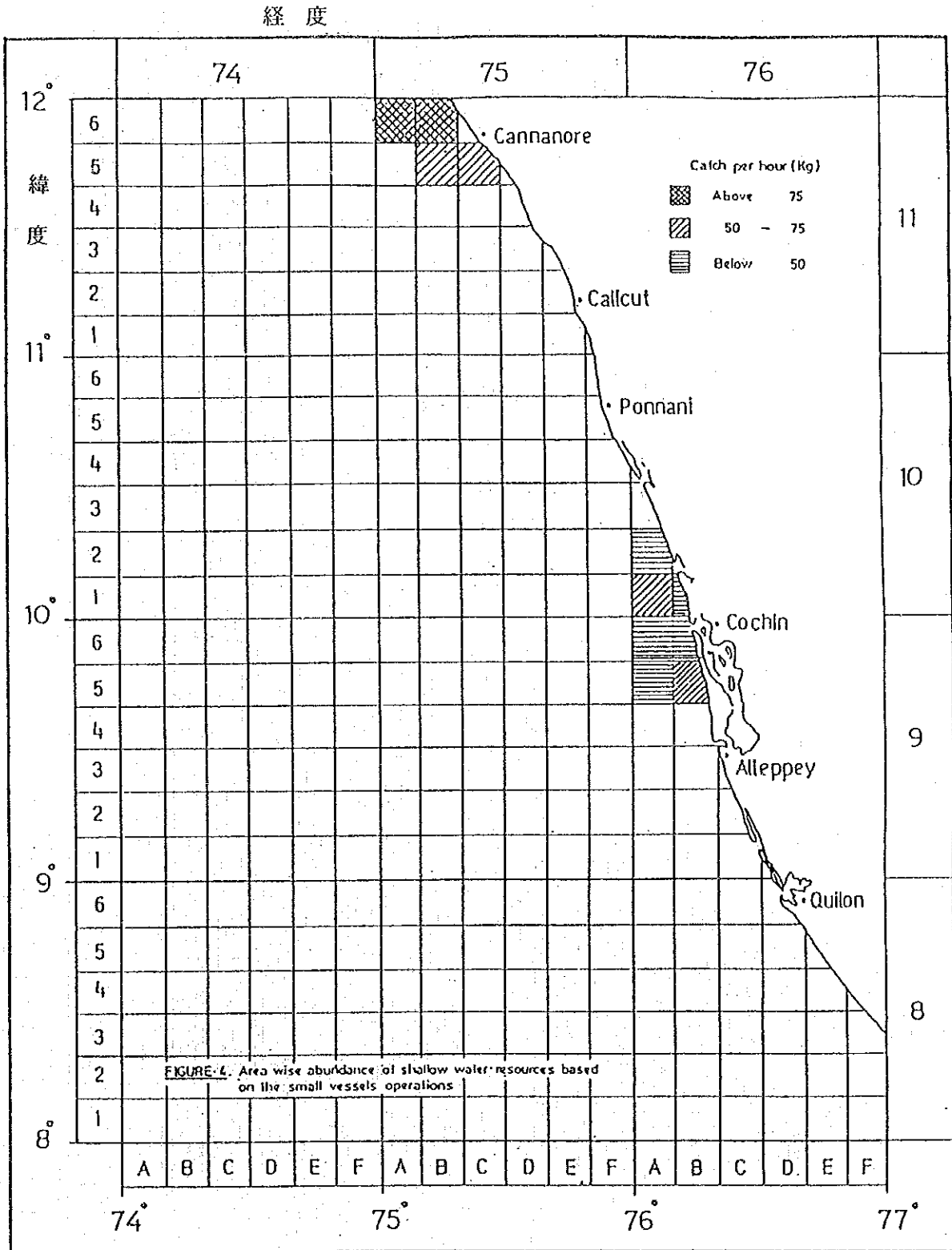


I F P 調査資料 ①



I F P 調査資料 ②

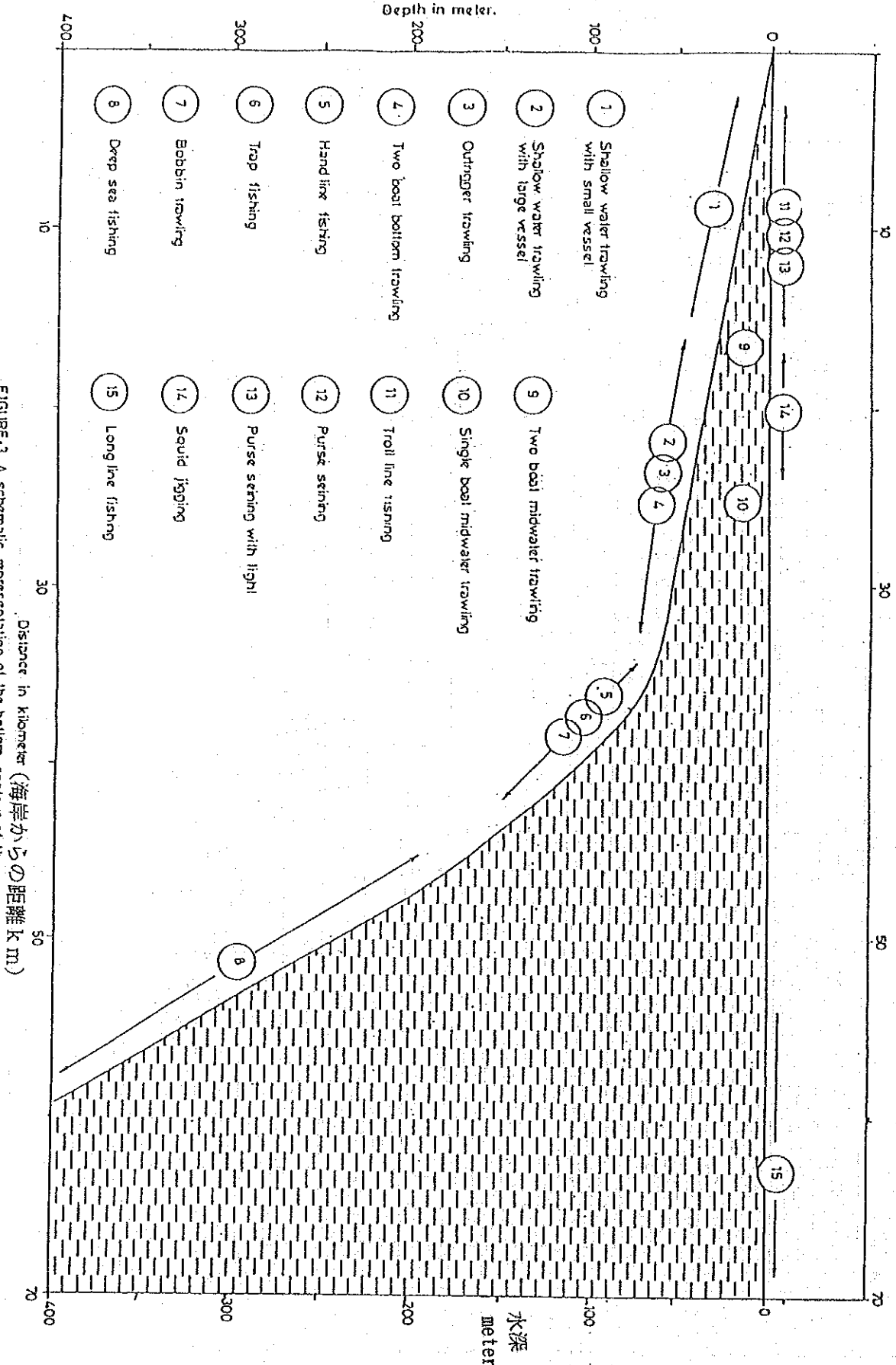


FIGURE-3. A schematic representation of the bottom contour of the area and regions where different gears are operated.

## I F P 運航計畫表

### 5.2.3 Annual fishing operation plan for requested fishing vessels\*

Vessels	April		May		June		July		August		September		October		November		December		January		February		March		Total				
	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C			
A	21	20	21	20	20	20	21	25	21	25	21	25	21	25	21	23	21	23	21	23	21	22	21	22	A.D.D	229	240		
Area of operation - Quilon to Mangalore																													
B	21	21	21	23	20	20	20	22	21	25	21	26	21	26	21	25	21	22	21	22	21	22	21	22	A.D.D	21	21	229	253
Area of operation - North west coast from Mangalore to Veraval																													
C	21	25	21	25	20	22	21	25	21	30	21	26	21	26	21	22	21	25	21	25	A.D.D	21	22	21	22	229	266		
Area of operation - South west and south east coast																													

D - Fishing days

C - Catch in tonnes

A.D.D - Annual Drydocking

Average sale amount per vessel : Rs. 32.3 lakhs

\* The vessels will be deployed along west and east coast of India to conduct offshore and deep sea fishing beyond 50 m depth

Breakdowns and repairs are not expected for 3 years as the vessels are new.

I F P がボンベイ造船所に注文している国産漁船 2 隻の仕様概要

I F P の新造船 2 隻の仕様

Principal dimentions ( Approx.)

- |                               |  |
|-------------------------------|--|
| 1) Length Overall             | 23.90 m  |
| 2) Breadth                    | 7.40 m   |
| 3) Depth                      | 3.50 m   |
| 4) Main Engine                | 2.70 m   |
| 5) Auxiliary engine           | 500 BHP at 1500 rpm<br>3 phase, (50 KVA-440 V)   |
| 6) Hull form and sub division | The hull to be of single chine with a raking soft nose stem and transom stern with net ramp. |

Capacities

- |                |   |
|----------------|---|
| 1) Fuel oil    | abt 40 m <sup>3</sup>                           |
| 2) Lub. oil    | abt 1 m <sup>3</sup>                            |
| 3) Fresh water | abt 16 m <sup>3</sup>                           |
| 4) Fish hold   | abt 80 m <sup>3</sup> ( 2 X 40 m <sup>3</sup> ) |

Fish hold shall be divided into two compartment with a cargo cooling at 0 deg to plus 4 deg C.

Endurance abt 10 days

Compliment

- |                            |    |
|----------------------------|----|
| 1) Officer                 | 4  |
| 2) Shore officer/scientist | 2  |
| 3) Crew                    | 10 |
| Total                      | 16 |

I F P が現在まで所有してきた漁船

PARTICULARS OF FISHING VESSELS OPERATED BY THE INTEGRATED FISHERIES PROJECT  
DURING THE PERIOD BETWEEN 1966 AND 1992

Sl. No.	Name of vessels	Year of Built	Place of Built	OAL (m)	BHP	GT	Hull Type	Period of operation
1.	INP-167	1956	India	8.53	24.0	3.00	Wood	Till 4/1970
2.	Norind	1956	India	9.13	36.0	4.00	Wood	Till 6/1969
3.	M-11	1968	India	9.76	48.0	7.00	Wood	From 10/1968 till 6/1981
4.	M-12	1968	India	9.76	48.0	7.00	Wood	From 11/1968 till 12/1981
5.	M-13	1968	India	9.76	48.0	7.00	Wood	From 11/1968 till 6/1981
6.	M-14	1968	India	9.76	48.0	7.00	Wood	From 10/1968 till 6/1981
7.	M-1	1956	Norway	10.97	48.00	12.00	Wood	Till 10/1968
8.	M-2	1956	Norway	10.97	48.0	12.00	Wood	Till 5/1975
9.	M-3	1956	Norway	10.97	48.0	12.00	Wood	Till 2/1982
10.	M-4	1956	Norway	10.97	48.0	12.00	Wood	Till 1/1969
11.	Karwar-1	1963	India	13.11	90.0	18.00	Wood	Till 10/1972
12.	Kalava-2	1975	India	13.16	71.5	19.27	Wood	From 7/1975 till 6/1983
13.	Norind-2	1972	India	17.50	233.0	47.25	Wood	From 10/1972 - continuing
14.	Klaus Sunnana	1963	Norway	19.81	220.0	61.78	Steel	From 11/1966 - continuing
15.	Kalava	1916	Norway	20.25	160.0	53.00	Wood	Till 2/1971
16.	Tuna	1960	Norway	23.80	480.0	115.62	Steel	From 11/1966 - continuing
17.	Velameen	1960	Norway	23.85	480.0	117.21	Steel	From 11/1966 - continuing
18.	Samudradevi	1973	Norway	27.31	750.0	193.86	Steel	From 9/1973 - continuing.
19.	Varuna	1961	Norway	28.00	400.0	160.34	Steel	Till 8/1984
20.	Sagar Jyothi	1987	India	12.8	128	28	F.C	From 1987

-continuing

I F P 漁船別漁獲量 (1966-1985年まで)

FISHING RESULTS OF DIFFERENT VESSELS DURING THE PERIOD  
BETWEEN JANUARY 1966 AND DECEMBER 1985

Sl. No.	Name of Vessels	Fishing Efforts (Hr)	Total catch (kg)	Catch per hour (Kg)
1.	INP-167	2049.00	51886	25.3
2.	Norind	2152.09	100280	46.6
3.	M 11	4346.78	213094	49.0
4.	M 12	3553.49	180900	50.9
5.	M 13	3907.92	190018	48.6
6.	M 14	3881.84	183630	47.3
7.	M 1	1197.87	89118	74.4
8.	M 2	2344.88	483037	206.0
9.	M 3	4068.45	1273933	313.1
10.	M 4	1324.51	72972	55.1
11.	Karwar-1	2609.68	174535	66.9
12.	Kalava-2	2365.53	971007	410.5
13.	Norind-2	3404.35	858199	252.1
14.	Klaus Sunnana	11068.74	1295204	117.0
* 15.	Kalava	1130.58	83188	73.6
16.	Tuna	9688.27	1663678	171.7
17.	Velameen	10689.06	2033843	190.3
18.	Samudradevi	5124.25	1429164	278.9
* 19.	Varuna	3817.10	148526	38.9
Total		78724.39	11496212	146.0

\* Excluding all scientific cruises

I F P 漁法別漁獲量 (1966-1985年まで)

FISHING METHODS INTRODUCED AND THE RESULTS OBTAINED DURING THE PERIOD  
BETWEEN JANUARY 1966 AND DECEMBER 1985

Sl. No.	Fishing Methods	Fishing Effort (Hr )	Total catch (Kg.)	Catch per hour(Kg)
1.	Shallow water trawling with small vessels	26643.87	1310415	49.2
2.	Shallow water trawling with large vessels.	29510.08	5334812	180.8
3.	Outrigger trawling	563.01	61454	109.2
4.	Two boat bottom trawling	12.17	9634	791.6
5.	Deep sea trawling	3724.36	525231	141.0
6.	Handlining	1853.91	78561	42.4
7.	Trapping	2939.97	133934	45.6
8.	Bobbin trawling	32.08	14464	450.9
9.	Two boat mid water trawling	2170.68	160813	74.1
10.	One boat mid water trawling	4900.64	503694	102.8
11.	Trolling	878.21	--	--
12.	Purse seining	5006.58	3346242	668.4
13.	Purse-seining with light	39.25	5708	145.4
14.	Squid jigging	68.50	10	0.2
15.	Long lining	381.08	11240	29.5

## I F P 火災原因說明

### A NOTE ON THE FIRE ACCIDENT IN THE INTEGRATED FISHERIES PROJECT IN OCTOBER, 1991

The Integrated Fisheries Project is a complex having its own jetties, slipway, marine engineering complex, fish processing and marketing facilities etc. These facilities at the disposal of the Project are extended to other Fisheries Institutions under the Government of India and also to the private fishing industry without any profit motive for the all round development of marine fisheries sector and the weaker section of the society.

In order to develop deep sea fishing and popularisation of diversified fishing methods and fishery for non-conventional target species the Project is maintaining a fleet of fishing vessels. There are six vessels ranging from 12.8 m OAL to 27.31 m OAL. Of these, four are steel vessels and one is wooden and the smallest is of ferro-cement construction.

The four steel vessels inspite of their age over 26 years were in running condition due to the excellent maintenance support at the disposal of the Project.

The oil tanker terminal of Cochin Port is situated adjacent to the Project jetty. The Naptha which spilled accidentally into the port waters from one of the tankers discharging at the terminal floated in water and caught fire on 13th October, 1991. The flames approached the IFP jetty due to wind and current and engulfed the vessels berthed there. Four of the vessels sustained damages which included on ferro-cement boat, one wooden boat and two steel trawlers.

The fire fighters of Cochin Port Trust, Navy and those of the Project contained the fire from spreading the fire to other vessels berthed in the jetty and also to shore installations.

The Cochin Port Trust has made the oil tanker and the Shipping Corporation of India which owned it liable to pay the damages to the Project. The I.F.P. is in the process of settling the matter by claiming full damages. Carrying out repairs etc. to the damaged vessels would be decided after settling the matter with the Shipping Company.

\*\*\*\*\*



海岸州の漁船隻数

NUMBER OF FISHING CRAFT IN MARITIME STATES/UNION  
TERRITORIES

State/U.T	Non-motorised traditional craft	Motorised traditional craft	Mechanised boat	Total
Gujarat	6641	1154	2772	10567
Maharashtra	13714	4701	5563	23978
Karnataka	12103	NA	3153	15256
Kerala *	20170	6934	3343	30447
Tamilnadu	36571	1398**	2514	40483
Andhra Pradesh	57458	NA	1009	58467
Orissa	10521	29	674	11224
West Bengal	4121	240	1582	5943
Lakshadweep	507	219	309	1035
Andaman & Nicobar Islands	1006	76	88	1170
Pondicherry	3321	66	348	3735
Goa	1970	475	1551	3996
<b>TOTAL</b>	<b>168103</b>	<b>15292</b>	<b>22906</b>	<b>206301</b>

\* No of crafts registered under Kerala Marine Fishing Regulation Act, 1980

\*\* Out of 1398, 656 are motorised catamarans and the remaining are country motorised crafts.

NA: Information not available

Source : Ministry of Agriculture.

インド漁獲統計

TABLE -3

REGION-WISE ALL INDIA ANNUAL MARINE FISH LANDINGS DURING 1980-'89

海域別漁獲量 (in tonnes)

Region	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
North Upper east	161405	171905	179240	220009	233195	189230	222702	217659	182139	206940
South east	226784	232051	258019	295784	267061	217117	256307	317086	308668	293660
Total east	308289	403956	437259	515793	500256	406355	479009	534745	490807	500600
South lower west	419355	462242	414672	535051	558973	493768	626588	589539	772384	1018404
North upper west	435257	507097	460633	485143	556875	623748	571605	522102	522607	689594
Total west	854612	969339	975305	1020194	1115848	1117516	1198193	1111641	1294991	1707998
GRAND TOTAL	1242001	1373295	1412564	1535987	1616104	1523871	1677202	1646386	1785798	2208598

Source: Prepared by CMFRI

# 85-89年5年間の魚種別年平均漁獲量

AVERAGE ANNUAL STATE-WISE MARINE FISH LANDINGS IN INDIA DURING 1985-'89

(in tonnes)

Name of fish	STATE														Laksha-dweep	All India Total
	West Bengal	Orissa	Andhra Pradesh	Tamilnadu	Pondicherry	Kerala	Karnataka	Goa	Maharashtra	Gujarat	Andamans	Laksha-dweep	All India Total			
Elasmobranchs	471	2399	7445	13132	261	5504	1992	333	10783	10970	334	223	54027			
Eels	21	472	577	155	4	7	14	6	2551	2510	--	--	6317			
Cat fishes	2265	4743	3508	2014	229	6496	4863	2540	13581	10159	232	--	50630			
Oil sardines	--	60	1743	4934	1391	81988	37505	8705	5356	149	--	--	141031			
Other sardine	52	4191	19513	31574	1068	9311	4665	2977	774	234	1442	--	76541			
Anchovies	106	528	7449	14672	384	34221	10773	207	209	1	--	--	68630			
Other clupeids	7999	6962	15514	22844	1224	11927	5062	4446	22699	31683	1266	--	132626			
Bombay duck	1405	250	829	41	--	--	6	--	39452	51122	--	--	93185			
Lizard fishes	--	270	1353	2966	163	7844	1847	2686	2803	625	--	--	20557			
Perches	95	1045	6046	15645	949	37615	6158	1339	11001	7634	922	134	90003			
Sclanoids	2001	14846	7426	10148	401	9885	3062	2301	22391	30275	110	--	102934			
Ribbon fishes	2606	2211	5183	8716	490	13680	4794	1842	17464	21358	31	--	78304			
Carangids	80	840	10636	13738	796	40697	20538	6910	11678	3796	1052	77	111040			
Silver bellies	140	410	5167	42090	929	5460	4313	1028	127	591	595	--	60766			
Pomfrets	1679	3078	2708	1111	41	1640	1050	793	13701	10433	322	--	37356			
Mackerels	2	821	12566	9630	1336	35850	39379	17495	6051	63	629	--	123632			
Seer fishes	337	1529	5033	3670	110	7337	2956	680	7507	5639	430	43	35171			
Tunnies	1	160	1332	2801	110	14090	4200	281	1051	3750	230	5371	34105			
Flat fishes	77	504	800	1997	201	12035	4409	1841	4456	2455	37	--	29612			
Peneid prawns	341	2394	8306	15695	526	47511	7184	4496	41741	14713	164	--	143073			
Non-p. prawns	1509	157	1407	177	10	149	116	17	31509	12877	41	--	48057			
Cephalopods	18	86	615	4428	59	13090	1934	612	12482	5675	--	--	39799			
Others	950	2414	5539	42604	2618	27362	29757	14297	30505	36393	2490	360	203386			
<b>TOTAL</b>	<b>22243</b>	<b>51170</b>	<b>131677</b>	<b>264630</b>	<b>13912</b>	<b>425509</b>	<b>190377</b>	<b>75992</b>	<b>318752</b>	<b>263105</b>	<b>10351</b>	<b>6216</b>	<b>1782022</b>			

\* Landings of larger trawlers are not included

Source: Prepared by CMFRI

# 8 5 - 8 9 年 5 年 間 の 漁 船 ・ 漁 具 別 漁 獲 量

STATE-WISE AND GEAR-WISE AVERAGE ANNUAL MARINE FISH  
LANDINGS IN INDIA DURING 1985-'89

	(In tonnes)										
	West Bengal	Orissa	Andhra Pradesh	Tamil Nadu	Pondicherry	Kerala	Karnataka	Goa	Maharashtra	Gujarat	Total
<u>Mechanised</u>											
Trawl net	204	25405	30577	121065	4190	150339	65546	29810	145645	111440	693125
Gill net/trawl net	6265	5097	1503	10391	301	6150	3732	1049	20423	39637	113434
Purse seine	--	--	--	--	--	5310	116040	39960	5046	--	167170
Bag net	6524	--	--	--	--	--	--	--	--	--	6524
Dot net	--	--	--	--	--	--	--	--	113065	52059	166724
Others	2742	--	--	3236	74	3074	99	19	6140	690	10073
<b>Total</b>	<b>17735</b>	<b>30502</b>	<b>40160</b>	<b>141492</b>	<b>4573</b>	<b>167607</b>	<b>165400</b>	<b>71652</b>	<b>301915</b>	<b>201642</b>	<b>1165850</b>
<u>U.D.</u>											
Beal seine	--	--	--	--	--	79626	--	--	--	--	79626
Ring seine	--	--	--	--	--	81360	949	--	--	--	82317
'Mattu Bala'	--	--	--	--	--	--	1726	--	--	--	1726
Others	--	--	--	2505	72	46942	--	260	390	--	50177
<b>Total</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>2505</b>	<b>72</b>	<b>207930</b>	<b>2675</b>	<b>260</b>	<b>390</b>	<b>--</b>	<b>213640</b>
<u>Non-mechanised</u>											
'Rampali'	--	--	--	--	--	--	--	127	--	--	127
Shore seine	--	917	16062	51	--	10078	1459	95	--	--	29460
Others	4500	19671	61617	120590	9267	39090	8035	3058	16435	56463	356172
<b>Total</b>	<b>4500</b>	<b>20588</b>	<b>91617</b>	<b>120641</b>	<b>9267</b>	<b>49966</b>	<b>10294</b>	<b>4000</b>	<b>16435</b>	<b>56463</b>	<b>385759</b>
<b>GRAND TOTAL</b>	<b>22243</b>	<b>51170</b>	<b>131677</b>	<b>264630</b>	<b>13912</b>	<b>425500</b>	<b>190377</b>	<b>75992</b>	<b>310752</b>	<b>263105</b>	<b>1765455</b>

Source: Prepared by C.M.F.R.I

推定漁獲可能資源

付屬資料14

TABLE-9

STATE-WISE ESTIMATED ANNUAL CATCHABLE POTENTIAL  
IN 0-50 m DEPTH (in tonnes)

NAME OF FISHES	WEST BENGAL	DRISSA	ANDERA PRADESH	TAMIL NADU	FONDI-CHERRY	KERALA TAKA	KARNA-TAKA	GOA	MAHA-RASHTRA	GUJARAT	ALL INDIA TOTAL*
Elasmobranchs	505	2515	8097	18357	365	7579	2704	452	12046	12254	64934
Eels	23	506	619	216	6	10	19	8	2840	2794	7041
Cat fishes	2431	5090	3765	2815	320	8817	6600	3447	15171	11348	59805
Oil sardine	-	64	1871	6897	1945	111274	50902	11814	5984	166	190917
Other sardine	56	4498	20941	44058	2607	12637	6331	4040	865	261	96294
Anchovies	114	566	7991	10479	274	25214	7938	211	187	1	52975
Other clupeids	8585	7472	16651	41703	2235	31122	15818	11601	25377	35420	195384
Bombay duck	1594	268	890	57	-	-	8	-	44072	57108	103397
Lizard fishes	-	290	1452	4146	228	10646	2507	3645	3131	698	26743
Perches	102	1980	7347	21870	1187	51051	8358	1817	12289	8528	114529
Sciaenids	2147	15933	7970	14185	561	13416	4156	3231	25013	33820	120432
Ribbon fishes	2797	2373	5562	12184	685	18580	6506	2500	19509	23859	94555
Carangids	86	901	11417	19204	1113	55506	27874	9378	13045	4241	142765
Silver bellies	159	440	5545	58849	1159	7410	5854	1395	142	660	81613
Pomfrets	1802	3303	2906	1553	57	2226	2511	1076	15305	11555	42394
Mackerels	2	881	13486	13473	1870	48656	53445	23744	6760	70	152367
Seer fishes	362	1641	5401	4990	154	9958	4012	923	8386	6299	42126
Tunnies	1	172	1429	3915	154	19123	5700	381	2068	4189	37132
Flat fishes	83	541	859	2792	281	17420	5984	2493	4978	2742	38179
Penaeid prawns	366	2569	8914	21940	738	64482	9750	6102	48629	16436	177926
Non-p. prawns	1620	169	1596	248	25	202	158	23	35199	14385	53625
Cephalopods	19	92	660	6190	82	18852	2625	831	13944	6339	49634
Others	1062	2599	6194	59556	3660	37136	40386	19404	43103	40555	253855
Total	23916	55023	141563	369677	15706	571317	270146	108522	356043	293929	2209942

\* Island territories excluded Source: Prepared by CMFRI

## E E Z 推定漁獲資源量

ESTIMATED GROUPWISE FISHERY POTENTIAL OF THE INDIAN EEZ  
(in '000 tonnes)

Groups	Upto 50 m	Beyond 50 m	Total
Elasmobranchs	65	103	168
Eels	7	--	7
Catfish	60	63	123
Oil sardine	191	--	191
Other sardines	96	--	96
Anchovies	53	--	53
Other clupeids	196	14	210
Bombay duck	104	--	104
Lizard fish	27	21	48
Perches *	114	125	239
Sciaenids	120	22	142
Ribbon fish	95	216	311
Carangids	143	304	447
Silverbellies	82	4	86
Pomfrets	42	12	54
Mackerel	162	62	224
Seer fish	42	--	42
Tunnies	37	242	279
Flat fish	38	--	38
Penaeid prawns	178	**	178
Non-penaeid prawns	54	--	54
Cephalopods	50	21	71
Priacanthus sp.	--	55	55
Black ruff	--	9	9
Indian drift fish	--	7	7
Deep sea prawns	--	3	3
Deep sea lobster	--	5	5
Oceanic tunas	--	209	209
Bill fishes	--	4	4
Others ***	254	189	443
<b>TOTAL</b>	<b>2210</b>	<b>1690</b>	<b>3900</b>

\* Predominantly Treadfin breams.

\*\* About 4000 t of potential stock available in 50-100 m depth zone in the N.E. coast not accounted.

\*\*\* Includes a variety of low value fish, crabs etc.

Source: Prepared by the Working Group

50 m 以浅の推定漁獲資源量

ESTIMATED CATCHABLE POTENTIALS IN 0-50 m DEPTH ZONE

(in tonnes)

Names of fishes	North east coast	South east coast	South west coast	North west coast	Total *
Elasmobranchs	11177	18722	10735	24300	64934
Eels	1148	222	37	5634	7041
Cat fishes	11286	3135	18864	26520	59805
Oil sardine	1935	8842	173990	6150	190917
Other sardines	25495	46665	23008	1126	96294
Anchovies	8671	10753	33363	188	52975
Other clupeids	32708	43938	58541	60797	195984
Bomay duck	2752	57	8	101180	103997
Lizard fishes	1742	4374	16798	3829	26743
Perches	9429	23057	61226	20817	114529
Sciaenids	26050	14746	20803	58833	120432
Ribbon fishes	10732	12869	27586	43368	94555
Carangids	12404	20317	92758	17286	142765
Silver bellies	6144	60008	14659	802	81613
Pomfrets	8011	1610	5813	26960	42394
Mackerels	14369	15343	125845	6830	162387
Seer fishes	7404	5144	14893	14685	42126
Tunnies	1602	4069	25204	6257	37132
Flat fishes	1483	3073	25903	7720	38179
Penacid prawns	11849	22678	80334	63065	177926
Non P. prawns	3385	273	383	49584	53625
Cephalopods	772	6272	22307	20283	49634
Others	9955	63216	96926	83758	253855
<b>TOTAL</b>	<b>220503</b>	<b>389383</b>	<b>949984</b>	<b>649972</b>	<b>2209842</b>

Note: 1. Data for 1980-'89 used.

2. North east coast: West Bengal, Orissa and Andhra Pradesh  
 South east coast: Tamilnadu and Pondicherry  
 South west coast: Kerala, Karnataka and Goa.  
 North west coast: Maharashtra and Gujarat

\* Excluding island territories

Source: Prepared by CMFRI

大陸棚・斜面底層魚種推定漁獲資源量

POTENTIAL YIELD OF DEMERSAL RESOURCES  
IN THE CONTINENTAL SHELF AND SLOPE BEYOND 50 m DEPTH  
ALONG INDIAN COAST BASED ON TRAWL SURVEYS

(in '000 tonnes)

Region	Depth zone (m)			Total
	50-100	100-200	200-300/500	
North west coast	274.3	104.3	0.4	379.0
South west coast	63.2	29.1	20.0	112.3
Lower east coast	13.4	23.4	3.1	39.9
Upper east coast	72.9	44.5	0.8	118.2
Andaman sea	--	--	--	-
Sub Total	423.8	201.3	24.3 <sup>*</sup>	649.4
300-500m depth zone <sup>**</sup>			4.0	4.0
TOTAL	423.8	201.3	28.3	653.4

\* Includes resources upto 500 m depth in lat. 8° - 10°N along west coast and upto 300 m in other regions.

\*\* Except lat. 8° - 10°N along west coast.

Source: FSI Bull. No. 20



表層魚種推定漁獲資源量 (50-200m)

POTENTIAL YIELD OF PELAGIC RESOURCES OVER THE  
CONTINENTAL SHELF (50-200m) (in '000 TONNES)

Depth zone	50-100 m	100-200 m	Total
North west coast	161	27	188
South west coast	183	62	245
South east coast	32	29	61
North east coast	25	21	46
Total for west and east coasts	401	139	540
Lakshadweep	--	--	63
Andaman & Nicobar Islands	--	--	139
GRAND TOTAL			742

Source: FSI Bull. No. 20

外洋魚種推定漁獲資源量 (200m - EEZ内)

POTENTIALS OF OCEANIC RESOURCES

(200m to EEZ limit and beyond (in '000 tonnes))

Species/Group	Subsurface fishery	Surface fishery	Total
Yellowfin tuna	27.0	81.9	108.9
Big eye tuna	0.3	--	0.3
Skipjack	0.1	100.1	100.2
Bill fishes	3.8	--	3.8
Pelagic sharks	15.8	15.8	31.6
Other fishes	1.2	--	1.2
Sub Total	48.2	197.8	246.0
Beyond EEZ (Resources accessible at the rate of 20%)			49.3
TOTAL			295.0

Source: FSI Bull. No.20

インド海産物輸出統計

EXPORT GROWTH OF INDIAN MARINE PRODUCTS

(1961-62 TO 1990-91)

Years	Quantity in Tonnes	Value in Rs. crores	Average unit value reali- sation (Rs/kg)	Growth rate	
				Quantity	Value
1961-62	15732	3.92	2.49	-21.30%	-15.52%
1962-63	11161	4.20	3.76	-29.06%	+ 7.15%
1963-64	19057	6.09	3.19	+70.04%	+44.96%
1964-65	21122	7.14	3.38	+10.84%	+17.44%
1965-66	15295	7.06	4.62	-27.59%	-1.20%
1966-67	21116	17.37	8.23	+38.06%	+145.90%
1967-68	21907	19.72	9.00	+37.74%	+ 13.53%
1968-69	26811	24.70	9.21	+22.39%	+25.26%
1969-70	31695	33.46	10.56	+18.22%	+35.47%
1970-71	35883	35.07	9.77	+13.21%	+4.83%
1971-72	35523	44.55	12.54	-1.00%	+27.03%
1972-73	38903	59.72	15.35	+9.52%	+34.08%
1973-74	52279	89.51	17.12	+34.38%	+49.88%
1974-75	45099	68.41	15.17	-13.73%	-23.57%
1975-76	54463	124.53	22.86	+20.76%	+82.03%
1976-77	66750	189.12	28.33	+22.56%	+5.87%
1977-78	65967	180.95	27.43	-1.17%	-4.32%
1978-79	86894	234.62	27.00	+31.72%	+29.66%
1979-80	86401	248.82	28.80	-0.57%	+6.65%
1980-81	75591	234.84	31.07	-12.51%	-5.62%
1981-82	70105	286.01	40.80	-7.26%	+21.79%
1982-83	78175	361.36	46.22	+11.51%	+26.35%
1983-84	92691	373.02	40.24	+18.57%	+3.23%
1984-85	86187	384.29	44.59	-7.02%	+3.02%
1985-86	83651	398.00	47.58	-2.94	+3.57%
1986-87	85843	460.67	53.66	+2.62%	+15.75%
1987-88	97179	531.20	54.66	+13.21%	+15.31%
1988-89	99777	597.85	59.92	+2.67%	+12.55%
1989-90	110843	634.99	57.29	+11.09%	+6.21%
1990-91	139419	893.37	64.08	+25.78%	+40.69%

## 国別海産物輸出量

### MAJOR MARKETS

Q : Qty. in Tonnes  
V : Value in Rs. Crores

Market		1990-91	Share %	1989-90	Share %
1. JAPAN	Q:	38092	27.32	38763	34.97
	V:	458.27	51.30	345.66	54.44
2. WESTERN EUROPE					
a. U.K.	Q:	7376	5.29	7695	6.94
	V:	63.05	7.06	50.19	7.90
b. Spain	Q:	11063	7.94	11039	9.96
	V:	54.48	6.10	36.19	5.70
c. Italy	Q:	6381	4.58	3881	3.50
	V:	39.80	4.46	20.04	3.16
d. France	Q:	5708	4.08	5259	4.74
	V:	25.59	2.86	18.86	2.97
e. Netherlands	Q:	2615	1.88	2624	2.37
	V:	15.23	1.70	13.05	2.06
f. Portugal	Q:	3403	2.44	1314	1.19
	V:	11.05	1.24	2.42	0.38
g. Belgium	Q:	1907	1.37	1352	1.22
	V:	9.50	1.06	4.22	0.66
h. Greece	Q:	3737	2.68	3190	2.88
	V:	8.23	0.92	7.15	1.13
i. Germany	Q:	726	0.52	530	0.48
	V:	4.09	0.46	2.53	0.40
j. Ireland	Q:	41	0.03	16	0.01
	V:	0.78	0.09	0.25	0.04
k. Norway	Q:	7	..	5	..
	V:	0.06	0.01	0.02	..
l. Denmark	Q:	..	..	28	0.03
	V:	..	..	0.26	0.04
m. Switzerland	Q:	..	..	37	0.03
	V:	..	..	0.13	0.02
<i>Sub Total</i>		Q: 42964	30.81	36970	33.35
		V: 231.86	25.96	155.31	24.46
3. U.S.A.	Q:	16155	11.59	13802	12.45
	V:	109.31	12.23	78.33	12.34
4. Singapore	Q:	16947	12.16	9480	8.55
	V:	43.99	4.92	25.16	3.96
5. Hong Kong	Q:	15137	10.86	3056	2.76
	V:	17.21	1.93	5.25	0.83
6. U.A.E.	Q:	2836	2.03	1259	1.14
	V:	7.39	0.83	4.58	0.72
7. Sri Lanka	Q:	2005	1.44	1737	1.57
	V:	3.19	0.35	2.52	0.39
8. Others	Q:	5283	3.79	5776	5.21
	V:	22.15	2.48	18.18	2.86
<b>Grand Total</b>		Q: 139419	100.00	110843	100.00
		V: 893.37	100.00	634.99	100.00

## 商品別海産物輸出量

### PATTERN OF MARINE PRODUCTS EXPORT FROM INDIA 1986-87 TO 1990-91

Q: Quantity in tonnes  
V: Value in Rs. Lakhs

Items		1986-87	1987-88	1988-89	1989-90	1990-91
Frozen Shrimp	Q:	49203	55736	56835	57819	62395
	V:	37793	42578	47033	46331	66333
Frozen Froglegs	Q:	453	-	-	-	-
	V:	236	-	-	-	-
Frozen Lobster/ Lobster tails	Q:	1132	1863	1663	2068	1600
	V:	1431	2473	2360	3363	3430
Frozen Cuttlefish/ Fillets	Q:	4694	9195	8262	14158	11596
	V:	1395	2231	2344	4731	4529
Frozen Squids	Q:	9739	7621	16374	11944	16667
	V:	1727	1373	3809	2848	4499
Fresh/frozen fish	Q:	13138	14904	11234	21227	42340
	V:	2229	3023	2845	4820	9082
Canned Shrimp	Q:	1	2	13	2	8
	V:	1	1	5	3	7
Dried Fish	Q:	5368	5220	3633	1081	1127
	V:	674	664	443	147	140
Dried Shrimp	Q:	19	34	59	3	1
	V:	2	5	13	1	2
Sharkfins & Fishmaws	Q:	237	273	315	295	152
	V:	373	482	583	599	301
Misc Items	Q:	1859	2331	1389	2247	3533
	V:	206	290	350	656	1014
Total	Q:	85843	97179	99777	110843	139419
	V:	46067	53120	59785	63499	89337

魚種別輸出量 (冷凍 / 鮮魚)

EXPORT OF FRESH / FROZEN FISH (VARIETY / FORM)

Q: Qty in tonnes  
V: Value in Rs. lakhs

Variety/Form		1990-91	1989-90
Pomfret	Q:	6102	4474
	V:	2861.30	1915.29
Fish fillet	Q:	107	221
	V:	32.01	66.68
Ribbon fish	Q:	3887	-
	V:	401.63	-
Tuna	Q:	130	100
	V:	29.12	16.85
Other fish	Q:	32114	16432
	V:	5758.08	2821.49
Total	Q:	42340	21227
	V:	9082.14	4820.31

*Note: Export of Ribbon fish for 1989-90 included in other fish*

## 州別加工施設数と能力

DETAILS OF INFRASTRUCTURAL FACILITIES FOR PROCESSING AS ON 31/10/1990)

(Capacity in tonnes per day)

States	Freezing		Canning		Ice making		Fish meal		Cold storage	
	No.	Capacity	No.	Capacity	No.	Capacity	No.	Capacity	No.	Capacity
Kerala	85	601.00	11	30.00	51	636.00	3	62.50	132	11365.00
Karnataka	9	65.50	7	27.50	26	350.00	3	28.00	22	2735.00
Lakshadweep	--	--	1	1.00	--	--	--	--	--	--
Tamil Nadu	26	211.50	1	5.00	17	276.50	--	--	33	4888.00
Maharashtra	34	677.54	--	--	9	309.50	4	58.00	33	15617.00
Gujarat	16	402.20	--	--	8	92.00	11	218.00	17	6560.00
Goa	4	32.00	2	10.00	4	40.00	--	--	7	565.00
Andhra Pradesh	23	188.00	-	--	9	91.00	--	--	25	3050.00
West Bengal	30	241.00	--	--	2	45.00	--	--	28	2213.00
Orissa	12	76.50	--	--	4	60.00	--	--	18.00	1475.00
<b>TOTAL</b>	<b>239</b>	<b>2495.24</b>	<b>22</b>	<b>73.50</b>	<b>130</b>	<b>1900.00</b>	<b>21</b>	<b>366.50</b>	<b>315</b>	<b>48468.00</b>

Source: MPEDA

## Markets

## 冷凍魚輸出国

## EXPORT OF FROZEN FISH

Q : Qty in tonnes  
V : Value in Rs. lakhs

Markets		1990-91	1989-90	1988-89	1987-88
1. Singapore	Q:	15183	8133	5204	6076
	V:	3339.40	1623.25	907.28	924.20
2. Japan	Q:	3739	3439	2184	2918
	V:	2039.36	1411.29	926.79	927.96
3. Hong Kong	Q:	14947	2870	255	704
	V:	1596.23	362.52	64.05	103.70
4. U.S.A.	Q:	1811	801	243	716
	V:	558.69	182.00	44.78	116.94
5. U.A.E.	Q:	2237	658	186	179
	V:	419.10	137.53	54.47	48.01
6. Malaysia	Q:	303	377	171	1033
	V:	60.32	80.61	32.62	159.97
7. Taiwan	Q:	156	322	772	787
	V:	30.02	55.91	131.86	103.56
8. Others	Q:	3964	4677	2219	2491
	V:	1039.02	967.20	682.99	638.27
Total	Q:	42340	21227	11234	14904
	V:	9082.14	4820.31	2844.84	3022.61



魚種名

(1) IFPの沖合漁業対象魚種

インド英名	和名	学名
Pink Perch/Threadfin Bream	イトヨリ	Nemipterus Japonicus
Lizard Fish	エソ	Saurida tumbil
Bulls Eye	キントキダイ	Priacanthus sp.
Cat Fish	キャトフッシュ	Arius maculatus
Barracuda	オニカマス	Sphyaena jeio
Jew Fish	ニベ類	Sciaena aneus
Centrolopus	イボダイ	Centrolopus sp.
Ribbon Fish	タチウオ	Trichiurus sp.
Silver Belly	ヒイラギ	Leiognathus
Deep Sea Varieties	スジハナビラウオ等	Psenus indicus

(2) 現在漁獲されている魚種

インド英名	和名	学名
Elasmobranchs	軟骨魚綱板鰓亜綱	Elasmobranchii
Eels	ウナギ	Anguilla spp.
Cat fish	ハマギギ	Arius maculatus
Oil sardine	イワシ類	Sardinops spp.
Other sardine	〃	Engraulis spp.
Anchovies	カタクチイワシ	Clupeidae
Other clupeid	ニシン科	Harpedon nehereus
Bombay duck	ミズテング	Saurida tumbil
Lizard fish	エソ	Lutjanidae
Perches	フエダイ科	Sciaenidae
Sciaenids	ニベ科	Trichiurus sp.
Ribbon fish	タチウオ	Carangidae
Carangids	アジ科	Leiognathus
Silver bellies	ヒイラギ	Pampus argenteus
Pomfret	マナガツオ	Scomber spp.
Mackerels	サバ類	Scomberomorus commerson
Seer fish	サワラ	Thunnus.& Katsuwonus spp.
Tunnies	マグロ、カツオ類	Pleuronectidae
Flat fish	カレイ科	Penaeid shrimp
Penaeid prawn	クルマエビ類	non-Penaeid shrimp
Non-Penaeid prawn	クルマエビ類以外のエビ	Cephalopoda
Cephalopods	頭足綱	
Others		

(3) 重要魚種

インド英名	和名	学名
Tuna	サバ科	Scombridae
Yellowfin Tuna	キハダ	Thunnus albacares
Gig eye Tuna	メバチ	T. obesus
Skipjack	カツオ	Katsuwonus pelamis
Perch	フエダイ科	Lutjanidae
Red Snapper	フエダイ	Lutjanus malabaricus
Blood Red Snapper	〃	L. sanguineus
Carangids	アジ科	Carangidae
Scad	マブタシマアジ	Alepes mate
Horse Mackerel		Megalaspis cordyla
Leather Skin	イケカツオ	Scomberoides lysan
Naked Breast Tveally	ムロアジ	Decapterus ruselli
Clupedis	ニシン科	Clupeidae
Trichiuridae	タチウオ科	Trichiuridae
Ribbon Fish	タチウオ	Trichurus spp.
〃	〃	Lepturacanthus savala
Ariidae	ハマギギ科	Arridae
Cat Fish	ハマギギ	Arius maculatus
Deep Sea prawn	オキノスジエビ類	Parapandalus spp.
〃	ミノエビ類	Heterocarpus spp.
〃	チヒロエビ類	Aristeus spp.
〃	サケエビ類	Parapenaeus spp.
〃	スベスベエビ類	Parapenaeopsis spp.
〃	アカエビ類	Metapenaeopsis spp.
〃	クダシゲエビ類	Solenocera spp.
Deep Sea Lobster	クボエビ類	Puerulus spp.
Cephalopods	頭足類 (綱)	Cephalopoda
Cuttle Fish	コウイカ類	Sepia spp.
Squid	ヒメヤリイカ類	Loligo spp.
Octopus	タコ類	Octopus spp.

魚 価 格 ①

AVERAGE BEACH PRICES OF FISH IN KERALA

(Rp/Kg)

Sl. No.	Name of fish	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89
1	2	3	4	5	6	7	8	9
1	Elasmobranchs (サメ・エイ)	1.45	1.51	1.81	2.85	3.60	4.40	5.90
2	Eels (ウナギ)	2.40	3.00	3.25	3.50	4.11	4.62	4.10
3	Cat fishes (海ナマズ)	1.42	1.54	1.92	2.65	3.35	3.70	5.50
4	Chirocentrus (オキイワシ)	1.45	1.55	2.00	2.85	3.40	4.20	4.95
5	(a) Oil Sardine	0.99	1.00	1.08	1.45	1.85	2.25	3.00
	(b) Lesser Sardines	1.06	1.12	1.25	1.75	2.10	2.45	3.25
	(c) Hilsa Ilisha	...	...	...	...	2.00	2.85	2.50
	(d) Other Hilsa (イワシ類)	...	...	...	...	...	...	...
	(e) Anchoviella	0.95	1.00	1.17	1.50	2.05	2.35	2.00
	(f) Thrissocles	1.12	1.20	1.44	2.10	2.60	2.95	2.55
	(g) Other Clupeids	1.21	1.25	1.53	2.40	2.75	2.85	2.60
6	(a) Harpodon Nehereus (ミスラング)	...	...	...	2.25	...	...	...
	(b) Saurida & Saurus (エン)	1.53	1.58	2.03	2.75	3.10	3.55	3.10
7	Hemirhamphus & Belone (サヨリ)	1.14	1.15	1.55	2.20	2.80	3.05	2.65
8	Flying Fish (トビウオ)	1.27	1.32	1.85	2.27	2.63	2.75	2.55
9	Perches (フエタイ)	1.68	1.75	2.12	3.25	3.80	4.55	3.85
10	Red Mulllets (赤ボラ)	1.65	1.68	2.03	3.10	3.70	3.75	3.50
11	Polynemids (コシロ)	1.13	1.16	1.37	1.80	2.40	2.80	2.30
12	Sciaenids (ニベ科)	1.32	1.41	1.77	2.60	3.00	3.10	3.25
13	Ribbon fish (タチウオ)	1.10	1.18	1.39	1.80	2.25	2.50	2.23
14	(a) Caraux (アジ類)	1.44	1.92	3.09	4.65	4.95	5.00	5.25

付属資料17

1982年から1989年までのケララ州の魚価格の推移

魚 価 格 ②

(Rp/Kg)

1	2	3	4	5	6	7	8	9
	(b) Chorinemus	1.17	1.23	1.46	2.20	2.60	2.90	2.55
	(c) Trachynotus	...	...	1.00	2.71	2.90	...	...
	(d) Other Carangids (テジ類)	1.81	1.94	1.22	1.84	2.70	2.95	2.50
	(e) Coryphaena	...	...	2.36	4.19	3.85	3.55	3.80
	(f) Elacate	...	...	2.45	3.69	4.00	4.60	4.10
15	(a) Leiognathus (ヒイラギ)	0.84	0.85	1.05	1.75	2.15	2.60	3.20
	(b) Gazza	...	...	...	...	...	...	...
16	Lactarius (アクタウオ)	2.43	2.67	3.45	3.50	4.50	5.20	6.20
17	Pomfrets (マナガツオ)	4.03	4.51	5.34	6.50	8.00	9.60	11.00
18	Mackerel (サバ)	1.98	2.15	2.79	3.35	4.00	5.20	6.50
19	Seerfish (サワラ)	5.38	5.65	6.35	7.10	9.30	12.00	13.50
20	Tunnies (カツオ・マグロ)	3.39	3.47	4.21	5.00	5.60	6.20	7.00
21	Sphyraena (オニカマス)	2.24	2.30	2.93	3.00	3.65	4.45	3.70
22	Mugil (ボラ類)	2.41	2.50	3.35	4.60	5.15	5.75	5.20
23	Bregmaceros (サイウオ)	...	...	...	...	...	...	...
24	Soles (ウシノシタ)	0.92	0.97	1.11	1.50	1.95	2.40	3.25
25	(a) Penaeid Prawns (クルマエビ類)	12.72	12.93	14.12	16.50	20.00	21.40	23.00
	(b) Non-Penaeid Prawns (他エビ)	...	...	...	...	...	...	...
	(c) Other Crustaceans (甲殻類)	2.81	3.00	4.12	4.15	5.00	5.40	4.85
26	Cephalopods (イカ・タコ)	2.92	3.05	4.17	5.00	5.80	5.80	6.00
27	Miscellaneous (その他)	1.31	1.34	1.49	2.25	2.45	2.85	3.00

インドの一般事情

1) 国名 首都 州 面積	インド国 (Republic of India) ニューデリー 27州、7連邦領域 328万7263km <sup>2</sup>
2) 人口 人口密度 平均寿命	総人口 8億4393万人 (1991) 都市人口率 28% 658人/1平方マイル 男57才、女58才
3) 独立 政元 首相 国会 主要政党	1947年8月 連邦共和制 ラマスワミ・ベンカタラマン大統領 ナラシンハ・ラオ首相 2院制、上院245議席、下院545議席 国民議会派、ジャナタ・ダル、インド人民党、左派共産党
4) 人種構成	インドアーリア族72%、ドラビダ族25%、 モンゴロイド3%
5) 言語	ヒンディー語 (公用語) と英語 (準公用語) を含む16言語
6) 宗教	ヒンズー教83%、イスラム教11%、キリスト教3%、 シーク教2%
7) 教育	識字率 36%、義務教育は14才まで 学制は小、中学10年、高校2年、大学3年
8) 通貨	ルピー (Rs.) 1米ドル = 28.45ルピー (1992年4月現在)
9) 貿易 (1990) 主要輸出入産物	輸出額 170億ドル 輸出額 248億ドル 輸出品目 宝石、衣料品、紅茶等 輸入品目 石油、機械等
10) 外貨準備高	2,075百万ドル (1990)
11) 対外公的債務残高	62,348百万ドル (1989)
12) 債務返済比率	26.4% (1989)
13) GNP	一人当たりのGNP 350ドル (1990)
14) 年平均インフレ率	6.4%
14) 会計年度	4月1日から翌年3月31日まで

月平均最高最低気温 89年

MONTHLY MAXIMUM AND MINIMUM TEMPERATURE AT SELECTED CENTRES  
FOR THE YEAR 1989

Station Month	Trivandrum		Alleppey		NAS Cochin		Kozhikode	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1	2	3	4	5	6	7	8	9
January	34.1	20.8	N.A	N.A	33.3	20.4	33.8	20.8
February	34.8	19.3	N.A	N.A	32.5	20.1	31.2	19.0
March	34.0	21.1	N.A	N.A	33.6	21.6	34.0	22.6
April	34.0	23.1	N.A	N.A	33.4	22.9	33.9	21.0
May	34.3	23.0	N.A	N.A	33.7	22.4	33.4	21.8
June	31.5	21.8	N.A	N.A	31.0	22.2	31.4	21.7
July	31.9	21.9	N.A	N.A	31.1	22.1	29.9	21.7
August	31.0	21.7	N.A	N.A	30.8	22.3	30.4	22.5
September	32.2	21.8	N.A	N.A	31.5	22.5	31.3	23.2
October	31.7	22.4	N.A	N.A	31.9	22.3	32.3	23.0
November	31.0	21.4	N.A	N.A	33.8	21.0	31.0	20.0
December	34.4	21.3	N.A	N.A	33.3	21.0	35.0	21.0

月平均最高最低气温 87, 88年

MONTHLY MAXIMUM AND MINIMUM TEMPERATURE AT SELECTED CENTRES  
FOR THE YEAR 1987

Station Month	Trivandrum		Alleppey		NAS Cochin		Kozhikode	
	maximum	minimum	maximum	minimum	maximum	minimum	maximum	minimum
1	2	3	4	5	6	7	8	9
January	35.8	21.2	35.2	21.1	34.5	21.2	32.5	20.4
February	33.9	21.1	35.5	20.7	34.0	20.9	32.9	20.6
March	35.4	22.2	38.2	23.3	35.2	22.3	34.1	22.7
April	35.2	21.9	36.7	22.4	34.8	23.4	34.4	23.4
May	35.2	22.7	34.5	21.6	34.4	22.8	34.2	23.4
June	33.5	22.1	34.5	23.1	34.1	22.8	33.4	22.3
July	32.7	22.7	33.5	22.5	32.7	22.8	31.5	23.0
August	31.9	22.4	34.0	22.5	32.5	21.7	31.0	23.0
September	34.5	22.7	32.9	23.3	32.5	23.0	31.8	23.0
October	31.7	23.1	35.6	23.2	33.6	23.6	32.5	23.4
November	32.3	22.1	35.2	22.1	33.7	20.4	32.5	20.9
December	32.5	21.6	34.5	21.6	34.7	21.7	33.8	21.0

TABLE - 20.8

MONTHLY MAXIMUM AND MINIMUM TEMPERATURE AT SELECTED CENTRES  
FOR THE YEAR 1988

Station Month	Trivandrum		Alleppey		NAS Cochin		Kozhikode	
	maximum	minimum	maximum	minimum	maximum	minimum	maximum	minimum
1	2	3	4	5	6	7	8	9
January	34.5	20.2	36.6	20.6	34.0	20.1	33.0	19.8
February	35.2	21.1	36.8	20.7	34.6	22.1	33.5	22.1
March	37.7	23.6	36.0	23.2	34.4	22.4	33.9	23.3
April	34.3	23.1	37.7	22.5	35.5	22.4	33.8	22.4
May	34.5	23.8	35.6	22.8	33.7	22.2	33.7	21.7
June	34.3	22.5	33.6	21.4	32.5	22.7	32.2	22.7
July	32.9	21.5	31.5	21.3	32.2	21.8	30.9	22.0
August	31.4	22.6	31.5	22.4	31.0	22.2	30.7	22.2
September	31.6	22.2	33.2	22.5	31.2	21.1	30.6	22.3
October	34.3	23.1	33.3	22.3	32.1	22.8	32.5	23.0
November	33.2	21.5	34.5	22.6	32.6	22.0	33.2	20.7
December	34.4	20.7	35.5	20.4	33.5	20.3	33.1	20.2

月平均降水量 87, 88年

DISTRICT-WISE MONTHLY DISTRIBUTION OF RAINFALL IN KERALA (in m. m)  
FOR THE YEAR 1987

District	January	February	March	April	May	June	July	August	September	October	November	December
1	2	3	4	5	6	7	8	9	10	11	12	13
Trivandrum	2.1	0.0	07.9	116.2	196.5	176.1	48.5	353.8	162.4	414.9	198.6	333.3
Quilon	...	2.0	...	34.8	129.0	508.0	92.0	402.4	197.7	529.1	134.0	236.2
Alleppey	0.1	41.7	2.8	36.5	123.2	808.0	127.0	435.3	144.6	346.8	256.7	126.4
Kottayam	Nil	3.2	Nil	84.6	118.8	646.3	158.8	541.4	203.8	199.7	266.6	122.6
Palghat	Nil	Nil	04.2	21.0	142.0	219.0	235.0	275.8	88.7	279.2	90.4	...
Kozhikode	Nil	Nil	Nil	38.2	65.0	821.6	405.8	428.3	124.8	425.2	264.4	71.1
Cannanore	...	...	...	38.3	40.0	871.1	378.1	428.9	115.7	77.8	194.6	83.5
Ernakulam	5.2	0.5	0.2	70.0	125.7	634.0	227.1	596.0	131.3	329.7	251.1	32.7
Trichur	...	...	3.0	19.4	90.0	855.2	271.0	411.8	146.4	212.1	197.4	118.2

TABLE - 20.27

DISTRICT-WISE MONTHLY DISTRIBUTION OF RAINFALL IN KERALA (in m. m)  
FOR THE YEAR 1988

District	January	February	March	April	May	June	July	August	September	October	November	December
1	2	3	4	5	6	7	8	9	10	11	12	13
Trivandrum	...	1.1	30.1	163.0	33.5	535.7	228.4	94.6	369.7	16.9	183.4	26.6
Quilon	...	101.8	15.8	114.8	182.0	528.3	333.8	217.7	465.3	77.0	128.8	41.0
Alleppey	Nil	34.7	12.3	138.4	175.1	561.0	716.5	481.6	714.0	106.0	74.3	64.6
Kottayam	Nil	47.4	49.9	194.2	161.6	478.7	484.5	498.0	624.6	69.6	150.1	55.7
Palghat	Nil	6.8	26.0	196.4	65.8	211.4	388.0	345.6	264.9	...	28.8	...
Kozhikode	Nil	Nil	19.0	186.6	325.4	837.2	745.3	483.1	437.7	072.1	078.3	88.8
Cannanore	Nil	Nil	Trace	78.6	145.1	1202.0	1042.6	52.95	331.0	48.9	40.8	0.6
Ernakulam	Nil	5.2	51.1	19.7	121.1	657.7	592.3	461.2	683.9	101.2	50.5	65.6



月平均風力 89年

AVERAGR SPEED OF WIND (Km. ph.) AT DIFFERENT CENTRES OF KERALA DURING 1989

Stations Months	Trivandrum		Alleppey		NAS Cochin		Kozhikode	
	8-30 IST	17-30 IST	8-30 IST	17-30 IST	8-30 IST	17-30 IST	8-30 IST	17-30 IST
1	2	3	4	5	6	7	8	9
January	0.84	4.90	6.13	16.26	6.19	13.94	5.81	11.23
February	0.71	7.18	6.57	18.86	4.57	14.75	5.72	13.29
March.	0.71	6.45	5.74	20.03	3.58	14.10	4.52	16.13
April	2.93	8.0	7.67	20.04	3.42	15.53	5.47	16.2
May	4.97	10.32	7.16	16.13	4.00	15.39	4.58	15.42
June	3.60	7.90	9.13	12.87	5.03	7.7	6.2	9.13
July	6.74	10.58	7.68	13.68	8.52	14.00	6.77	11.10
August	6.65	10.90	8.13	12.26	6.32	12.32	5.35	9.42
September	4.00	8.27	6.73	16.47	5.80	13.67	4.13	12.47
October	0.58	5.74	4.45	13.42	4.13	10.77	4.58	9.68
November	0.27	2.80	5.00	11.13	4.20	10.67	5.33	9.27
December	0.52	4.90	5.68	13.90	4.45	12.19	8.32	12.71

月平均湿度 89, 90年

RELATIVE HUMIDITY AT SELECTED CENTRES IN KERALA DURING THE YEAR 1989

Stations Months	Trivandrum		Punaloor		Alleppey		Cochin		Palaghat		Kozhikode	
	8-30 IST	17-30 IST	8-30 IST	17-30 IST	8-30 IST	17-30 IST	8-30 IST	17-30 IST	8-30 IST	17-30 IST	8-30 IST	17-30 IST
1	2	3	4	5	6	7	8	9	10	11	12	13
January	79	67	72	53	77	64	73	63	71	45	77	66
February	77	61	69	47	81	64	76	65	66	30	78	66
March	79	65	74	47	80	67	75	67	74	36	76	68
April	80	73	82	68	81	72	78	71	78	52	77	73
May	83	77	87	70	87	78	80	73	81	63	78	75
June	91	86	94	83	93	80	89	81	93	83	93	86
July	89	79	93	85	91	82	89	80	91	81	92	88
August	90	77	91	81	92	85	88	80	91	79	92	87
September	90	82	91	80	90	83	86	85	89	79	90	84
October	89	79	94	80	87	82	85	79	89	79	88	78
November	88	77	91	69	82	74	76	65	72	60	77	58
December	78	66	71	49	76	65	72	62	72	56	75	63

N. A. S - Naval Air Station.

TABLE - 20.19

RELATIVE HUMIDITY AT SELECTED CENTRES IN KERALA DURING THE YEAR 1990

Stations Months	Trivandrum		Punaloor		Alleppey		Cochin		Palghat		Kozhikode	
	8-30 IST	17-30 IST	8-30 IST	17-30 IST	8-30 IST	17-30 IST	8-30 IST	17-30 IST	8-30 IST	17-30 IST	8-30 IST	17-30 IST
1	2	3	4	5	6	7	8	9	10	11	12	13
January	76	59	67	37	79	61	68	60	67	43	64	53
February	80	61	72	39	80	67	73	63	72	41	67	51
March	77	61	78	51	81	73	75	67	74	43	72	56
April	75	69	70	54	82	75	76	69	73	49	72	65
May	86	78	88	75	89	81	90	79	100	73	84	76
June	90	83	92	78	93	87	86	82	91	81	89	79
July	91	79	92	77	94	85	91	83	91	84	92	85
August	85	75	88	76	92	86	88	80	90	79	90	82
September	80	71	86	70	88	83	84	79	85	70	85	75
October	88	81	90	74	88	81	84	80	82	72	86	80
November	85	77	85	70	86	72	84	73	79	65	80	72
December	73	67	77	55	77	66	72	62	67	51	66	55

N. A. S - Naval Air Station.

## 参考資料及び収集資料

### [参考文献]

1. A Critical study on the exploitation of fishery resources by the Integrated Fisheries Porject
2. Chartered fishing vesseles operations in the INdian EEZ  
Deep sea fishing Indian EEZ, Guidelines for entrepreneurs
3. Deep sea resources of the south west coast India of Idia
4. Eight five year plan ( 1992-1997 ) of fisheries division
5. Facts and figures by Kerala Fisheres 1990
6. Fishery sector of India
7. Marine fisheries of Kerala at a glance 1991
8. Marine products export review 1990-91
9. Nationel institutes and organisation for fishery research & development
10. Objectas and Achievement ( 1952-1991 ) of the Integrated Fisheries Porject
11. Report of the working group of the potetial marine resources of Exclusive Economice Zone
12. SIXTEEN MEETING of the central board of fisheries; Statistical supplement
13. Travel guide of Kerala
14. Travel survival kit India
15. 世界年間92年 共同通信社

### [収集資料]

1. インド地図 : 1 : 4,000,000
2. バンフレット

IFP, MATSYAFED, CIFNET





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