umari Kuppam                        |
| 16 Indhira Gandhi Kuppam     | 48 Sadras Kuppam                       |
| 17 Kasikoil Kuppam           | 49 Pudupattinam Kuppam                 |
| 18 Kasivisalatchipuram       | 50 Uyyali Kuppam                       |
| 19 Kasiviswanathakoil Kuppam | 51 Kadalurchinna Kuppam                |
| 20 Palagaithotti Kuppam      | 52 Kadalurperia Kuppam                 |
| 21 Thiruvottiyur Kuppam      | 53 Ali Kuppam                          |
| 22 Ondi Kuppam               | 54 Angalamman Kuppam                   |
| 23 Thiruchena Kuppam         | 55 Palayanadu Kuppam                   |
| 24 Lakshmipuram Kuppam       | 56 Pudunadu Kuppam                     |
| 25 Nallathanni Odai Kuppam   | 57 Perunthuru Kuppam                   |
| 26 Kottivakkam Kuppam        | 58 Paramangani Kuppam                  |
| 27 Palavakkam Kuppam         | 59 Mudaliar Kuppam (Thalathali Kuppam) |
| 28 Chinna Neelangarai Kuppam | 60 Panaiyurnadu Kuppam                 |
| 29 Peria Neelangarai Kuppam  | 61 Panaiyurpudu Kuppam                 |
| 30 Chinnandi Kuppam          | 62 Vilambur Kuppam                     |
| 31 Injambakkam Kuppam        | 63 Kadapakkam Kuppam                   |
| 32 Panayur Kuppam            | 64 Alambari Kuppam                     |

---

\* From north to south

## II. MADRAS DISTRICT

- |                     |                         |
|---------------------|-------------------------|
| 1 Pudumanai Kuppam  | 7 Nochi Kuppam          |
| 2 Triplican North   | 8 Duming Kuppam         |
| 3 Triplican Central | 9 Mulli Kuppam          |
| 4 Triplican South   | 10 Urur Kuppam          |
| 5 Ayothi Kuppam     | 11 Odai Kuppam          |
| 6 Nadu Kuppam       | 12 Thiruvanmiyur Kuppam |

## III. SOUTH ARCOT DISTRICT

- |                                  |                                  |
|----------------------------------|----------------------------------|
| 1 Muthukadu Kuppam               | 25 Chothei Kuppam                |
| 2 Vasan Kuppam                   | 26 Rasapettai                    |
| 3 Kaipani Kuppam                 | 27 Chithirai Pettai              |
| 4 Eggiar Kuppam                  | -8 Thamonampettai                |
| 5 Pudur Kuppam                   | 29 Nanjalingampettai             |
| 6 Komuttichavadi                 | 30 Peria Kuppam                  |
| 7 Anumandai Kuppam               | 31 Pettaiodai                    |
| 8 Chettinagar                    | 32 Iyempettai                    |
| 9 Nochi Kuppam                   | 33 Reddiarpettai                 |
| 10 Koonimedu Kuppam              | 34 Annappampettai                |
| 11 Mudaliar Kuppam               | 35 Madavapallam                  |
| 12 Anichan Kuppam                | 36 Kumarapettai                  |
| 13 Pudu Kuppam                   | 37 Samiyarpettai                 |
| 14 Pillaichavadi (T)             | 38 Velingarayanpettai            |
| 15 Pommaiyarpalayam              | 39 Pudu Kuppam                   |
| 16 Chinnamudaliar Chavadi Kuppam | 40 Pudupettai                    |
| 17 Thanthira Kuppam              | 41 Chinnur                       |
| 18 Nadu Kuppam                   | 42 Parangipettai                 |
| 19 Sothanai Kuppam               | 43 Mudasalodai                   |
| 20 Moolaveli                     | 44 Nadumudasalodai               |
| 21 Talankuda                     | 45 M. G. R. Thittu               |
| 22 Devanampattinam               | 46 Chinnavaikkal                 |
| 23 Sonan Kuppam                  | 47 Pillumedai                    |
| 24 Cuddalore Fisheries Harbour   | 48 Thandavarayan Cholan Pattinam |

#### IV. THANJAVOOR DISTRICT

- |                               |   |
|-------------------------------|---|
| 1 Pazhayar                    | 34 Seruthur                                 |
| 2 Madavamedu                  | 35 Kameswaram                               |
| 3 Kottanmedu                  | 36 Vilundamavadi                            |
| 4 Koozhaiyar                  | 37 Vanamadevi                               |
| 5 Thoduvai                    | 38 Vellappallam                             |
| 6 Thirumullaivasal            | 39 Pushpavanam                              |
| 7 Melamoovarkarai             | 40 Arcottuthurai                            |
| 8 Keelamoovarkarai            | 41 Kodikkarai (Point Calimere)              |
| 9 Chavadi Kuppam              | 42 Adhikudikadu                             |
| 10 Naicker Kuppam             | 43 Vembiliankadu                            |
| 11 Madathu Kuppam             | 44 Akkaraikadu                              |
| 12 Pudu Kuppam                | 45 Muthupettai                              |
| 13 Kaveripattinam (Poombuhar) | 46 Karaiyur Street                          |
| 14 Vanagiri                   | 47 Sunnambukara Street                      |
| 15 Chinna Vanagiri            | 48 Eripurakarai                             |
| 16 Chinnangudi                | 49 Alathikadu                               |
| 17 Kodiampalayam              | 50 Kollukadu                                |
| 18 Thalampettai               | 51 Pudupattinam                             |
| 19 Pudupettai                 | 52 Mallipattinam                            |
| 20 Perumalpettai              | 53 Chinnamunai                              |
| 21 Bommayanpettai             | 54 Manora Colony                            |
| 22 Kuttiyandiyur              | 55 Pillaiyarthidal                          |
| 23 Tranquebar                 | 56 Sethubavachatram                         |
| 24 Chandrapadi                | 57 Kalumankuda                              |
| 25 Chinnoorpettai             | 58 Othaiveedu                               |
| 26 Nagore Pattinachery        | 59 Karankuda                                |
| 27 Samanthanpettai            | 60 Sembaipattinam                           |
| 28 Nambiarnagar               | 61 Adakathevan                              |
| 29 Nagai Bridge Point         | 62 Senthalaipattinam                        |
| 30 Keechankuppam              | 63 Banttharpattinam (Manthiri-<br>pattinam) |
| 31 Akkaraipettai              | 64 Pudutheru                                |
| 32 Kallarkuppam               | 65 Somanathanpattinam                       |
| 33 Velankanni                 | 66 Vallabanpattinam                         |
|                               | 67 Vadakkur (Ganesapuram)                   |

## V. PUDUKKOTTAI DISTRICT

- |                         |                   |
|-------------------------|-------------------|
| 1 Kattumavadi           | 8 Pudukudi South  |
| 2 Pradabiraman Pattinam | 9 Kottapattinam   |
| 3 Krishnaji Pattinam    | 10 Jagadapattinam |
| 4 Vadakku Amma Pattinam | 11 Ayyampattinam  |
| 5 Thulasapattinam       | 12 Gopalapattinam |
| 6 Amma Pattinam         | 13 Pudur          |
| 7 Pudukudi North        | 14 Arasanagiri    |
- 15 Puthukuda

## VI RAMANATHAPURAM DISTRICT

- |                           |                        |
|---------------------------|------------------------|
| 1 Sundarapandian Pattinam | 30 Pillaimadam         |
| 2 Theerthandathanam       | 31 Munaikadu           |
| 3 Pasipattinam            | 32 Mandapam North      |
| 4 Dhamodaranpattinam      | 33 Mandapam South      |
| 5 Narambai                | 34 Pamban Light House  |
| 6 Valasapattinam          | 35 Akkamadam           |
| 7 Pudukudi                | 36 Nalupanai           |
| 8 Thondi                  | 37 Thangachimadam      |
| 9 Nambuthalai             | 38 Vilundi             |
| 10 Soliakudi              | 39 Odappu              |
| 11 Soliakudi Thoppu       | 40 Pillaikulam         |
| 12 Pudupattinam           | 41 Vadakadu            |
| 13 Mullimunai             | 42 Narukuzhi           |
| 14 Karangadu              | 43 Odaiyadipallam      |
| 15 Morpanai               | 44 Olakuda             |
| 16 Thiruppalakudi         | 45 Sangumai            |
| 17 Devipattinam           | 46 Rameswaram Verkotil |
| 18 Mudiveeranpattinam     | 47 Karaiyur            |
| 19 Palanivalasai          | 48 Rameswaram Road     |
| 20 Eranyavalasai          | 49 Naduthurai          |
| 21 Puduvalasai            | 50 Kadarsapadu         |
| 22 Panaikulam             | 51 Pungamapadu         |
| 23 Alagankulam            | 52 Kundugal Point      |
| 24 Athankarai             | 53 Chinnapalam         |
| 25 Thoppuvalasai          | 54 Thoppukadu          |
| 26 Dhargavalasai          | 55 Therkuvadi          |
| 27 Alagathanvalasai       | 56 Thonithurai         |
| 28 Irumeni                | 57 Vedalai             |
| 29 Chokkapillaimadam      | 58 Seeniappa Dharga    |

- |                  |                  |
|------------------|------------------|
| 59 Pudumadam     | 66 Chinna Ervadi |
| 60 Thalathoppu   | 67 Valinokkam    |
| 61 Muthupettai   | 68 Mundal        |
| 62 Periapattinam | 69 Mariyur       |
| 63 Kalimangundu  | 70 Oppilan       |
| 64 Sethukarai    | 71 Mookaiyur     |
| 65 Kilakarai     | 72 Narippaiyur   |
|                  | 73 Rocemanagar   |

## VII THIRUNELVELI DISTRICT

- |                           |                         |
|---------------------------|-------------------------|
| 1 Vembar                  | 15 Veerapandia Pattinam |
| 2 Vaipar                  | 16 Tiruchendur          |
| 3 Sippikulam              | 17 Amalinagar           |
| 4 Pattina Maruthur        | 18 Alanthalai           |
| 5 Vellapatti              | 19 Kulasekharapattinam  |
| 6 Alangarathattu          | 20 Manapad              |
| 7 Tuticorin North         | 21 Periathalai          |
| 8 Tuticorin South         | 22 Kooduthalai          |
| 9 Tuticorin Harbour Point | 23 Koottapanai          |
| 10 Pullavali              | 24 Uvary                |
| 11 Pazhayakayal           | 25 Kuthankuly           |
| 12 Punnakayal             | 26 Idinthakarai         |
| 13 Kayalpattinam          | 27 Perumanal            |
| 14 Taruvaikulam           | 28 Koottapuly           |

## VIII KANYAKUMARI DISTRICT

- |                 |                        |
|-----------------|------------------------|
| 1 Vattakottai   | 7 Melamanakudi         |
| 2 Vellai        | 8 Pallom               |
| 3 Chinna Muttom | 9 Puthenthurai         |
| 4 Kanyakumari   | 10 Kesava Puthanthurai |
| 5 Kovalam       | 11 Pozhikarai          |
| 6 Keelamanakudi | 12 Periakadu           |

- 13 Rajakkamangalam
- 14 Alikkal
- 15 Pillaithoppu
- 16 Melathurai
- 17 Keela Muttom
- 18 Mela Muttom
- 19 Keela Kadiapattinam
- 20 Mela Kadiapattinam
- 21 Chinnavilai
- 22 Periyavilai
- 23 Pudur
- 24 Kottipadi
- 25 Colachel
- 26 Kodimunai
- 27 Vaniyakudi
- 28 Kurumpanai

- 29 Keezha Midalam
- 30 Naduthurai
- 31 Chinna Thurai II
- 32 Mela Midalam
- 33 Enayam
- 34 Enayam Chinna Thurai
- 35 Enayam Puthenthurai
- 36 Raman Thurai
- 37 Thengai Pattinam
- 38 Erayuman Thurai
- 39 Poothurai
- 40 Thoothoor
- 41 Chinnathurai I
- 42 Iravi Puthen Thurai
- 43 Vallavilai
- 44 Marthandan Thurai

45 Neerodi

#### PONDICHERY

- |                                |                               |
|--------------------------------|-------------------------------|
| 1 Kanagachettikulam            | 8 Vembakeerapalayam           |
| 2 Periakalpet                  | 9 Periaveerampattinam         |
| 3 Chinnakalpet                 | 10 Chinnaveerampattinam       |
| 4 Pillaichavadi (P)            | 11 Puthukuppam (Poornakuppam) |
| 5 Solathandavankuppam          | 12 Nallavadu                  |
| 6 Vaithikuppam                 | 13 Panithittu                 |
| 7 Kuruchikuppam                | 14 Narambai                   |
| 15 Moorthikuppam (Puthukuppam) |                               |

#### KARAIKAL

- |  |                |
|--|----------------|
| 1 Mandapathoor                           | 5 Kasakudimedu |
| 2 Kalikuppam                             | 6 Kilinjalmadu |
| 3 Akkampettai                            | 7 Karaikalmedu |
| 4 Kottucherymedu                         | 8 Karukaichery |
| 9 Thirumalairayanpattinam (Pattinachery) |                |

\* From north to south