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THE MARINE FISHERIES INFORMATION SERVICE: Technical and Extension Series envisages the rapid dissemination of information on marine and brackish water fishery resources and allied data available with the Fishery Data Centre and the Research Divisions of the Institute, results of proven researches for transfer of technology to the fish farmers and industry and of other relevant information needed for Research and Development efforts in the marine fisheries sector.

Abbreviation – *Mar. Fish. Infor. Serv. T & E Ser., No. 32: 1981*

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Cover photo: Canoe full of oil sardines

TRENDS IN TOTAL MARINE FISH PRODUCTION IN INDIA—1980†

The estimates of total marine fish production in India during 1980 were arrived at 12,49,837 tonnes as compared to 13,88,380 tonnes during 1979, showing a decline of about 10%. Excepting Andhra Pradesh, Gujarat and Andamans, all the maritime states of India recorded lower landings. The statewise total marine fish landings in India during the years 1979 and 1980 are shown in Table 1.

Table 1. Statewise total marine fish landings in India during the years 1979 and 1980 (in tonnes)

Sl. No.	State	1980	1979
1.	West Bengal (Contai coast)	6,097	10,744
2.	Orissa	39,375	51,808
3.	Andhra Pradesh	116,013	91,426
4.	Tamil Nadu	217,394	235,008
5.	Pondicherry*	9,390	10,068
6.	Kerala	279,543	330,509
7.	Karnataka	115,322	126,384
8.	Goa**	24,490	25,388
9.	Maharashtra	231,763	293,326
10.	Gujarat	203,494	191,312
11.	Andamans	1,803	1,721
12.	Lakshadweep	2,909	3,846
13.	Private trawlers +	2,244	16,840
		12,49,837	13,88,380

* Excluding Mahe and Yenam which are included in Kerala and Andhra respectively.

**Excluding Daman and Diu which are included in Gujarat.

+Partial coverage of larger trawlers.

Pelagic and demersal group of fishes

The specieswise composition of total marine fish landings in India is shown in Table 2. The pelagic group of species comprises of *Chirocentrus*, oil sardine, other sardines, *Hilsa ilisha*, other *Hilsa*, *Stolephorus*, *Thrisocles*, other clupeids, *Harpodon nehereus*, *Hemiramphus* & *Belone*, flying fish, ribbon fish, carangids, mackerel, seer fish, tunnies, *Sphyraena*, *Mugil* and *Bregmaceros*. The elasmobranchs, eels, cat fishes, lizard fishes, perches, red mullets, polynemids, scia-

enids, silver bellies, *Lactarius*, pomfrets, soles, prawns lobsters and cephalopods form the demersal group. The statewise break-up of pelagic and demersal group of fishes is shown in Table 3 and Fig. 1.

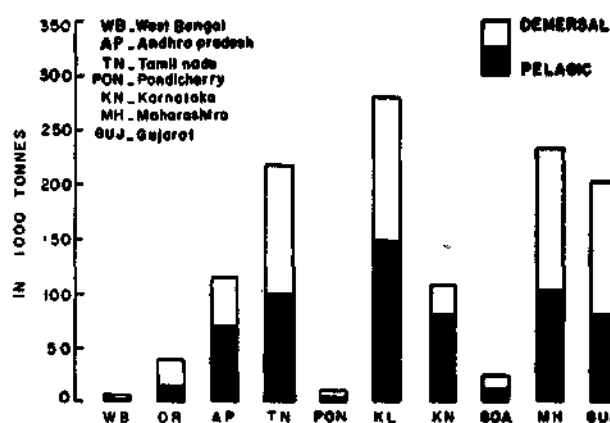


Fig. 1. Distribution pattern of pelagic and demersal group of fishes in different maritime States of India.

From Table 3, it is seen that Kerala accounted for the highest catch of pelagic fishes during 1980, followed by Maharashtra, Tamil Nadu, Karnataka, Gujarat and Andhra Pradesh in the order of abundance. In respect of demersal fishes also Kerala contributed the maximum catch, followed by Maharashtra, Gujarat, Tamil Nadu and Andhra Pradesh.

Statewise marine fish production

West Bengal (Contai coast)

In West Bengal, the total landings declined by about 4,600 tonnes during 1980 as compared to 1979 (Table 1). Lesser landings of other clupeids, Bombay duck, sciaenids and prawns contributed to the decline, the decrease in their landings being about 840, 800, 560 and 270 t. respectively. The landings of catfishes, however, showed an increase of about 580 tonnes.

Orissa

In Orissa also, there was a decline of about 12,400 t. in the total landings during 1980 as compared to 1979.

† Prepared by the Fishery Resources Assessment Division.

Table 2. Estimated marine fish landings in India during 1980 (in tonnes)

Sl. No.	Name of fish	West Bengal	Orissa	Andhra Pradesh	Tamil Nadu	Pondicherry	Kerala	Karnataka	Goa	Maharashtra	Gujarat	Andamans	Lakshadweep	Private* Trawlers	Total
1.	Elasmobranchs	114	3,772	4,842	15,442	435	6,803	2,910	894	7,752	14,558	56	284	—	57,862
2.	Eels	—	—	289	85	8	6	131	6	3,154	8,403	—	—	—	12,082
3.	Catfishes	723	2,198	2,338	4,047	78	13,936	5,354	1,151	8,653	5,235	32	—	—	43,745
4.	<i>Chirocentrus</i>	276	1,460	1,123	2,695	98	1,002	171	124	2,039	3,792	25	—	—	12,805
5.	a) Oil sardine	—	—	—	320	—	69,667	42,727	2,367	663	—	—	—	—	1,15,744
	b) Lesser sardines	—	1,891	13,930	29,940	2,736	11,017	4,135	1,798	1,363	—	243	—	—	67,053
	c) <i>Hilsailisha</i>	644	5,091	96	37	25	14	8	8	1,017	56	—	—	—	6,996
	d) Other <i>Hilsa</i>	20	46	1,267	3,084	53	21	25	14	607	3,965	25	—	—	9,127
	e) <i>Anchoviella</i>	—	270	6,182	13,126	287	7,772	5,621	249	78	—	99	—	—	33,684
	f) <i>Thrissocles</i>	194	333	7,326	5,048	387	2,241	850	779	1,271	913	—	—	—	19,342
	g) Other clupeids	674	2,576	5,486	1,833	273	574	1,088	302	16,897	8,538	29	—	—	38,270
6.	a) <i>Harpodon nehereus</i>	419	378	611	6	—	—	15	12	57,393	36,671	—	—	—	95,505
	b) <i>Saurida & Saurus</i>	—	189	931	1,123	160	7,080	508	199	1,057	85	—	—	—	11,332
7.	<i>Hemirhamphus & Belone</i>	—	46	97	749	26	361	180	6	42	6	41	99	—	1,653
8.	Flying fish	—	17	43	1,106	3	—	55	2	—	—	—	29	—	1,255
9.	Perches	13	341	4,639	6,886	666	17,814	1,069	269	3,712	2,454	302	376	—	38,541
10.	Red mullets	—	296	349	1,079	150	1	38	15	461	—	—	27	—	2,416
11.	Polynemids	186	1,126	1,448	629	6	8	—	10	1,976	667	—	—	—	6,056
12.	Sciaenids	358	2,864	9,496	19,547	320	6,164	3,500	1,530	13,956	31,625	—	—	—	89,360
13.	Ribbon fish	142	928	15,646	7,862	179	12,937	1,499	1,089	11,550	10,858	—	—	—	62,690
14.	a) <i>Caranx</i>	—	607	5,981	5,405	479	4,399	4,507	884	1,315	461	147	80	—	24,265
	b) <i>Chorinemus</i>	130	567	710	1,111	2	145	67	71	357	1,022	—	—	—	4,182
	c) <i>Trachinotus</i>	—	—	—	38	2	—	—	—	—	—	—	—	—	40
	d) Other carangids	—	—	97	188	—	59	232	—	369	—	—	—	—	945
	e) <i>Coryphaena</i>	—	—	3	141	—	138	—	—	20	—	—	—	—	302
	f) <i>Elacate</i>	—	—	19	148	—	19	3	190	—	—	—	—	—	379
15.	a) <i>Leiognathus</i>	34	704	3,775	38,153	681	4,147	4,671	1,727	406	—	102	—	—	54,400
	b) <i>Gazza</i>	—	3	56	84	—	1	42	—	—	—	—	—	—	186
16.	<i>Lactarius</i>	—	65	940	938	29	861	998	614	450	2,520	—	—	—	7,415
17.	Pomfrets	921	9,072	2,201	1,306	188	907	696	257	10,081	12,587	15	—	—	38,231
18.	Mackerel	—	265	6,203	7,229	445	18,474	19,634	2,446	288	112	183	—	—	55,279
19.	Seer fish	234	1,542	2,970	7,179	85	3,763	1,941	735	3,219	4,180	117	21	—	25,986
20.	Tunnies	—	34	419	4,233	—	10,611	952	356	1,674	277	55	1,760	—	20,371
21.	<i>Sphyraena</i>	—	8	88	932	55	330	84	171	33	—	67	14	—	1,782
22.	<i>Mugil</i>	—	1	27	577	49	151	39	11	24	1,034	117	—	—	2,030
23.	<i>Bregmaceros</i>	—	—	—	—	—	—	—	—	159	757	—	—	—	916
24.	Soles	3	69	573	2,094	151	4,394	782	1,311	1,797	2,459	—	—	—	13,633
25.	a) Penaeid prawns	152	1,074	5,660	9,082	485	52,633	3,098	1,853	23,433	14,481	54	—	32	1,12,037
	b) Non-penaeid prawns	48	30	4,346	946	42	1,742	128	—	47,309	4,109	—	—	—	58,700
	c) Lobsters	—	—	10	90	4	18	110	18	225	204	—	—	—	679
	d) Other crustaceans	20	359	1,413	6,174	172	7,286	2,765	1,933	297	4,967	—	—	—	25,386
26.	Cephalopods	4	98	470	1,472	40	4,244	122	210	1,191	3,471	—	13	—	11,335
27.	Miscellaneous	788	1,055	3,913	15,230	591	7,803	4,567	879	5,475	23,027	94	206	2,212	65,840
TOTAL		6,097	39,375	1,16,013	2,17,394	9,390	2,79,543	1,15,322	24,490	2,31,763	2,03,494	1,803	2,909	2,244	12,49,837

*Partial coverage of larger trawlers

Table 3. Statewise break-up of the landings of pelagic and demersal group of fishes during 1980 (in tonnes)

Sl. No.	State	Pelagic	Demersal	Total
1.	West Bengal	3,139	2,958	6,097
2.	Orissa	16,502	22,873	39,375
3.	Andhra Pradesh	70,709	45,304	116,013
4.	Tamil Nadu	99,992	117,402	217,394
5.	Pondicherry	5,532	3,858	9,390
6.	Kerala	147,821	131,722	279,543
7.	Karnataka	87,290	28,032	115,322
8.	Goa	12,046	12,444	24,490
9.	Maharashtra	102,806	128,957	231,763
10.	Gujarat	81,911	121,583	203,494
11.	Andamans	1,211	592	1,803
12.	Lakshadweep	2,156	753	2,909
13.	Private trawlers	—	2,244	2,244
Total		631,115	618,722	12,49,837

The fall was mainly due to lower landings of *Hilsa ilisha*, sciaenids, prawns, pomfrets, seer fish and elasmobranchs, the decline in their landings being about 4,900, 2,500, 1,900, 1,000, 900 and 600t. respectively. An increase of about 1,100 and 900t. in the landings of other clupeids and cat fishes respectively was also noticed during 1980.

Andhra Pradesh

The estimates of total marine fish production in Andhra Pradesh showed an increase of about 24,600t. (27%) as compared to 1979. An increase in the landings of ribbon fish, lesser sardines, *Thrissoles* and mackerel to the tune of about 9,300, 7,800, 3,900 and 3,600t. respectively was mainly responsible for the higher landings. A decline in the catch of penaeid prawns, seer fish and elasmobranchs to the extent of 3,000, 2,600 and 2,200t. however, was noted.

Tamil Nadu

In Tamil Nadu, the total landings showed a decline of about 17,600t (7.5%). This decrease was due to reduced landings of ribbon fish, *Leiognathus*, lesser sardines and penaeid prawns, the decline being 13,200, 4,700, 3,300 and 1,100 respectively. The landings of mackerel, *Anchoviella* and sciaenids, however, showed an increase of about 3,700, 2,100 and 600t. respectively.

Pondicherry

The total catch in Pondicherry recorded a decrease of about 700t. (6.7%). Flying fish and perches showed a decline of about 850 and 340t. respectively in their catch. The landings of lesser sardines, however, showed an increase of about 740t.

Kerala

In Kerala, the total landings decreased by about 51,000t. (15.4%). The decline was mainly due to reduced landings of oil sardine, ribbon fish, *Caranx*, lesser sardines, tunnies, seer fish and perches, the decrease in their landings being 47,200, 12,800, 7,900, 4,900, 4,800, 2,500 and 2,400t. respectively. Penaeid prawns, cat fishes and non-penaeid prawns, however, showed an increase of about 23,100, 2,600 and 1,700t. respectively in their landings.

A scrutiny of the catch of oil sardine showed that there was a substantial fall in the Alleppey-Ponnani and Quilandy-Manjeswar coastal belts. The significant increase of about 23,100t. in the landings of penaeid prawns was mainly due to higher catches by mechanised fishing crafts in the Sakthikulangara area.

Karnataka

The total landings in Karnataka declined by about 11,100t. (8.8%) as compared to 1979. This was mainly due to decreased landings of mackerel, cat fishes and penaeid prawns, the decline in their landings being about 20,500, 4,600 and 1,600t. respectively. Oil sardine, *Anchoviella* and *Leiognathus*, however, showed an increase to the tune of about 9,600, 3,900 and 3,100t. respectively in their catch.

Goa

In Goa, the total catch showed a marginal decrease of about 900t. (3.5%). While the landings of mackerel and oil sardine showed a decline of about 1,900 and 700t. respectively, *Leiognathus* catch showed an increase of about 800t.

Maharashtra

The total estimates of marine fish production during 1980 were 231,763t. The broad indications are that the landings of penaeid prawns, non-penaeid prawns and *Harpodon nehereus* showed a decline of about 22,000; 9,000 and 2,000t. respectively.

Gujarat

An increase of about 12,200t. (6.4%) in the total landings was noticed in Gujarat over that of 1979. The landings of elasmobranchs, ribbon fish, penaeid prawns, eels, sciaenids and pomfrets showed an increase of about 9,600, 6,400, 5,900, 5,800, 3,400 and 3,300t. respectively. *Harpodon nehereus*, however, showed a decline of about 27,300t. in the catch.

Andamans

The total catch in Andamans during 1980 as well as the species composition did not show much variation as compared to 1979.

Lakshadweep

A decline of about 940t. in the total landings was noticed in Lakshadweep. This was mainly due to decreased landings of tunnies to the extent of about 1,030t.

Major group of fishes

From Table 2 it is seen that oil sardine accounted for 115,744t. forming about 9.3% of the total all India landings during 1980. The other major groups of species in the order of abundance are penaeid prawns (112,037t-9.0%), *Harpodon nehereus* (95,505t-7.6%), sciaenids (89,360t-7.2%), lesser sardines (67,053t-5.4%), ribbon fish (62,690t-5.0%), non-penaeid prawns (58,700t-4.7%), elasmobranchs (57,862t-4.7%), mackerel (55,279t-4.4%) and silver bellies (54,586t-4.4%).

1. Oil sardine

The landings of oil sardine declined by about 38,000t. during 1980 as compared to 1979, the respective figures being 115,744 and 153,971t. This was mainly due to reduced landings in the states of Kerala, Tamil Nadu and Goa. Fig. 2 shows the landings of oil sardine during the years 1971 to 1980.

2. Penaeid prawns

The catch of penaeid prawns during 1980 showed a marginal decline of about 1,600t. as compared to 1979, the corresponding figures for the two years being 112,037 and 113,665t. respectively. Except in Kerala and Gujarat, the landings of penaeid prawns declined in all the maritime States of India. In Kerala, the landings showed a significant increase of about

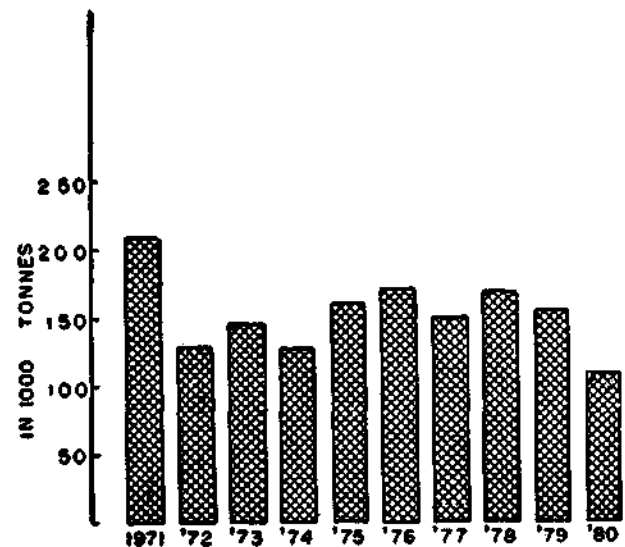


Fig. 2. Landings of oil sardine during 1971 to 1980.

23,000t. The catch trends of penaeid prawns for the years 1971 to 1980 are shown in Fig. 3.

3. *Harpodon nehereus*

The yield of *Harpodon nehereus* showed a decline of about 31,000t. during 1980 as compared to 1979. Both Maharashtra and Gujarat recorded lower landings. The catch trends of *Harpodon nehereus* for the years 1971 to 1980 are shown in Fig. 4.

4. Sciaenids

A decrease of about 3,700t. in the landings of sciaenids was noticed during 1980 as compared to

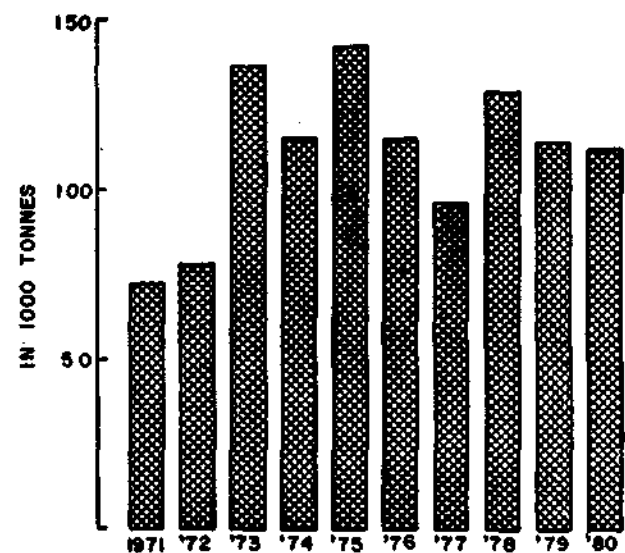


Fig. 3. Landings of penaeid prawns during 1971 to 1980.

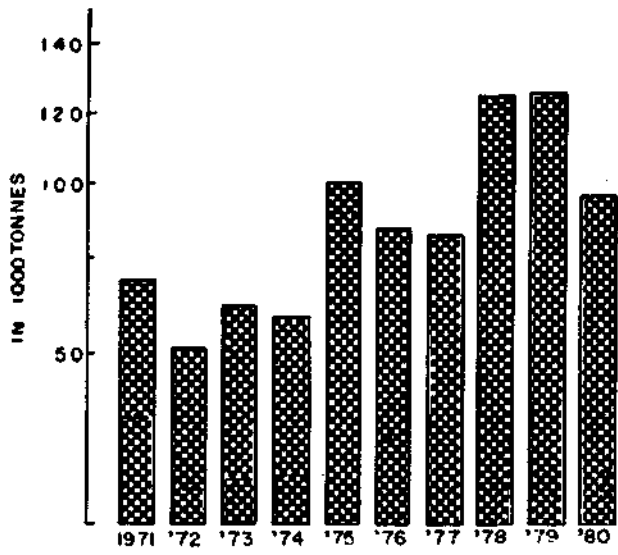


Fig. 4. Landings of *Harpodon nehereus* during 1971 to 1980.

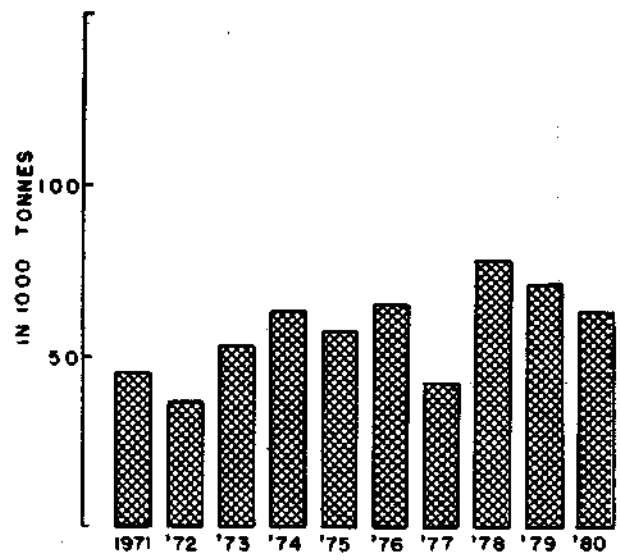


Fig. 7. Landings of ribbon fish during 1971 to 1980.

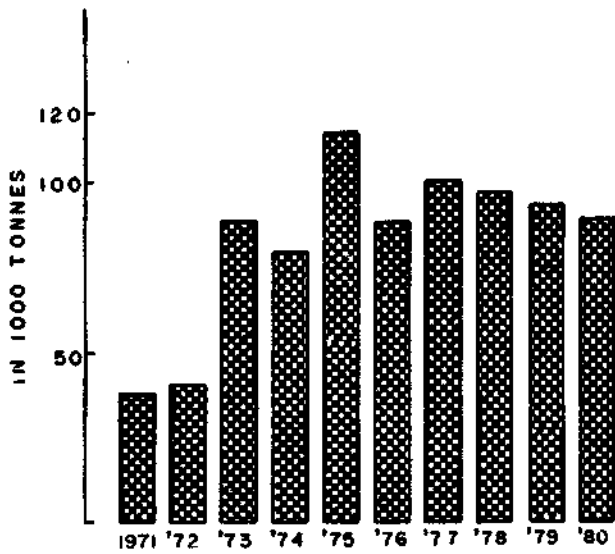


Fig. 5. Landings of sciaenids during 1971 to 1980.

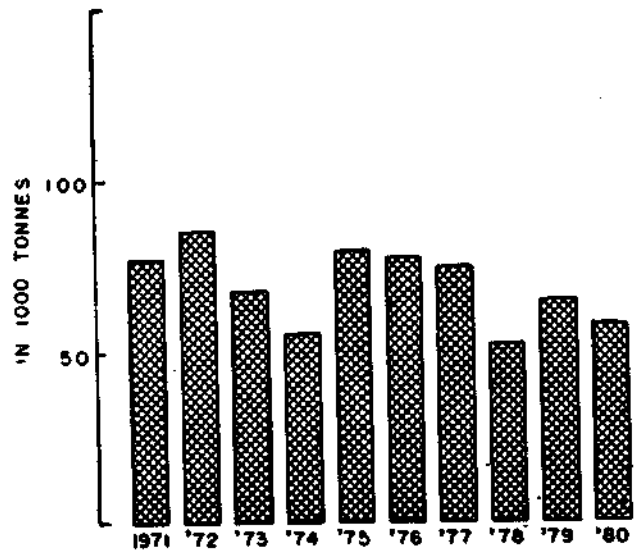


Fig. 8. Landings of non-penaeid prawns during 1971 to 1980.

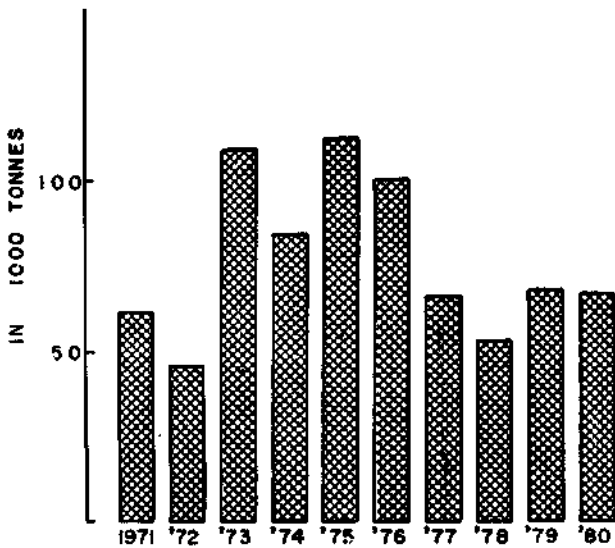


Fig. 6. Landings of lesser sardines during 1971 to 1980.

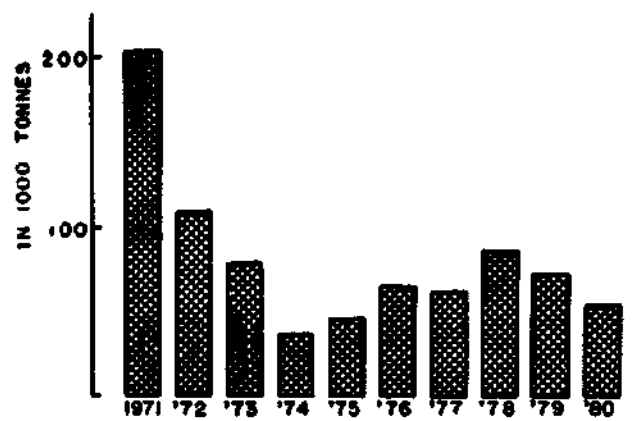


Fig. 9. Landings of mackerel during 1971 to 1980.

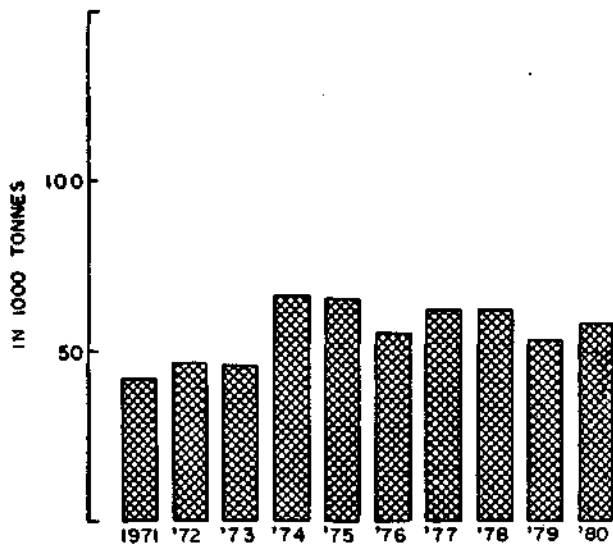


Fig. 10. Landings of elasmobranchs during 1971 to 1980.

1979. While Maharashtra, West Bengal and Orissa recorded comparatively lower catch of sciaenids, Andhra Pradesh, Tamil Nadu, Pondicherry, Kerala, Karnataka and Goa recorded higher landings. Fig. 5 shows the trends in the catch of sciaenids during the ten year period 1971 to 1980.

5. Lesser sardines

A marginal increase of about 1,300t. in the landings of lesser sardines was seen during 1980 as compared to 1979. While landings in Andhra Pradesh, Pondicherry and Maharashtra were higher, Tamil Nadu, Kerala and Karnataka recorded lower landings. The production trends in the catch of lesser sardines for the years 1971 to 1980 are shown in Fig. 6.

6. Ribbon fish

The catch of ribbon fish showed a decline of about 8,700t. during 1980 in comparison to 1979. This was mainly due to reduced landings in the states of Tamil Nadu and Kerala. Andhra Pradesh and Gujarat, however, recorded comparatively higher landings. Fig. 7 shows the landings of ribbon fish during the ten year period 1971 to 1980.

7. Non-penaeid prawns

A decline to the extent of about 5,200t. was noticed in the landings of non-penaeid prawns during 1980 in comparison to 1979. This was mainly due to decreased

landings in Maharashtra. Fig. 8 shows the trends in the yield of non-penaeid prawns for the years 1971 to 1980.

8. Mackerel

A decline to the extent of about 16,000t. in the catch of mackerel was noticed during 1980 as compared to 1979, the corresponding landings during the two years respectively being 55,279, and 71,514t. Lower landings in the States of Karnataka and Goa accounted for the decline in the catch of mackerel. Fig. 9 shows the landings of mackerel during the years 1971 to 1980.

9. Elasmobranchs

The landings of elasmobranchs, during 1980 increased by about 5,000t. While the catch increased in the states of Tamil Nadu, Gujarat, Karnataka and Pondicherry, reduced landings were seen in the States of Maharashtra, Andhra Pradesh, Orissa, Goa, Kerala and West Bengal. The catch trends of elasmobranchs for the years 1971 to 1980 are shown in Fig. 10.

10. Silver bellies

The landings of silver bellies showed a minor decline of about 900t. during 1980. While Tamil Nadu, Maharashtra and Orissa recorded reduced landings of silver bellies, Karnataka, Goa, Kerala and Andhra Pradesh accounted comparatively higher landings. The catch trends of silver bellies for the years 1971 to 1980 are shown in Fig. 11.

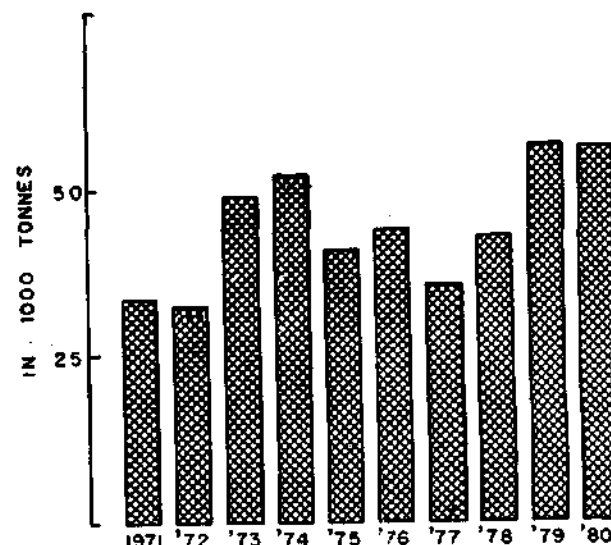


Fig. 11. Landings of silver bellies during 1971 to 1980.



INDUSTRIAL FISHERIES OFF MADRAS COAST BASED ON EXPLORATORY SURVEYS DURING 1973—1980*

In an earlier article, data on Industrial Fisheries off Visakhapatnam coast (*Mar. Fish. Infor. Serv. T & E Ser.*, No. 15, 1-15, 1980) were presented for areas lying between latitude zones 19°40'N (off Puri) and 15°40'N (off Nizampatnam) and in depths ranging from 10 to 90 m. At the Madras Research Centre of CMFRI, there existed data for areas (Fig. 1) south of 15°40'N upto the latitude zone of 10°40'N off Velanganni in depths ranging from 10 to 130 m for a eight year period from 1973 to 1980. The results of analysis of these data are presented here with a view to providing information on and extending our knowledge about the spatial and seasonal distribution of various industrially important fisheries as also their resource potential along the north Tamil Nadu-South Andhra Coast.

The authors are grateful to the Exploratory Fisheries Project (GOI), Madras for providing the Research Centre with log records of exploratory surveys carried out by their two 17.5 m trawlers M.V. *Meena Sitara* and M.V. *Meena Gaveshak* in the regions cited previously for further analysis and interpretation by the Scientists of the Madras Research Centre of CMFRI.

The following are some of the salient findings:

1. As compared with the Visakhapatnam coast, a 17.5 m vessel could yield an annual average catch of 62 tonnes of demersal fish along the Madras coast returning 657 kg/day, 216 kg/haul, 116 kg/hr and 0.58kg/hr/H.P., expending 95 days and 533.45 hrs and making 287 hauls per annum (Tables IA & B).

2. In the catches of both the vessels, silver bellies held the pride of place in most years (Tables IIA & B). Similarly the second place was invariably held by perches. While the order of importance of jew fishes, rays & skates and carangids was respectively 3, 4 and 5 in the catches of M.V. *Meena Sitara*, the corresponding ranks were held by rays & skates, carangids and jew fishes in the catches of M.V. *Meena Gaveshak*. The sixth and the seventh ranks were held by lizard fishes and thread-fin brems in the catches of M.V. *Meena Sitara*, while the order was reversed in the catches of M.V. *Meena Gaveshak*. As in the case of silver bellies and perches, the order of importance held by sharks, prawns and lobsters was always 8, 9 and 10 in the catches of both the vessels. In general, most groups witnessed two

peaks of abundance during the periods from January to June and from September to December.

3. A detailed analysis to identify the most productive areas with respect to each category of fish revealed a few interesting facts (Tables III A & B). For example, among 25 productive areas that could be identified, 14 areas were productive for only one category; 2 for two categories; 4 for three categories; and 1 for four categories. The corresponding areas and categories were as follows:

a) Areas 11-79/F3; 11-80/F4, 11-79/F5 & 13-80/B4; 12-80/B2 & 13-80/B6; 12-80/C2 & 13-80/C5; 12-80/B5, 14-80/B5 & 14-80/A6; 12-80/B6, 12-80/C6 & 13-80/C3; and 12-80/C6 respectively for silver bellies, prawns, perches, rays & skates, sharks, thread-fin brems and lizard fishes.

(b) Areas 13-80/C1 and 14-80/B1 respectively for lizard fishes and lobsters, and rays & skates and jew fishes.

(c) Areas 11-79/F6, 12-80/B3, 12-80/C3 and 13-80/C6 respectively for silver bellies, rays and skates and jew fishes; perches, carangids and lobsters; jew fishes, sharks and prawns; and perches, jew fishes and carangids.

(d) Area 14-80/B2 for silver bellies, jew fishes, carangids and prawns. Whereas 'others' (miscellaneous) category was productive in areas 11-79/F5, 12-80/C3, 15-80/B2 and 15-80/D3; 'all fish' was in 11-80/A5, 12-80/C3, 14-80/B3 and 15-80/D3.

Maximum effort was expended in latitude zone 13°10' and in area 13-80/C1 by both the trawlers.

4. The depth-wise analysis of catch rates (Tables IV A & B) revealed that maximum values for perches and jew fishes in the catches of both the vessels were obtained around 20-30 m depths. Thread-fin brems and lizard fishes were relatively more abundant in deeper areas of 50-60 m. The catch rates of prawns were high in 20-30 m depth range and of lobsters in

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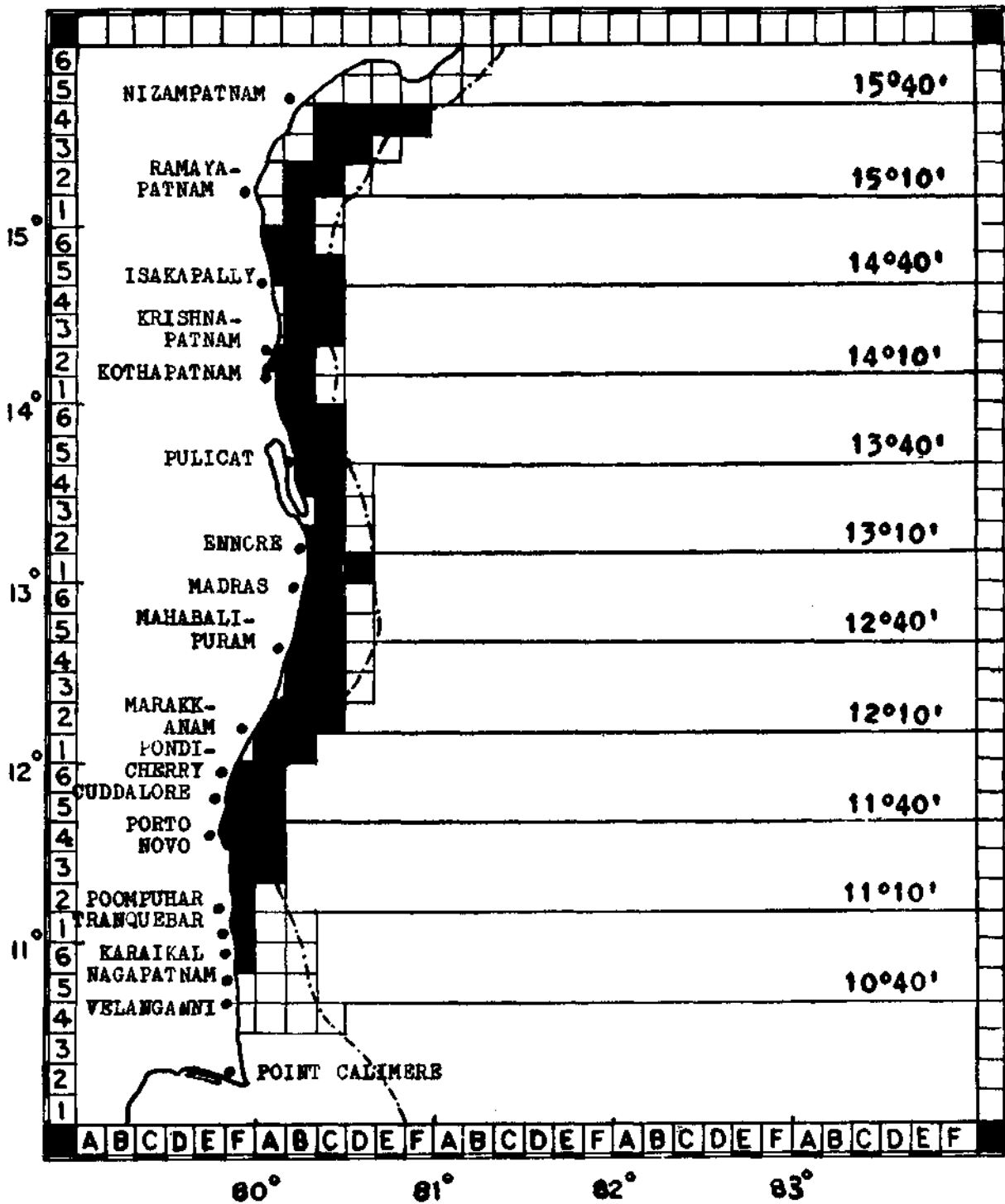


Fig. 1. Map of north Tamil Nadu-South Andhra coast. Areas surveyed are shaded.

30-40 m. The relative abundance of the remaining categories viz., silver bellies, rays & skates, carangids, sharks & others were distributed over a wide depth range. Furthermore, the shallower zones of 10-20-30 m

appeared favourable for "all fish."

The deepest zone explored was 120-130 m by M.V. *Meena Gaveshak* in 1974. This depth zone

exhibited the second maximum catch rate for "all fish", with silver bellies dominating the catch. It may, however, be commented here that the effort expended by both the vessels in depths beyond 60 m was very meagre. Through the years 1973-80, maximum effort by both the vessels was deployed in depth zone 20-30 m followed by 40-50 m zone.

5. In the entire region explored, a potential yield of 1.4 t./sq.km could be expected which is one and three-fourth times higher than that estimated for the Andhra-Orissa region (0.8 t./sq.km) (Table V). The lowest yield (0.7 t./sq.km) was observed off Madras/Ennore region (13°10'). With this zone as a reference point, it was noticed that the yields increased both in the southern and northern zones, the richest among them

being Ramayapatnam (2.2 t./sq.km) in the north (15°10') and Porto-novo/Cuddalore (1.3 t./sq.km) in the south (11°40'). Similar trends were apparent with respect to yields of most categories. The exceptions were the jew fishes, the lizard fishes and the thread-fin breams. While the jew fishes were more productive in the northern zones than in the southern; in the case of both the lizard fishes and the thread-fin breams, the northern as well as the southern zones were less productive. For prawns, the most productive zones were located off Ramayapatnam (15°10') in the north and off Porto-Novo/Cuddalore (11°40') in the south. Furthermore, these studies have helped to establish the fact that the north Tamil Nadu-south Andhra coast is far richer than that of the north Andhra-Orissa coast.

Table 1A. Details of exploratory trawling surveys carried out by the Government of India vessel M. V. Meena Sitara during the years from 1973 to 1980 (Base: Madras)

	1973	1974	1975	1976	1977	1978	1979	1980
1. No. of Days out of Port	153	192	129	164	112	85	115	112
2. No. of Days of fishing	134	160	108	139	83	72	113	108
3. No. of hauls	370	417	310	346	259	137	217	244
4. Effort (hrs)	646.60	781.51	606.50	654.74	518.55	248.89	435.81	477.99
5. Catch (kg)	84,289	98,494.5	86,262	95,801.25	72,782.25	22,057	25,745	26,540
6. Depth range (m)	16-60	16-65	14-58	08-56	15-75	10-56	15-58	15-54
7. Catch per day out of Port (kg)	550.9	513.0	668.7	584.2	694.8	259.5	223.9	237.4
8. Catch per day of fishing (kg)	629.0	615.6	798.7	689.2	876.9	306.4	227.8	246.2
9. Catch per haul (kg)	227.8	236.2	278.3	276.9	281.0	161.0	118.6	109.0
10. Catch per hour (kg)	130.4	126.0	142.2	146.3	140.4	88.6	59.2	55.5
11. Catch per hour/h. p. (kg)	0.65	0.63	0.71	0.73	0.70	0.44	0.30	0.28
12. No. of latitude zones/No. of areas explored	8/26	9/21	6/20	6/14	3/4	4/8	3/6	5/12
13. Extent of area explored (sq. km)	8,491.57	6,858.57	6,531.97	4,572.40	1,306.39	2,612.79	1,959.60	3,919.20
14. Important categories of fishes	A,D,C,G,F	A,B,C,E,G	B,A,E,C,G	A,B,D,C,E	A,C,E,B,H	A,G,C,E,B	A,F,E,D,C	A,D,C,B,F
15. No fishing in the month(s) of	—	—	4,10,11 & 12	6	8	8,9,10 & 11	5	—

Table 1B. Details of exploratory trawling surveys carried out by the Government of India vessel M. V. Meena Gaveshak during the years from 1973 to 1980 (Base: Madras)

	1973	1974	1975	1976	1977	1978	1979	1980
1. No. of days out of Port	111	171	171	114	123	91	119	119
2. No. of days of fishing	102	146	146	93	84	72	109	112
3. No. of hauls	305	392	414	243	213	208	214	307
4. Effort (Hrs)	422.23	704.01	751.24	441.10	386.96	406.48	419.02	631.58
5. Catch (kg)	70,916	81,104.5	1,11,800	54,254	51,166	38,082	23,463.5	50,657.5
6. Depth range (m)	14-100	12-125	13-50	20-60	12-56	14-60	16-60	14-56
7. Catch per day out of Port (kg)	638.9	474.3	653.8	475.9	416.0	418.52	197.1	425.7
8. Catch per day of fishing (kg)	695.3	555.5	765.8	583.4	609.1	528.9	215.3	452.3
9. Catch per haul (kg)	232.5	206.9	270.0	223.3	240.2	183.1	109.6	165.0
10. Catch per hour (kg)	168.0	115.2	148.8	123.0	132.2	93.7	55.8	80.2
11. Catch per hour/h.p. (kg)	0.84	0.58	0.74	0.56	0.66	0.47	0.28	0.40
12. No. of latitude zones/No. of Areas explored	7/27	9/25	6/24	5/14	8/19	5/16	3/5	5/14
13. Extent of area explored (sq km)	8,818.17	8,164.97	7,838.37	4,572.40	6,205.38	5,225.58	1,632.99	4,572.40
14. Important categories of fishes	A,C,F,G,D	A,B,E,C,F	A,B,E,C,G	A,E,C,B,F	A,C,E,B,D	A,C,E,G,F	A,E,F,D,C	A,D,C,F,B
15. No Fishing in the month(s) of	11	7	—	1,2,3 & 4	8 & 9	10,11 & 12	5	11 & 12

Table IIA: Total catches in kg (1); Catch rates in kg/hr (2); percentages (3) and months of abundance (4) of various categories of fishes as obtained from the exploratory surveys of M. V. Meena Sitara during the years from 1973 to 1980 (Base: Madras)

Categories	1973				1974				1975				1976			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
A. Silver bellies	11,326	17.5	13.4	2,6,7,12	24,615	31.5	25.0	2,3,6	18,815	31.0	21.8	1,2,7	25,034	38.2	26.1	2,9
B. Perches	—	—	—	—	2,850	3.7	2.9	1,5	19,452	32.1	22.5	2,7,9	16,283	24.9	17.0	2,9
C. Rays & Skates	4,871	7.5	5.8	1,2,3,5,8	2,455	3.1	2.5	2,7,11	3,195	5.3	3.7	1,3,7	6,016	9.2	6.3	1,7,9
D. Jew fishes	10,011	15.5	11.9	7,8,9	—	—	—	—	—	—	—	—	9,125	13.9	9.5	2,7
E. Carangids	—	—	—	—	2,033.5	2.6	2.1	2,4	3,592	5.9	4.2	2,9	2,868	4.4	3.0	2,8,9,11
F. Thread-fin breams	1,606	2.5	1.9	8	1,268	1.6	1.3	5,9,10	1,670	2.8	1.9	6,7,8	1,158	1.8	1.2	8,10
G. Lizard fish	2,562	4.0	3.0	6,7,8,9	2,012	2.6	2.0	6,7	3,051	5.0	3.5	6,7,8	269	0.4	0.3	5
H. Sharks	859	1.3	1.0	4	899	1.2	0.9	4	397	0.7	0.5	7,8	226	0.3	0.2	7
I. Prawns	109.5	0.2	0.1	3,9	73.5	0.1	0.1	1,10	70	0.1	0.1	2	74.25	0.1	0.1	3,9
J. Lobsters	—	—	—	—	20.5	0.03	0.02	12	43	0.1	0.04	6	31	0.04	0.03	8
K. Others	52,944.5	81.9	62.9	3,7,9	62,268	29.7	63.2	2,7,9	35,977	59.3	41.7	2,5,8	34,717	53.1	36.2	3,9
ALL FISH	84,289	130.4			98,494.5	126.0			86,262	142.2			95,801.25	146.3		

Categories	1977				1978				1979				1980			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
A. Silver bellies	57,834	111.5	79.5	1,5,9	5,611	22.5	25.4	1,2,4	8,715	20.0	33.9	1,4,6,12	13,460	28.2	50.7	2,7,8,11
B. Perches	503	1.0	0.8	6,7,10	241	1.0	1.1	4	49	0.1	0.2	9	1,358	2.8	5.1	2,8
C. Rays & Skates	3,592	6.9	4.9	1,4,6,10	976	3.9	4.4	1,2,5	906	2.1	3.5	2,9	1,781	3.7	6.7	3,5,8
D. Jew fishes	840	1.6	1.1	1,3	—	—	—	—	1,944	4.6	7.6	2,6	3,415	7.1	12.9	2,5
E. Carangids	1,491	2.9	2.0	1,6,10	405	1.6	1.8	1,3,5	3,033	7.0	11.9	7,8	593	1.2	2.2	2,8
F. Thread-fin breams	64	0.1	0.09	10	8	0.03	0.04	4	3,260	7.5	12.6	7,8,9,10	958	2.0	3.6	4,8
G. Lizard fish	5	0.01	0.01	1	1,278	5.1	5.8	5,6	591	1.4	2.3	11,12	641	1.3	2.4	1,4
H. Sharks	477.5	0.09	0.7	4,5	83	0.3	0.4	1,4,6	172	0.4	0.7	2,3	110	0.2	0.4	2,8
I. Prawns	94	0.3	0.1	1	—	—	—	—	9	1.02	0.03	9	—	—	—	—
J. Lobsters	21	0.04	0.03	1	—	—	—	—	—	—	—	—	—	—	—	—
K. Others	7,890.75	15.2	10.8	3,7,10	13,455	54.1	61.0	1,6,7	7,016	16.1	27.3	2,8	4,224	8.8	15.9	2,5,9
ALL FISH	72,782.25	140.4			22,057	88.6			25,745	59.2			26,540	55.5		

Table II.B. Total catches in kg (1); Catch rates in kg/hr (2); Percentages (3) and months of abundance (4) of various categories of fishes as obtained from the exploratory surveys of M. V. Meena Gaveshak during the years from 1973 to 1980 (Base:Madras)

Categories	1973				1974				1975				1976			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
A. Silver bellies	11,687	27.7	16.5	3,7,9,12	17,873	25.4	22.0	1,3,12	33,518	44.6	30.0	2,7,11	22,562	51.2	41.6	6,9
B. Perches	—	—	—	—	4,480	6.4	5.5	1,9	24,783	33.0	22.2	2,9	1,780	4.0	3.3	6,10
C. Rays & Skates	3,748	8.9	5.3	4,8	2,141	3.0	2.6	3,12	3,842	5.1	3.5	1,8	2,311	5.2	4.3	6,9
D. Jew fishes	2,309	5.5	3.3	3,7,9,10	—	—	—	—	—	—	—	—	1,166	2.6	2.1	7
E. Carangids	—	—	—	—	2,478	3.5	3.1	4,9,12	4,070	5.4	3.6	2,7,9	2,348	5.3	4.3	6,9
F. Thread-fin breams	2,562	6.1	3.6	6,7,9	1,325	1.9	1.6	1,8	1,347	1.8	1.2	1,3,11	1,602	3.6	3.0	6,12
G. Lizard fish	2,509	5.9	3.5	6,7	957	1.4	1.2	1,6,8	2,549	3.4	2.5	6,12	768	1.8	1.4	5
H. Sharks	513	1.2	0.7	2,7,9	451	0.6	0.6	4	365	0.5	0.3	6,10	1,310	3.0	2.4	7
I. Prawns	228	0.5	0.3	4,7	38	0.1	0.1	9	59	0.1	0.05	8,12	60	0.1	0.1	8
J. Lobsters	—	—	—	—	21.5	0.03	0.03	1,9,12	32	0.04	0.02	1,6	51.5	0.1	0.1	9
K. Others	47,360	112.2	66.8	1,7,9	51,340	72.9	63.3	1,9,12	41,235	54.9	36.9	4,7,12	20,295.5	46.1	37.4	6,10
ALL FISH	70,916	168.0			81,104.5	115.2			1,11,800	148.8			54,254	123.0		

Categories	1977				1978				1979				1980			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
A. Silver bellies	38,511	99.5	75.3	1,3	5,300	13.0	13.9	4,6	6,754	16.1	28.8	2,11,12	16,777	26.6	33.1	2,5,8
B. Perches	350	0.9	0.7	6	594	1.5	1.6	1,3,7	140	0.3	0.6	6	2,071	3.3	4.1	3,7
C. Rays & Skates	4,773.5	12.3	9.3	3,5	3,683	9.1	9.7	3,6	1,250	2.9	5.3	6,10	5,137	8.1	10.2	3,6
D. Jew fishes	346	0.9	0.7	1,3	—	—	—	—	1,711	4.1	7.3	6,7	10,890	17.2	21.5	2,6,8
E. Carangids	1,136	2.9	2.2	2,3	1,516	3.7	4.0	2,7	4,153	9.9	17.7	7,8	1,551	2.5	3.1	2,8
F. Thread-fin breams	7	0.02	0.01	1	613	1.5	1.6	7	1,974	4.7	8.4	7,9	2,339	3.7	4.6	1,8
G. Lizard fish	—	—	—	—	1,174	2.9	3.1	8	1,189	2.8	5.1	12	1,635	2.6	3.2	1,5,9
H. Sharks	40	0.1	0.1	6	171	0.4	0.5	6	104	0.2	0.4	10	242.5	0.4	0.5	1,9
I. Prawns	38.5	0.1	0.08	1	—	—	—	—	66	0.2	0.3	7	19	0.03	0.04	7
J. Lobsters	13	0.03	0.03	2	—	—	—	—	3	0.01	0.01	11	—	—	—	—
K. Others	5,951	15.4	11.6	2,5	25,031	61.6	65.7	2,6	6,119.5	14.6	26.1	8,12	9,996	15.8	19.7	2,8
ALL FISH	51,166	132.2			38,082	93.7			23,463.5	55.8			50,657.5	80.2		

5 Table III A. Areas of abundance in terms of annual catch-rate (kg/hr) in respect of major categories of fishes as obtained from the exploratory surveys of M.V. Meena Sitara during the years from 1973 to 1980 (Base: Madras)

Latitude/Areas	A. SILVER BELLIES									B. PERCHES										
	1973	1974	1975	1976	1977	1978	1979	1980	All years Area	Lat.	1973	1974	1975	1976	1977	1978	1978	1980	All years Area	Lat.
11°40'																				
11-79/F5	0.0	0.0		170.8					59.39		0.0	5.6		7.5					5.17	
11-79/F6	0.0			280.0					189.83	110.36	0.0			4.6					3.12	4.37
12°10'																				
12-80/A1	33.3								33.33		0.0								0.00	
12-80/A2	11.1		33.0						22.63		0.0		20.0						10.53	
12-80/B2	41.1		47.0						43.24		0.0		43.5						15.87	
12-80/B3	29.4	0.0	30.4						21.39		0.0	10.8	27.9						14.97	
12-80/C3	0.0								0.00	23.41	0.0								0.00	11.68
12°40'																				
12-80/B4	139.4	0.0	42.6	37.2		51.4			46.43		0.0	4.0	16.2	1.6		6.3			7.47	
12-80/C4	16.4								16.36		0.0								0.00	
12-80/B5			0.0			50.0			8.33				2.0		5.0				2.50	
12-80/C5	15.9							28.0	18.18		0.0							0.0	0.00	
12-80/B6	26.7								26.67		0.0								0.00	
12-80/C6	17.8	57.1		16.7		1.6	22.2	33.7	22.90	25.16	0.0	0.5		0.0		0.2	0.0	0.1	0.04	0.93
13°10'																				
13-80/B1	21.8		36.8				44.6		38.44		0.0		0.0			0.0			0.00	
13-80/C1	8.2	44.4	16.3	18.5	70.1	29.7	13.3	26.1	31.94		0.0	0.2	0.2	1.3	0.01	0.03	0.04	0.1	0.25	
13-80/B2	15.6								15.63		0.0								0.00	
13-80/C2	5.1	32.1	19.8	50.8				12.5	20.60		0.0	0.2	4.2	0.0			0.0	0.8	0.73	
13-80/C3		28.6		31.1				13.4	13.6	19.42	30.14		0.8				1.4	2.6	1.61	0.35
13°40'																				
13-80/C4	80.0	18.8	0.0	0.0			17.1	37.8	21.57		0.0	4.6	50.3	2.4			0.9	5.0	7.23	
13-80/B5	42.6		44.2	6.7		0.0			32.51		0.0		34.4	12.8		0.0			25.35	
13-80/C5		18.9	35.8	26.2		10.6		51.0	28.86			11.1	39.6	21.0		3.4		3.2	24.24	
13-80/B6			23.9	15.6					22.63				32.9	44.4					34.69	
13-80/C6		47.5	33.3	93.5					71.94	40.80		6.1	25.5	88.8					61.34	34.29
14°10'																				
14-80/A1								8.0	8.00										3.2	3.20
14-80/B1			15.5						55.6	32.37			15.5						9.5	12.95
14-80/B2	17.8	0.0	49.9	23.6	140.7	18.0			42.1	60.60	0.0	7.8	137.5	34.0	0.8	5.1		13.4	26.97	
14-80/B3	0.0	3.5	21.3		128.9	0.0			28.8	68.30	63.10	0.0	7.1	74.4		1.6	0.0	25.8	14.67	21.06
14°40'																				
14-80/B4	0.0	0.0	47.7	18.8	127.5			20.4	64.40		0.0	15.3	36.0	1.6	2.3			5.9	10.20	
14-80/C4	0.0								0.00		0.0								0.00	
14-80/A5		0.0							0.00			18.7							18.70	
14-80/B5		8.8	50.0						13.27			8.3	56.3						13.55	
14-80/A6		186.3							186.29			0.0							0.00	
14-80/B6	48.5	13.9	83.8						41.26	48.70	0.0	4.9	0.0						2.14	9.63
15°10'																				
15-80/B1	23.9								23.88		0.0								0.00	
15-80/B2	22.9								22.91		0.0								0.00	
15-80/C2	100.0								100.00		0.0								0.00	
15-80/D3		28.6							28.60	27.94		11.3							11.25	1.30
15°40'																				
15-80/D4		0.0							0.00			19.0							19.00	
15-80/E4		0.0							0.00			13.1							13.08	
15-80/F4		0.0							0.00	0.00		20.0							20.00	16.68
All Latds./Areas	17.5	31.5	31.0	38.2	111.5	22.5	20.0	28.2	37.85	37.85	0.0	3.7	32.1	24.9	1.0	1.0	0.1	2.8	9.32	9.32

Table III A. (Continued.)

Latitude/Areas	C. RAYS & SKATES								D. JEW FISHES											
	1973	1974	1975	1976	1977	1978	1979	1980	All years Area	Lat.	1973	1974	1975	1976	1977	1978	1979	1980	All years Area	Lat.
11°40'																				
11-79/F5	0.0	0.9		9.3					3.61		5.6	0.0		0.0					1.09	
11-79/F6	0.0			22.8					15.46	8.24	2.5			0.0					0.81	0.98
12°10'																				
12-80/A1	1.1								1.11		4.0								4.00	
12-80/A2	8.3		0.0						2.63		2.8		0.0						1.32	
12-80/B2	7.5		0.0						4.76		2.0		0.0						1.27	
12-80/B3	5.0	6.7	2.3						4.31		20.3	0.0	0.0						5.82	
12-80/C3	6.6								6.64	4.16	27.3								27.27	6.59
12°40'																				
12-80/B4	5.2	0.0	2.3	17.8		10.3			9.26		81.9	0.0	0.0	18.6		0.0			21.79	
12-80/C4	50.5								50.50		5.7								5.71	
12-80/B5			0.0			0.0			0.00				0.0			0.0			0.00	
12-80/C5	12.1							0.0	9.87		0.0							0.0	0.00	
12-80/B6	0.0					0.0			0.00		0.0							0.0	0.00	
12-80/C6	6.6	1.9		0.7			0.8	1.2	3.00	4.71	3.8	0.0		0.5		0.0	4.7	0.0	2.55	4.71
13°10'																				
13-80/B1	10.2		0.0				0.8		3.17		3.7		0.0				0.0		0.95	
13-80/C1	7.4	2.8	4.0	2.7	2.0	3.3	1.5	1.9	3.00		34.5	0.0		1.0	0.0	0.0	4.7	0.0	3.43	
13-80/B2	3.0								3.02		1.7								1.72	
13-80/C2	5.9	4.1	0.7	0.0			0.5	0.4	1.84		0.0	0.0	0.0	8.3			15.7	0.8	2.86	
13-80/C3		1.0		10.0			13.7	5.4	7.05	3.03		0.0		0.6			0.0	7.2	2.87	3.21
13°40'																				
13-80/C4	0.0	6.3	0.0	41.3			11.6	9.5	13.45		10.5	0.0	0.0	0.0			0.0	25.0	7.74	
13-80/B5	7.1		4.9	9.1		12.5			6.44		28.4		0.0	3.0		0.0			2.50	
13-80/C5		23.4	0.03	21.5		13.5		2.8	14.22			0.0	0.0	9.8		0.0		25.5	5.90	
13-80/B6			3.4	5.0					3.67				0.0	16.9					2.61	
13-80/C6		1.7	6.4	7.6					6.46	9.26		0.0	0.0	44.7					27.21	11.34
14°10'																				
14-80/A1								40.0	40.00										8.0	8.00
14-80/B2			36.4						14.6	27.21				0.0					56.4	23.74
14-80/B2	2.9	0.0	4.5	9.6	5.8	7.2			11.9	6.84	2.1	0.0	0.0	21.2	2.6	0.0		33.0	10.14	
14-80/B3	5.7	2.4	10.1		10.7	0.0			13.7	8.80	8.36	7.5	0.0	0.0		0.0		43.7	5.54	8.45
14°40'																				
14-80/B4	5.3	5.0	7.9	4.3	12.6			15.0	9.20		1.5	0.0	0.0	0.0	1.6			17.5	1.96	
14-80/C4	0.0								0.00		0.3								0.33	
14-80/A5		0.0							0.00			0.0							0.00	
14-80/B5		3.8	25.0						6.12			0.0	0.0						0.00	
14-80/A6		0.0							0.00			0.0	0.0						0.00	
14-80/B6	22.4	5.6	0.0						10.02	7.95	36.0	0.0	0.0						12.16	2.87
15°10'																				
15-80/B1	5.4								5.37		26.8								26.83	
15-80/B2	6.3								6.25		44.5								44.46	
15-80/C2	0.0								0.00		28.6								28.57	
15-80/D3		0.0							0.00	4.78		0.0							0.00	29.94
15°40'																				
15-80/D4		4.0							4.00			0.0							0.00	
15-80/E4		0.0							0.00			0.0							0.00	
15-80/F4		7.2							7.17	2.96		0.0							0.00	0.00
All Latds./Areas	7.5	3.1	5.3	9.2	6.9	3.9	2.1	3.7	5.44	5.44	15.5	0.0	0.0	13.9	1.6	0.0	4.6	7.1	5.80	5.80

Table III A. (Continued)

Latitude/Areas	E. CARANGIDS									F. THREAD-FIN BREAMS										
	1973	1974	1975	1976	1977	1978	1979	1980	All years Area	Lat.	1973	1974	1975	1976	1977	1978	1979	1980	All years Area	Lat.
11°40'																				
11-79/F5	0.0	2.9		3.1					2.39		0.0	0.0		0.0					0.00	
11-79/F6	0.0			1.9					1.29	1.96	0.0			0.0					0.00	0.00
12°10'																				
12-80/A1	0.0								0.00		0.0								0.00	
12-80/A2	0.0								1.58		0.0			2.3					1.21	
12-80/B2	0.0								3.81		0.0			2.6					0.95	
12-80/B3	0.0	5.4	9.6						5.63		0.0	0.0	7.4						3.16	
12-80/C3	0.0								0.00	3.53									0.00	1.85
12°40'																				
12-80/B4	0.0	3.4	11.8	0.2		2.6			4.91		1.5	0.0	9.4	0.0		0.0			3.77	
12-80/C4	0.0								0.00		2.5								0.86	
12-80/B5			6.6			3.0			6.00				22.0			0.0			18.33	
12-80/C5	0.0							0.0	0.00		1.3						0.0		1.05	
12-80/B6	0.0								0.00		2.2								2.22	
12-80/C6	0.0	0.0		2.9		0.6	1.4	0.04	0.53	1.10	1.9	0.6		7.4		0.2	3.7	0.1	2.05	2.48
13°10'																				
13-80/B1	0.0		0.0			0.6			0.41		5.8		0.0				2.6		3.26	
13-80/C1	0.0	0.9	4.0	1.9	1.0	0.5	16.0	0.3	2.99		5.7	1.4	4.4	4.1	0.1	0.0	10.5	1.4	3.16	
13-80/B2	0.0								0.00		3.3								3.26	
13-80/C2	0.0	0.9	2.8	0.0				0.1	0.9	0.80	2.5	0.7	1.0	0.0			1.3	4.5	2.51	
13-80/C3		1.5		0.5				0.7	1.2	1.03	2.51	0.4	1.8				21.0	3.3	6.75	3.23
13°40'																				
13-80/C4	0.0	1.3	5.0	7.0				0.7	2.5	2.61	8.0	1.0	0.0	0.0			8.5	2.2	6.64	
13-80/B5	0.0		4.8	4.7		9.3			4.62		3.8		0.5	0.6		0.0			0.70	
13-80/C5		5.3	5.9	8.2		7.6			6.87			0.2	0.4	0.4		0.0			0.31	
13-80/B6			6.4	7.5					6.55				0.0	0.0					0.00	
13-80/C6		7.1	4.9	9.5					8.02	6.21		0.0	0.9	0.0					0.22	1.08
14°10'																				
14-80/A1								2.4	2.40										0.0	0.00
14-80/B1								7.9	8.10										5.0	2.10
14-80/B2	0.0	3.7	11.1	4.0	3.3	4.6		7.7	4.54		2.2	16.6	0.02	1.3	0.1	0.0			4.4	2.19
14-80/B3	0.0	2.4	6.4		3.8	4.4		4.1	3.53	4.18	1.0	1.2	0.9		0.2	0.0			1.9	0.67
14°40'																				
14-80/B4	0.0	3.0	5.1	0.0	4.6			4.1	3.46		2.1	3.5	0.0	0.0	0.2				4.2	0.89
14-80/C4	0.0								0.00		2.8									2.83
14-80/A5		13.2							13.20			0.0								0.00
14-80/B5		9.0	16.3						9.82			0.0								0.00
14-80/A6		8.6							8.57			0.0								0.00
14-80/B6	0.0	2.2	0.0						0.96	4.90	3.8	0.0	19.0						5.56	1.36
15°10'																				
15-80/B1	0.0								0.00		0.5									0.54
15-80/B2	0.0								0.00		0.0									0.00
15-80/C2	0.0								0.00		0.0									0.00
15-80/D3		13.6							13.63	1.58		0.0								0.00
15°40'																				
15-80/D4		3.8							3.80			0.0								0.00
15-80/E4		2.1							2.08			0.0								0.00
15-80/F4		0.0							0.00	2.25		0.0								0.00
All Latds./Areas	0.0	2.6	5.9	4.4	2.9	1.6	7.0	1.2	3.21	3.21	2.5	1.6	2.8	1.8	0.1	0.03	7.5	2.0	2.29	2.29

Table III A. (Continued)

Latitude/Areas	G. LIZARD FISHES										H. SHARKS									
	1973	1974	1975	1976	1977	1978	1979	1980	All years Area	Lat.	1973	1974	1975	1976	1977	1978	1979	1980	All years Area	Lat.
11°40'	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
12°10'	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
12°40'	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.11	1.47
	0.6	0.0	10.6	0.0	0.0	0.0	0.0	0.0	3.96	0.00	7.9	0.0	1.8	1.8	0.0	0.0	0.0	0.0	2.01	
	2.1	0.0	18.8	0.0	0.0	0.0	0.0	0.0	2.14	0.00	0.8	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.79	
	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.67	0.00	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.83	
	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.54	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.30	
	5.6	0.0	0.0	0.0	0.0	5.6	2.0	1.3	1.11	0.00	0.7	1.0	0.3	0.3	1.1	1.1	0.1	0.1	0.00	0.69
13°10'	0.7	0.0	0.0	0.0	0.03	5.8	0.1	0.1	3.20	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.41	
	10.2	5.1	15.5	0.7	0.0	0.0	1.8	1.2	0.27	0.00	0.0	0.5	0.0	0.2	1.2	0.3	0.0	0.3	0.00	
	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.74	0.00	0.7	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.49	
	3.1	0.3	8.4	0.0	0.0	0.0	0.0	1.5	2.74	0.00	0.0	0.0	0.0	3.3	0.0	1.8	0.3	0.3	0.00	
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	1.70	0.00	0.2	0.2	0.0	0.0	0.0	0.6	0.6	0.3	0.48	0.46
13°40'	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.81	4.01	0.0	0.9	3.3	0.0	0.0	0.0	0.6	0.6	0.77	
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.45	0.00	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.25	
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.5	0.00	0.00	0.0	1.8	0.8	0.6	0.0	0.0	0.0	0.0	0.70	
	0.0	0.0	0.0	0.0	0.0	4.6	0.0	0.0	1.01	0.00	0.0	0.0	0.5	1.0	0.0	0.0	0.0	0.0	0.54	
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.34	2.3	2.3	0.7	0.03	0.0	0.0	0.0	0.0	0.52	0.55
14°10'	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	
	0.0	0.0	0.0	0.0	0.0	5.2	0.0	0.0	0.34	0.00	4.6	0.6	0.02	0.04	0.04	0.0	0.5	0.5	0.31	0.97
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.18	5.4	1.9	0.2	0.0	1.6	0.0	0.2	0.2	1.83	
14°40'	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.79	0.00	5.0	4.0	1.7	0.9	0.0	0.4	0.4	0.4	1.04	
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	6.7	11.1	0.0	0.0	0.0	0.0	0.0	0.0	6.67	
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	3.6	1.3	0.0	0.0	0.0	0.0	0.0	11.10	
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0	3.32	
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.71	1.94
15°10'	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.06	
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	
15°40'	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	3.50	1.93
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	
All Latds./Areas	4.0	2.6	5.0	0.4	0.01	5.1	1.4	1.3	2.38	2.38	1.3	1.2	0.7	0.3	0.9	0.3	0.4	0.2	0.74	0.74

Table III A. (Continued)

Latitude/Areas	I. PRAWNS									J. LOBSTERS										
	1973	1974	1975	1976	1977	1978	1979	1980	All years Area	Lat.	1973	1974	1975	1976	1977	1978	1979	1980	All years Area	Lat.
11°40'																				
11-79/F5	0.0	0.0		0.0					0.00		0.0	0.0		0.0					0.00	
11-79/F6	0.0			0.0					0.00	0.00	0.0	0.0		0.0					0.00	0.00
12°10'																				
12-80/A1	0.0								0.00		0.0								0.00	
12-80/A2	0.0		0.0						0.00		0.0		0.0						0.00	
12-80/B2	0.0		0.0						0.00		0.0		0.0						0.00	
12-80/B3	0.0	0.0	0.0						0.00		0.0	0.0	0.0						0.00	
12-80/C3	3.1								3.09	0.37	0.0								0.00	0.00
12°40'																				
12-80/B4	0.3	0.2	0.03	0.0		0.0			0.05		0.0	0.0	0.0	0.0		0.0			0.00	
12-80/C4	0.0								0.00		0.0								0.00	
12-80/B5			0.0			0.0			0.00		0.0	0.0			0.0				0.00	
12-80/C5	0.0						0.0		0.00		0.0						0.0		0.00	
12-80/B6	0.0								0.00		0.0								0.00	
12-80/C6	0.03	0.3		0.1		0.0	0.0	0.0	0.03	0.03	0.0	0.0		0.1		0.0	0.0	0.0	0.01	0.004
13°10'																				
13-80/B1	0.0		0.0				0.0		0.00		0.0		0.0				0.0		0.00	
13-80/C1	0.1	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.01		0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.04	
13-80/B2	0.04								0.05		0.0								0.00	
13-80/C2	0.0	0.06	0.4	0.0			0.0	0.0	0.05		0.0	0.02	0.0	0.0			0.0	0.0	0.01	
13-80/C3		0.1		0.0			0.2	0.0	0.07	0.02		0.0	0.0	0.0			0.0	0.0	0.00	0.03
13°40'																				
13-80/C4	0.0	0.0	0.0	0.0			0.3	0.0	0.09		0.0	0.0	0.0	0.0			0.0	0.0	0.00	
13-80/B5	0.0		0.02	0.1		0.0			0.03		0.0		0.0	0.0		0.0			0.00	
13-80/C5		0.0	0.05	0.1		0.0		0.0	0.07			0.0	0.0	0.1			0.0	0.0	0.04	
13-80/B6			0.0	0.0					0.00					0.0					0.00	
13-80/C6		0.0	0.4	0.2					0.23	0.10		0.0	0.0	0.04					0.02	0.02
14°10'																				
14-80/A1								0.0	0.00									0.0	0.00	
14-80/B1			0.0					0.0	0.00				0.0					0.0	0.00	
14-80/B2	0.3	0.2	0.7	0.3	0.3	0.0		0.0	0.30		0.0	0.0	0.02	0.01	0.03	0.0	0.0	0.0	0.02	
14-80/B3	0.0	0.3	0.2		0.3	0.0		0.0	0.20	0.25	0.0	0.0	0.02		0.1	0.0	0.0	0.0	0.04	0.03
14°40'																				
14-80/B4	0.0	0.2	0.08	0.0	0.2			0.0	0.11		0.0	0.0	0.0	0.0	0.1			0.0	0.02	
14-80/C4	0.0								0.00		0.0								0.00	
14-80/A5		0.0							0.00			0.0							0.00	
14-80/B5		0.2	0.0						0.17			0.0	0.0						0.00	
14-80/A6		0.0							0.00			0.0							0.00	
14-80/B6	1.0	0.1	0.1						0.40	0.16	0.0	0.0	0.9						0.19	0.04
15°10'																				
15-80/B1	0.6								0.60		0.0								0.00	
15-80/B2	0.5								0.46		0.0								0.00	
15-80/C2	0.0								0.00		0.0								0.00	
15-80/D3		1.3							1.25	0.60		0.0							0.00	0.00
15°40'																				
15-80/D4		0.4							0.40			0.0							0.00	
15-80/E4		0.3							0.33			0.0							0.00	
15-80/F4		0.0							0.00	0.29		0.0							0.00	0.00
All Latds./Areas	0.2	0.1	0.1	0.1	0.3	0.0	0.02	0.0	0.10	0.10	0.0	0.03	0.1	0.04	0.04	0.0	0.0	0.0	0.02	0.02

Table III. A. (Continued)

Latitude/Areas	K. OTHERS								L. ALL FISH												
	1973	1974	1975	1976	1977	1978	1979	1980	All years Area	Lat.	1973	1974	1975	1976	1977	1978	1979	1980	All years Area	Lat.	
11°40'																					
11-79/F5	44.4	22.2		67.8					42.39		50.0	31.5		258.5					114.04		
11-79/F6	34.1			77.4					63.46	50.62	36.6			386.7					273.97	176.53	
12°10'																					
12-80/A1	4.9								4.89		44.4								44.44		
12-80/A2	15.0		58.6						37.95		35.0		116.9						78.11		
12-80/B2	13.9		52.2						27.88		64.5		155.7						97.78		
12-80/B3	264.6	303.0	40.1						180.19		319.7	326.0	131.8						241.58		
12-80/C3	281.2								281.18	128.24	321.8								321.82	183.15	
12°40'																					
12-80/B4	100.6	367.8	50.2	6.2		93.9			60.69		437.4	375.4	145.5	83.4		164.4			160.34		
12-80/C4	87.7								87.71		164.1								164.07		
12-80/B5			24.3			69.5			31.82				80.7		127.5				88.50		
12-80/C5	0.1						1.2		0.30		32.9						29.2		32.24		
12-80/B6	20.4								20.44		50.4								50.44		
12-80/C6	60.4	13.9		36.9		45.6	15.4	2.9	31.94	35.66	96.8	75.1		65.6		54.8	50.3	39.4	66.66	78.93	
13°10'																					
13-80/B1	20.8		36.8				4.7		10.47		63.0		73.5				53.4		56.97		
13-80/C1	44.0	16.3	19.1	23.6	3.5	30.7	19.2	2.9	18.81		110.8	71.7	63.8	54.1	77.9	70.2	67.4	34.1	68.86		
13-80/B2	24.5								24.46		50.6								50.58		
13-80/C2	0.5	16.1	16.3	16.2			14.3	5.6	10.18		17.2	54.5	53.9	78.6			46.2	33.1	41.76		
13-80/C3		25.7		6.8			22.7	10.0	16.35	17.39		58.3		51.4			73.7	45.6	56.24	64.38	
13°40'																					
13-80/C4	127.2	71.0	65.8	106.0			20.1	16.3	46.62		225.2	103.8	124.5	156.7			69.8	100.5	107.17		
13-80/B5	123.8		48.2	21.6		78.8			46.60		205.6		137.3	58.9		100.5			119.00		
13-80/C5		192.5	52.7	57.2		123.6		10.7	67.76			253.2	138.9	145.3		163.3		106.3	149.98		
13-80/B6			57.4	38.6					54.49				124.5	129.0					125.18		
13-80/C6		459.6	80.9	93.9					141.72	81.25		524.3	153.1	338.2					317.68	185.24	
14°10'																					
14-80/A1								2.4	2.40									64.0	64.00		
14-80/B1			30.7					37.0	33.37				106.3						186.0	139.84	
14-80/B2	96.6	92.9	208.6	85.6	22.6	102.0		33.5	77.20		126.6	121.8	412.4	179.6	176.2	142.1			146.5	189.45	
14-80/B3	181.2	109.0	148.3		21.3	226.3		39.3	79.74	76.92	200.8	127.8	261.9		171.0	230.7			157.5	183.36	185.01
14°40'																					
14-80/B4	95.2	90.4	43.3	20.8	18.5			24.9	37.47		109.0	121.4	140.4	51.4	167.6			92.4	129.54		
14-80/C4	72.2								72.17		82.0								82.00		
14-80/A5		30.1							30.10			73.1							73.10		
14-80/B5		213.0	18.8						191.71			246.6	167.5						237.96		
14-80/A6		75.7							75.72			276.3							276.29		
14-80/B6	148.5	215.3	10.3						146.76	90.22	260.2	242.0	114.1						219.43	168.21	
15°10'																					
15-80/B1	166.4								166.36		225.6								225.64		
15-80/B2	168.5								168.46		244.0								244.04		
15-80/C2	228.6								228.57		357.1								357.14		
15-80/D3		384.1							384.13	195.50		442.3							442.25	263.83	
15°40'																					
15-80/D4		91.7							91.70			118.9							118.90		
15-80/E4		140.4							140.43			155.9							155.92		
15-80/F4		219.2							219.18	139.89		246.3							246.33	162.07	
All Latds./Areas	81.9	29.7	59.3	53.1	15.2	54.1	16.1	8.8	49.99	49.99	130.4	126.0	142.2	146.3	140.4	88.6	59.2	55.5	117.14	117.14	

Table III A. (Continued)

Latitude/ Area	M. EFFORT										All years Area	Lat.	
	1973	1974	1975	1976	1977	1978	1979	1980					
11°40'	4.50	10.50		8.00								23.00	
	4.75			10.00								14.75	37.75
12°10'	4.50											4.50	
	9.00		10.00									19.00	
	10.00		5.75									15.75	
	12.00	12.00	17.75									41.75	
	11.00											11.00	92.00
12°40'	6.50	5.00	30.00	32.00								81.50	
	14.00											14.00	
	10.87		10.00									12.00	
	4.50										2.50	13.37	
	215.00	20.00		30.17							142.25	4.50	
												586.25	711.62
13°10'	19.00	389.45	4.00	169.65	175.05	150.23						75.08	
	114.00		143.00									1435.60	
	21.50		19.00	6.00								21.50	
	20.30	53.40		10.00								219.87	
		17.16										73.74	1825.79
13°40'	2.50	8.00	6.00	10.25								66.25	
	7.05		75.00	31.75								117.80	
		11.00	53.50	77.50								162.33	
			43.75	8.00								51.75	
		23.00	41.50	100.17								164.67	562.80
14°10'												2.50	
												8.00	
												19.00	
												382.33	
												321.75	725.58
14°40'	16.83	31.50	11.00	133.50	117.50	25.00						175.25	
	44.00	42.00	47.75		156.00	7.75						6.00	
												10.00	
												73.00	
												7.00	
												46.80	318.05
15°10'	12.00	20.00	33.50	27.75	70.00							33.50	
	6.00											24.00	
												3.50	
												8.00	69.00
15°40'	33.50											10.00	
	24.00											12.00	
	3.50											6.00	28.00
All Latds./Areas	646.60	781.51	606.50	654.74	518.55	248.89	435.81	477.99	4370.59	4370.59			4370.59

Table III B. Areas of abundance in terms of annual catch-rate (kg/hr) in respect of major categories of fishes as obtained from the exploratory surveys of M. V. Meena Gaveshak during the years from 1973 to 1980 (Base: Madras)

Latitude/Areas	A. SILVER BELLIES								B. PERCHES												
	1973	1974	1975	1976	1977	1978	1979	1980	All years Area	Lat.	1973	1974	1975	1976	1977	1978	1979	1980	All years Area	Lat.	
10°40'																					
10-79/F6					9.0				8.98	8.98					0.0				0.00	0.00	
11°10'																					
11-79/F1						10.9			10.93						0.0				0.00	0.00	
11-79/F2				42.8	11.1				34.04					3.3	0.0				2.42	2.42	
11-79/F3				63.8					63.81					6.6					6.63	6.63	
11-80/A3		0.0							0.00	38.11		0.0							0.00	3.32	
11°40'																					
11-79/F4		8.0		0.0					4.56			34.4		2.0					20.35	20.35	
11-80/A4		0.0							0.00			0.0							0.00	0.00	
11-79/F5	12.1	0.0		0.0					9.14		0.0	49.5		0.0					10.70	10.70	
11-80/A5		0.0							0.00			105.0							105.03	105.03	
11-79/F6	25.2	0.0		0.0	5.0				13.11		0.0	28.3		0.0	16.0				10.85	10.85	
11-80/A6	0.0	0.0							0.00	7.68	0.0	0.0							0.00	16.81	
12°10'																					
12-80/A1	0.0		50.8		27.7	0.0			22.90		0.0	15.3		4.7	0.0				6.61	6.61	
12-80/B1			1.5			0.0			0.86			15.0			5.3				10.85	10.85	
12-80/A2	0.0		3.4	0.0	12.7				4.53		0.0	24.8	0.0	14.5					19.72	19.72	
12-80/B2	0.0		10.2		18.0	0.0			5.14		0.0	51.2		13.5	1.9				19.85	19.85	
12-80/C2	0.0		110.3			0.0			16.14		0.0	3.8			5.1				2.38	2.38	
12-80/B3	148.2		16.6	52.4	30.0				55.25		0.0	99.5	5.7	2.5					36.44	36.44	
12-80/C3	108.0								108.00	21.89	0.0								0.00	18.37	
12°40'																					
12-80/B4	272.0			32.8	120.0	16.7			38.11		0.0		9.0	0.0	0.0				7.34	7.34	
12-80/C4	37.6		32.0	165.9		0.0			97.50		0.0	8.0	0.8		0.0				0.67	0.67	
12-80/B5	3.3			13.4					12.16		0.0		7.3						6.46	6.46	
12-80/C5	12.5		13.9	11.1				20.5	12.84		0.0	13.3	2.6						4.59	4.59	
12-80/B6	9.0		13.0	0.0					7.95		0.0	0.9	1.6						0.97	0.97	
12-80/C6	28.6	53.7	50.4	20.8	0.0	10.3	29.5	21.0	31.88	32.91	0.0	0.08	5.3	1.0	0.0	0.1	0.01	0.1	0.79	1.57	
13°10'																					
13-80/B1	16.1		9.3						10.94		0.0		0.0						0.00	0.00	
13-80/C1	9.5	35.4	40.9	90.2	38.0	26.6	13.1	19.5	33.82		0.0	0.04	0.8	5.4	0.1	0.02	0.1	0.8	0.84	0.84	
13-80/D1	0.0								0.00		0.0								0.00	0.00	
13-80/B2	17.5		37.6			0.0			29.15		0.0		28.7			0.0			19.60	19.60	
13-80/C2	1.2	38.7	113.1		33.1		18.4	29.0	37.99		0.0	0.0	3.3		1.0		0.9	1.4	1.36	1.36	
13-80/C3		28.21	139.2		36.4		12.9	30.2	35.75	33.69		0.0	63.2		0.0		1.5	5.8	8.46	2.14	
13°40'																					
13-80/B4					13.3	2.2	10.1	30.0	6.90						0.0	1.7	2.0	1.0	1.76	1.76	
13-80/C4						8.7		24.0	16.10							4.2		4.8	4.50	4.50	
13-80/B5			41.0			15.0	4.7		28.41				62.7		0.0	1.1			40.46	40.46	
13-80/C5			45.7		139.3	11.3			44.08				63.2		0.0	1.4			49.46	49.46	
13-80/B6	100.0		43.4						44.97		0.0		57.8						56.22	56.22	
13-80/C6		31.0	62.6						52.57	31.84	0.0	0.0	50.5			0.0			39.70	28.20	

Table III B. (Continued)

14°10'	14-80/A1							23.4	23.41										9.0	9.04	
	14-80/B1	29.8	9.2	36.8		93.3		50.0	49.37		0.0	4.5	31.4		1.2			6.3	10.28		
	14-80/A2	50.4							50.43		0.0								0.00		
	14-80/B2	51.5	2.5	39.5		196.4	28.1	42.0	77.04		0.0	7.6	79.2		0.4	1.7		10.1	13.49		
	14-80/B3	0.0	14.6	60.2		186.7	0.0	43.7	63.07		0.0	10.5	36.5		0.7	0.0		7.4	8.68		
	14-80/C3							0.0	0.00	65.51								3.3	3.25	11.25	
14°40'	14-80/B4		0.0	92.6					26.47			1.9	11.1						4.48		
	14-80/C4							0.0	0.00									3.8	3.75		
	14-80/A5	14.1							14.07			3.4							3.44		
	14-80/B5	0.0	112.0						30.48			3.8	46.2						15.30		
	14-80/C5							0.0	0.00									4.0	4.00		
	14-80/A6		0.0						0.00			7.2							7.22		
	14-80/B6		46.7						46.66	23.24		5.2							5.22	7.35	
15°10'	15-80/B1	68.6							68.56		0.0								0.00		
	15-80/B2	14.5							14.48		0.0								0.00		
	15-80/C3		3.7						3.70	47.96		0.0							0.00	0.00	
15°40'	15-80/C4		10.0						10.00			5.0							5.00		
	15-80/D4		10.0						9.95			4.3							4.29		
	15-80/E4		16.4						16.44			18.8							18.79		
	15-80/F4		0.0						0.00	10.77		21.8							21.82	13.56	
All Latds./Areas		27.7	25.4	44.6	51.2	99.5	13.0	16.1	26.6	36.75	36.75	0.0	6.4	33.0	4.0	0.9	1.5	0.3	3.3	8.22	8.22

Table III B. (Continued)

Latitude/Areas	C. RAYS & SKATES								D. JEW FISHES											
	1973	1974	1975	1976	1977	1978	1979	1980	All years Area	Lat.	1973	1974	1975	1976	1977	1978	1979	1980	All years Area	Lat.
10°40'																				
10-79/F6					5.2				5.18	5.18					1.7				1.73	1.73
11°10'																				
11-79/F1						13.5			13.47						0.8				0.80	
11-79/F2				5.7	10.6				7.09				0.0	0.4					0.10	
11-79/F3				6.1					6.07				0.0						0.00	
11-80/A3		0.0							0.00	6.83		0.0							0.00	0.14
11°40'																				
11-79/F4		2.6		2.7					2.61		0.0		0.0						0.00	
11-80/A4		0.0							0.00		0.0		0.0						0.00	
11-79/F5	10.3	0.0		5.0					7.91		1.7	0.0	0.0						1.28	
11-80/A5		0.0							0.00		0.0		0.0						0.00	
11-79/F6	18.3	0.0		0.0	0.0				9.40		9.6	0.0	0.0	0.0					4.91	
11-80/A6	28.4	0.0							26.45	8.07	2.9	0.0							2.75	1.73
12°10'																				
12-80/A1	14.0		1.0		20.3	9.8			8.05		2.4		0.0		0.0	0.0			0.58	
12-80/B1			0.0			19.3			8.29				0.0		0.0	0.0			0.00	
12-80/A2	0.0		3.6	30.0	18.2				7.50		0.0		0.0	0.0	0.0				0.00	
12-80/B2	9.3		2.1		21.3	15.6			10.00		7.0		0.0		0.0	0.0			1.46	
12-80/C2	0.0		0.0		51.1				18.37		2.8		0.0		0.0	0.0			1.39	
12-80/B3	0.0		4.7	28.9	20.0				15.61		11.1		0.0	0.0	0.0				1.83	
12-80/C3	0.6								0.63	11.05	14.3								14.25	1.52
12°40'																				
12-80/B4	0.0			9.0	30.0	0.0			8.91		20.0		2.5	0.0	0.0				2.54	
12-80/C4	10.7		0.0	10.2		19.4			12.27		6.7		0.0	0.0	0.0				1.20	
12-80/B5	3.5		0.0	0.0					0.42		0.0		19.6						17.24	
12-80/C5	15.4		0.0	2.0				2.5	4.46		0.0		0.0	0.0			0.0		0.00	
12-80/B6	0.0		0.0	0.0					0.00		0.0		0.0	0.0					0.00	
12-80/C6	7.4	2.0	2.9	0.4	0.0	0.0	0.3	1.0	2.12	2.94	7.8	0.0	0.0	1.4	0.0	0.0	0.0	0.2	1.46	1.99
13°10'																				
13-80/B1	1.8		2.0						1.98		0.0		0.0						0.00	
13-80/C1	11.5	1.8	2.6	5.0	2.0	0.5	1.1	1.4	2.04		0.0	0.0	2.7	0.1	0.0	0.4	5.9		1.16	
13-80/D1	0.0								0.00		0.0								0.00	
13-80/B2	8.9		5.3			0.0			5.42		1.5	0.0	0.0		0.0				0.31	
13-80/C2	0.3	1.2	1.7		0.0		0.8	7.2	4.85		0.0	0.0	0.0		0.0	0.0	8.0		4.96	
13-80/C3		0.0	7.1		17.3		8.7	4.4	5.49	2.72		0.0	0.0		0.0		23.1	8.2	8.87	2.07

Table III B (Continued)

13°40'																				
	13-80/B4				0.0	7.2	21.4	3.8	12.71					0.0	0.0	32.6	13.3	13.93		
	13-80/C4					10.2		18.8	14.37						0.0		29.0	14.02		
	13-80/B5			3.0	0.0	13.7			6.17					0.0	0.0			0.00		
	13-80/C5			3.2	16.3	15.2			5.93					0.0	0.0			0.00		
	13-80/B6	10.0		6.9					6.96		0.0			0.0	0.0			0.00		
	13-80/C6		4.1	14.7			12.7		13.37	10.94		0.0	0.0		0.0			0.00		5.64
14°10'																				
	14-80/A1							9.7	9.71									16.5	16.50	
	14-80/B1	22.1	17.0	11.1	23.0			12.3	18.31		9.9	0.0	0.0	0.9				60.8	4.78	
	14-80/A2	2.6							2.57		1.9								1.86	
	14-80/B2	8.8	5.6	4.5	16.2	11.9		23.2	13.31		5.6	0.0	0.0	1.7	0.0			60.5	12.84	
	14-80/B3	10.4	6.3	3.7	26.6	10.6		20.8	14.09		1.6	0.0		2.3	0.0			48.6	10.38	
	14-80/C3							4.5	4.50	14.17								58.5	58.50	10.96
14°40'																				
	14-80/B4		2.5	3.6					2.83				0.0	0.0					0.00	
	14-80/C4							27.3	27.25									58.8	58.75	
	14-80/A5		0.0						0.00				0.0						0.00	
	14-80/B5		2.2	16.2					5.97				0.0	0.0					0.00	
	14-80/C5							32.0	32.00									50.0	50.00	
	14-80/A6		12.8						12.84				0.0						0.00	
	14-80/B6		0.0						0.00	4.75			0.0						0.00	3.09
15°10'																				
	15-80/B1	2.1							2.06		6.2								6.18	
	15-80/B2	0.0							0.00		10.2								10.21	
	15-80/C3		0.0						0.00	1.30			0.0						0.00	6.93
15°40'																				
	15-80/C4		12.5						12.50				0.0						0.00	
	15-80/D4		10.8						10.83				0.0						0.00	
	15-80/E4		1.6						1.10				0.0						0.00	
	15-80/F4		0.0						0.00	5.16			0.0						0.00	0.00
All Latds./Areas	8.9	3.0	5.1	5.2	12.3	9.1	2.9	8.1	6.46	6.46	5.5	0.0	0.0	2.6	0.9	0.0	4.1	17.2	3.95	3.95

Table III B. (Continued)

Latitude/Areas	E. CARANGIDS								F. THREAD-FIN BREAMS											
	1973	1974	1975	1976	1977	1978	1979	1980	All years Area	Lat.	1973	1974	1975	1976	1977	1978	1979	1980	All years Area	Lat.
10°40'																				
10-79/F6					2.2				2.16	2.16					0.0				0.00	0.00
11°10'																				
11-79/F1						1.2			1.20						0.0				0.00	
11-79/F2				4.5	0.8				3.49					0.2	0.0				0.14	
11-79/F3				5.7					5.74					1.4					1.35	
11-80/A3		5.8							5.83	4.20		11.7							11.67	1.61
11°40'																				
11-79/F4		1.6		4.0					2.61			0.0		1.8					0.79	
11-80/A4		7.0							7.00			13.0							13.00	
11-79/F5	0.0	0.0		0.0					0.00		0.0	0.0		0.0					0.00	
11-80/A5		2.7							2.74			12.6							12.57	
11-79/F6	0.0	0.0		0.0	2.0				0.09		6.8	0.0		0.0	0.0				3.46	
11-80/A6	0.0	0.0							0.00	0.77	0.9	0.0							0.81	2.04
12°10'																				
12-80/A1	0.0		5.8		8.3	4.4			4.22		9.3		0.8		0.0	0.0			2.55	
12-80/B1			3.5			6.3			4.69				2.2		0.0	0.0			1.26	
12-80/A2	0.0		3.3	0.0	2.7				2.75		6.7		0.6	0.0	0.0				0.91	
12-80/B2	0.0		4.2		2.4	4.1			3.13		12.5		0.8		0.0	0.0			2.89	
12-80/C2	0.0		1.8			4.5			2.16		13.4		1.3		0.0	0.0			6.81	
12-80/B3	0.0		6.8	12.8	2.5				8.28		5.0			0.4	0.0				1.01	
12-80/C3	0.0								0.00	4.21	5.3								5.25	2.58
12°40'																				
12-80/B4	0.0			5.6	15.0	0.0			4.94		0.0			1.3	0.0	0.0			1.04	
12-80/C4	0.0		0.0	11.7		5.4			7.67		2.7		0.0	0.0		0.0			0.48	
12-80/B5	0.0			0.3					0.24		1.8			0.7					0.86	
12-80/C5	0.0		5.2	3.0				0.3	2.73		2.9		2.1	1.4				0.0	1.81	
12-80/B6	0.0		0.0	0.0					0.00		0.7		3.6	0.5					4.36	
12-80/C6	0.0	0.7	4.2	2.4	0.0	0.0	0.05	0.2	1.06	1.62	12.7	1.3	1.4	4.4	0.0	18.5	0.5	2.0	4.45	3.78
13°10'																				
13-80/B1	0.0		4.0						3.04		7.5		0.6						2.26	
13-80/C1	0.0	1.2	2.1	7.8	0.8	2.1	15.1	0.9	5.51		2.9	2.1	1.6	7.1	0.05	0.0	5.9	2.5	3.20	
13-80/D1	0.0								0.00		7.5								7.50	
13-80/B2	0.0		7.1			0.0			4.86		6.4		4.0		0.0				3.99	
13-80/C2	0.0	1.6	9.3		0.0		1.8	1.4	2.28		2.5	0.9	5.7		0.0		14.2	4.0	4.27	
13-80/C3		1.1	3.9		0.9		0.1	1.8	1.48	4.77		0.0	0.0		0.0		2.0	1.4	1.09	3.19

Table III B. (Continued)

13°40'																					
	13-80/B4				0.0	3.6	0.3	0.8	2.04							0.0	0.0	4.2	0.0	1.71	
	13-80/C4					4.2		5.4	4.78							0.0	0.0		4.0	1.91	
	13-80/B5		8.2		0.0	8.6			7.93				1.4		0.0	0.0				0.90	
	13-80/C5		6.4		4.3	3.6			5.80				1.4		0.0	0.0				1.11	
	13-80/B6	0.0	4.6						4.50		0.0		2.1							2.06	
	13-80/C6	1.5	4.7			4.2			4.29	4.61	1.0	0.5				0.0				0.50	1.31
14°10'																					
	14-80/A1							1.2	1.18										0.0	0.00	
	14-80/B1	0.0	6.2	9.9	4.4			9.0	5.15		0.9	0.0	2.1		0.0				12.5	2.01	
	14-80/A2	0.0							0.00		0.4									0.43	
	14-80/B2	0.0	7.4	11.7	5.6	6.0		8.1	7.08		3.9	2.3	2.9		0.0	0.0			9.4	2.76	
	14-80/B3	0.0	8.9	8.7	3.4	6.7		7.0	6.41		4.7	1.2	3.1		0.0	0.0			9.0	2.85	
	14-80/C3							0.3	0.25	6.22									0.0	0.00	2.51
14°40'																					
	14-80/B4		5.9	5.1					5.62			1.7	1.5							1.65	
	14-80/C4							0.3	0.25										0.0	0.00	
	14-80/A5		4.6						4.58				0.0							0.00	
	14-80/B5		3.5	8.7					4.93				0.8	0.0						0.60	
	14-80/C5							0.4	0.40										0.0	0.00	
	14-80/A6		1.3						1.28				0.0							0.00	
	14-80/B6		2.7						2.71	4.41			0.0							0.00	0.64
15°10'																					
	15-80/B1	0.0							0.00			3.9								3.86	
	15-80/B2	0.0							0.00			3.6								3.59	
	15-80/C3		0.0						0.00	0.00		0.6								0.57	3.55
15°40'																					
	15-80/C4		6.5						6.50			3.3								3.25	
	15-80/D4		10.2						10.24			2.2								3.24	
	15-80/E4		12.2						12.22			3.9								3.89	
	15-80/F4		7.3						7.27	9.83		9.7								9.70	4.47
<hr/>																					
All Latds./Areas	0.0	3.5	5.4	5.3	2.9	3.7	9.9	2.5	4.14	4.14	6.1	1.9	1.8	3.6	0.02	1.5	4.7	3.7	2.83	2.83	
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Table III B. (Continued)

Latitude/Areas	G. LIZARD FISHES									H. SHARKS										
	1973	1974	1975	1976	1977	1978	1979	1980	All years Area	Lat.	1973	1974	1975	1976	1977	1978	1979	1980	All years Area	Lat.
10°40'																				
10-79/F6					0.0				0.00	0.00					0.4				0.43	0.43
11°10'																				
11-79/F1					0.0				0.00						0.0				0.00	
11-79/F2					0.0				0.00					0.3	0.0				0.24	
11-79/F3				0.0					0.00					0.4					0.42	
11-80/A3		0.0							0.00	0.00	0.0							0.00	0.25	
11°40'																				
11-79/F4		0.0		0.0					0.00		0.0		0.8						0.36	
11-80/A4		0.0							0.00		0.0								0.00	
11-79/F5	0.0	0.0		0.0					0.00	0.4	0.3		0.0						0.39	
11-80/A5		0.0							0.00		0.0								0.00	
11-79/F6	6.5	0.0		0.0	0.0				3.33	1.4	0.2		0.0	3.0					0.94	
11-80/A6	8.2	0.0							7.63	1.13	2.5	0.0							2.34	0.58
12°10'																				
12-80/A1	12.1		0.0		0.0	0.0			2.92		0.0		0.3		0.7	0.0			0.16	
12-80/B1			0.0			0.0			0.00				0.0		1.1				0.46	
12-80/A2	0.0		0.7	0.0	0.0	0.0			0.47	1.3		0.3	5.0	0.5					0.72	
12-80/B2	3.3		0.6		0.0	0.0			0.92	1.1		5.5		0.3					2.30	
12-80/C2	2.3		0.0			0.0			1.13	1.4		0.0			0.5				0.88	
12-80/B3	0.0		0.2	0.0	0.0				0.29	0.0		0.8	1.2	0.0					0.82	
12-80/C3	0.0								0.00	0.96	0.0								0.00	1.16
12°40'																				
12-80/B4	0.0			0.0	0.0	0.0			0.00		0.0		1.6	0.0	0.0				1.34	
12-80/C4	0.0		0.0	0.0		0.0			0.00		0.0		0.4		0.0				0.24	
12-80/B5	0.0			0.0					0.00			0.0	33.4						29.39	
12-80/C5	4.3		8.6	0.0			9.8		3.86		0.0		0.9				0.0		0.38	
12-80/B6	0.7		0.0	0.0					0.12		0.0		0.0						0.00	
12-80/C6	18.7	3.6	11.8	2.7	0.0	7.0	9.9	0.9	6.94	5.68	0.6	0.4	0.1	0.6	0.0	0.03	0.2	0.3	0.36	1.52
13°10'																				
13-80/B1	7.1		10.0						9.30		0.0		0.0						0.00	
13-80/C1	2.9	2.5	8.9	3.6	0.0	7.5	1.4	3.1	3.30		1.5	0.04	0.1	0.9	0.1	0.2	0.3	0.3	0.27	
13-80/D1	7.5								7.50		0.0								0.00	
13-80/B2	1.5		0.0			0.0			0.31		0.0		0.5			0.0			1.16	
13-80/C2	0.9	0.0	5.4		0.0		0.0	7.3	5.25		0.0	0.0	0.0		0.0	0.0	0.0	0.5	0.28	
13-80/C3		0.0	0.0		0.0		0.0	2.9	1.46	3.41		0.0	0.0		0.9		0.0	0.9	0.48	0.31

Table III B (Continued)

	All Lads./Areas	5.9	1.4	3.4	1.8	0.0	2.9	2.8	2.6	2.59	2.59	1.2	0.6	0.5	3.0	0.1	0.4	0.2	0.4	0.77	0.77
13°40'	13-80/B4					0.0	0.0	0.0	0.0	0.00						0.0	1.4	0.3	0.0	0.87	
	13-80/C4						2.6		0.9	1.78						0.0	0.9		0.1	0.50	
	13-80/B5			0.0		0.0	0.0			0.00						0.0	0.0		0.15	0.15	
	13-80/C5			0.0		0.0	0.0			0.00						0.0	0.4		0.11	0.11	
	13-80/B6	2.0		0.0			0.0			0.05									0.41	0.41	
	13-80/C6		0.8	0.0			0.0			0.08	0.41	0.0	0.3	0.4			0.0		0.35	0.35	0.42
14°10'	14-80/A1						0.0		0.0	0.00									0.4	0.35	
	14-80/B1	0.8	0.0	0.0			0.0		0.5	0.23		4.2	0.0	0.3		0.0			0.8	1.22	
	14-80/A2	0.7					0.71		0.6	0.71		9.4	1.8	0.4		0.0	0.0		9.43	9.43	
	14-80/B2	0.0	0.0	0.0			0.59		1.8	0.59		0.0	1.6	0.0		0.04	2.5		0.3	0.43	
	14-80/B3	1.5	0.0	0.0			0.48		0.0	0.48	0.47	4.9	0.0	0.0		0.04			0.9	1.25	
	14-80/C3						0.00			0.00									0.0	0.00	0.88
14°40'	14-80/B4		0.0	0.0			0.00		0.0	0.00			0.6	0.0					0.45	0.45	
	14-80/C4						0.00		0.0	0.00			0.6	0.0					0.0	0.00	
	14-80/A5			0.0			0.00			0.00			4.1	0.0					2.99	2.99	
	14-80/B5						0.00		0.0	0.00									0.0	0.00	
	14-80/C5						0.00			0.00			0.0	0.0					0.00	0.00	
	14-80/A6		0.0	0.0			0.00			0.00	0.00		0.0	0.0					0.00	0.00	1.09
	14-80/B6						0.00			0.00									0.48	0.48	
15°10'	15-80/B1	0.0					0.00			0.00		0.5							2.34	2.34	
	15-80/B2	0.0					0.00			0.00	0.00	2.3	0.0						0.00	0.00	1.00
	15-80/C3		0.0				0.00			0.00										0.00	
15°40'	15-80/C4			0.0			0.00			0.00			0.0						0.00	0.00	
	15-80/D4			0.0			0.00			0.00			0.0						0.00	0.00	
	15-80/E4			0.0			0.00			0.00			0.7						0.66	0.66	
	15-80/F4		0.0				0.00			0.00	0.00		1.5						1.45	1.45	0.54

Table III B. (Continued)

Latitude/Areas	I. PRAWNS									J. LOBSTERS										
	1973	1974	1975	1976	1977	1978	1979	1980	All years Area	Lat.	1973	1974	1975	1976	1977	1978	1979	1980	All years Area	Lat.
10°40'																				
10-79/F6					0.0				0.00	0.00					0.0				0.00	0.00
11°10'																				
11-79/F1					0.0				0.00						0.0				0.00	
11-79/F2				0.0	0.0				0.00					0.1	0.0				0.07	
11-79/F3				0.8					0.84					0.2					0.19	
11-80/A3		0.5							0.50	0.33		0.0							0.00	0.09
11°40'																				
11-79/F4		0.0		1.4					0.61			0.1		0.0					0.06	
11-80/A4		1.2							1.20			0.0							0.00	
11-79/F5	1.4	0.0		0.0					1.08		0.0	0.3		0.0					0.06	
11-80/A5		0.0							0.00			0.0							0.00	
11-79/F6	0.0	0.0		0.0	0.0				0.00		0.0	0.1		0.0	0.0				0.04	
11-80/A6	0.0	0.0							0.00	0.69	0.0	0.0							0.00	0.04
12°10'																				
12-80/A1	0.0		0.0		0.0	0.0			0.00		0.0		0.0		0.0	0.0			0.00	
12-80/B1			0.0		0.0	0.0			0.00				0.0		0.0	0.0			0.00	
12-80/A2	0.0		0.1	0.0	0.0	0.0			0.06		0.0		0.2	0.2					0.16	
12-80/B2	0.2		0.0		0.0	0.0			0.03		0.0		0.03		0.1	0.0			0.02	
12-80/C2	0.0		0.0		0.0	0.0			0.00		0.0		0.0		0.0	0.0			0.00	
12-80/B3	0.0		0.2	0.2	0.0				0.16		0.0		0.0	1.1	0.0				0.51	
12-80/C3	2.9								2.88	0.14	0.0								0.00	0.13
12°40'																				
12-80-B4	0.0			0.1	0.0	0.0			0.05		0.0		0.01	0.0	0.0				0.01	
12-80/C4	0.0		0.0	0.6		0.0			0.32		0.0		0.0		0.0	0.0			0.00	
12-80/B5	0.0			0.0					0.00		0.0		0.0						0.00	
12-80/C5	0.0		0.0	0.0			0.0		0.00		0.0		0.0	0.1				0.0	0.04	
12-80/B6	0.0		0.0	0.0					0.00		0.0		0.0	0.0					0.00	
12-80/C6	0.6	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.10	0.09	0.0	0.004	0.02	0.1	0.0	0.0	0.0	0.0	0.01	0.01
13°10'																				
13-80/B1	0.0		0.0						0.00		0.0		0.4						0.31	
13-80/C1	0.0	0.01	0.1	0.1	0.0	0.0	0.0	0.0	0.02		0.0	0.05	0.04	0.1	0.01	0.0	0.01	0.0	0.02	
13-80/D1	0.0								0.00		0.0								0.00	
13-80/B2	0.1		0.2			0.0			0.12		0.0		0.1			0.0			0.09	
13-80/C2	0.0	0.0	0.1		0.0		0.0	0.1	0.02		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.00	
13-80/C3		0.0	0.0		0.0		0.0	0.5	0.12	0.03		0.0	0.0		0.1		0.0	0.0	0.01	0.03

Table III B. (Continued)

13°40'	13-80/B4				0.0	0.0	1.9	0.0	0.78					0.0	0.0	0.0	0.0	0.00			
	13-80/C4							0.0	0.00						0.0	0.0	0.0	0.00			
	13-80/B5		0.0		0.0	0.0			0.00					0.5	0.0			0.02			
	13-80/C5			0.2	0.0	0.0			0.05		0.0		0.01	0.0	0.0			0.01			
	13-80/B6	0.0		0.1					0.18		0.0		0.0					0.00			
	13-80/C6		0.0	0.4		0.0			0.14	0.20		0.0	0.01		0.0			0.01	0.01		
14°10'	14-80/A1							0.2	0.20									0.0	0.00		
	14-80/B1	1.2	0.07	0.0		0.0		0.0	0.33		0.0	0.07	0.0	0.2				0.0	0.08		
	14-80/A2	0.0							0.00		0.0							0.0	0.00		
	14-80/B2	1.0	0.2	0.0		0.2	0.0	0.0	0.12		0.0	0.07	0.0	0.0	0.0			0.0	0.01		
	14-80/B3	0.0	0.07	0.0		0.5	0.0	0.0	0.14		0.0	0.0	0.2	0.0	0.0			0.0	0.02		
	14-80/C3							0.0	0.00	0.17								0.0	0.00		
14°40'	14-80/B4		0.0	0.0					0.00				0.0	0.0					0.00		
	14-80/C4							0.0	0.00									0.0	0.00		
	14-80/A5		0.0						0.00				0.0						0.00		
	14-80/B5		0.0	0.5					0.13				0.0	0.0					0.00		
	14-80/C5							0.0	0.00									0.0	0.00		
	14-80/A6		0.5						0.48				0.0						0.00		
	14-80/B6		0.0						0.00	0.06			0.0						0.00		
15°10'	15-80/B1	0.2							0.18		0.0								0.00		
	15-80/B2	0.0							0.00		0.0								0.00		
	15-80/C3		0.0						0.00	0.11		0.0							0.00		
15°40'	15-80/C4		0.0						0.00				0.0						0.00		
	15-80/D4		0.0						0.00				0.0						0.00		
	15-80/E4		0.2						0.22				0.0						0.00		
	15-80/F4		0.0						0.00	0.09			0.0						0.00		
All Latds./Areas		0.5	0.1	0.1	0.1	0.1	0.0	0.2	0.03	0.12	0.12	0.0	0.03	0.04	0.1	0.03	0.0	0.01	0.0	0.03	0.03

Table III B. (Continued)

Latitude/Areas	K. OTHERS								L. ALL FISH											
	1973	1974	1975	1976	1977	1978	1979	1980	All years Area	Lat.	1973	1974	1975	1976	1977	1978	1979	1980	All years Area	Lat.
10°40'																				
10-79/F6					14.2				14.25	14.25					32.7				32.73	32.73
11°10'																				
11-79/F1					5.9				5.87						32.3				32.27	
11-79/F2				62.4	2.6				45.82					119.3	25.5				93.43	
11-79/F3				61.4					61.38					146.4					146.43	
11-80/A3		94.8							94.83	50.96		112.9							112.83	105.84
11°40'																				
11-79/F4		19.1		63.8					38.28			65.8		76.5					70.23	
11-80/A4		103.0							103.00			124.2							124.20	
11-79/F5	156.5	0.2		10.0					118.66		182.4	50.3		15.0					149.22	
11-80/A5		53.5							53.49			173.8							173.83	
11-79/F6	57.7	0.1		7.5	2.0				30.33		125.4	28.8		7.5	28.0				76.46	
11-80/A6	31.6	0.0							29.50	82.51	74.5	0.0							69.48	122.05
12°10'																				
12-80/A1	78.4		53.1		21.3	61.0			58.81		116.2		127.1		83.0	75.1			106.80	
12-80/B1			3.5			33.1			16.16				25.7		65.1				42.57	
12-80/A2	27.6		24.5	2.5	5.1				19.98		35.6		61.4	37.5	54.0				56.80	
12-80/B2	104.4		50.3		5.6	47.4			56.78		137.8		124.8		61.6	69.4			102.52	
12-80/C2	47.6		6.3			45.3			40.68		67.5		125.3		106.4				89.94	
12-80/B3	219.0		72.0	21.7	0.0				70.47		383.3		201.4	124.4	55.5				190.67	
12-80/C3	105.3								105.24	52.55	236.3								236.25	114.56
12°40'																				
12-80/B4	408.0			22.4	3.0	16.8			30.03		700.0		84.3	168.0	33.5				93.41	
12-80/C4	89.1		82.4	16.3		63.2			43.06		146.7		122.4	205.9	88.0				163.41	
12-80/B5	1.0		0.0	48.6					42.91		9.5			123.3					109.68	
12-80/C5	0.6		90.9	39.2				4.0	41.38		35.8		134.0	60.3					72.11	
12-80/B6	0.0		18.4	25.5					17.39		10.3		35.9	34.6					30.79	
12-80/C6	110.7	28.8	28.4	37.9	8.3	26.2	8.4	2.6	34.83	35.39	187.1	90.6	104.5	71.7	8.3	62.1	48.8	28.1	84.00	87.50
13°10'																				
13-80/B1	3.1		2.4						2.54		35.6		28.7						30.39	
13-80/C1	1.9	28.9	29.3	68.8	3.0	13.8	15.1	6.0	22.33		30.0	72.1	86.3	191.7	44.2	50.7	52.5	40.3	72.51	
13-80/D1	25.0								25.00		40.0								40.00	
13-80/B2	13.5		79.2			36.9			61.09		49.5		163.9		36.9				126.10	
13-80/C2	4.9	10.3	28.8		5.9		25.4	8.2	11.65		9.8	52.7	167.1		40.0		61.5	66.9	72.91	
13-80/C3		15.3	229.6		3.6		17.3	10.7	30.78	22.77		44.5	443.0		59.2		65.6	66.5	93.95	75.13

Table III B. (Continued)

13°40'																					
	13-80/B4				0.0	96.0	20.7	16.8	59.81						13.3	112.1	93.5	65.5	100.51		
	13-80/C4					91.6		28.0	60.78							122.4		114.8	118.74		
	13-80/B5		54.8		0.0	139.3			78.40					171.2		15.5	167.5		162.46		
	13-80/C5		70.9		30.3	77.7			70.20					191.0		190.0	109.5		176.77		
	13-80/B6	105.0	45.6						47.25			212.0		161.1					162.60		
	13-80/C6		73.4	0.0		59.2			64.03	63.61			38.7	207.0			76.1		175.04	147.19	
14°10'																					
	14-80/A1							11.8	11.76										72.2	72.17	
	14-80/B1	185.5	128.3	91.0	11.2			45.0	95.16	254.6	165.2	185.2		134.1					197.0	186.94	
	14-80/A2		67.1						67.14	132.5										132.57	
	14-80/B2	127.1	154.0	83.8	33.6	79.8		48.8	75.21	197.9	181.5	222.2		254.1	130.0				202.2	202.88	
	14-80/B3	349.8	157.9	57.6	25.9	242.0		52.9	114.02	372.9	200.9	170.1		246.1	260.0				192.1	221.39	
	14-80/C3							8.5	8.50	86.64									75.0	75.00	198.78
14°40'																					
	14-80/B4		175.4	61.4					142.80			188.0	175.2							184.30	
	14-80/C4							4.8	4.75										94.8	94.75	
	14-80/A5		78.4						78.40			101.1								101.07	
	14-80/B5		65.7	123.4					81.40			297.6	306.9							141.80	
	14-80/C5							8.8	8.80										95.2	95.20	
	14-80/A6		161.2						161.15			183.0								182.99	
	14-80/B6		144.6						144.57	103.46		199.2								199.16	148.07
15°10'																					
	15-80/B1	113.9							113.90		195.2									195.22	
	15-80/B2	140.4							140.41		171.0									171.03	
	15-80/C3		20.0						20.00	115.04		24.4								24.29	175.89
15°40'																					
	15-80/C4		153.4						153.38			190.6								190.63	
	15-80/D4		90.2						90.23			127.8								127.80	
	15-80/E4		183.6						183.56			236.9								236.88	
	15-80/F4		184.8						184.85	157.03		225.1								225.09	201.45
<hr/>																					
All Latds./Areas	112.2	72.9	54.9	46.1	15.4	61.6	14.6	15.83	49.80	49.80	168.0	115.2	148.8	123.0	132.2	93.7	55.8	80.2	115.66	115.66	

Table III B. (Continued)

Latitude/Areas	M. EFFORT										All years Area Lat.	
	1973	1974	1975	1976	1977	1978	1979	1980				
10°40'	10-79/F6					11.58					11.58	11.58
11°10'	11-79/F1					7.50					7.50	
	11-79/F2					8.00					8.00	
	11-79/F3										28.91	
11°40'	11-80/A3		6.00		20.91						21.41	
	11-79/F4				7.08						6.00	
	11-80/A4				2.00						16.41	
	11-79/F5		54.75		2.00						5.00	
	11-80/A5										72.41	
	11-79/F6				2.00						8.75	
12°10'	11-80/A6		9.17			1.00					23.41	
	12-80/A1										9.83	
	12-80/B1		9.08		15.32	3.00					37.65	
	12-80/A2				10.00						17.50	
	12-80/B2		2.25		22.24	5.50					31.99	
	12-80/C2		18.33		2.00	7.50					87.57	
12°40'	12-80/B3		13.50		4.00						27.33	
	12-80/C3		9.00		18.50	2.00					54.59	
	12-80/B4		1.00		25.09						8.00	
	12-80/C4		7.50		35.34	1.00					43.34	
	12-80/B5		4.00		22.50						41.58	
	12-80/C5		4.00		29.58						33.58	
13°10'	12-80/B6		3.00		14.00						4.00	
	12-80/C6		102.50		8.00	5.50					54.67	
	13-80/B1		7.75		74.15	4.00					16.50	
	13-80/C1		11.50		122.42						682.04	
	13-80/D1		2.00		24.50						32.25	
	13-80/B2		11.00		130.14	131.47					1084.82	
13°40'	13-80/C2		10.25		120.60					2.00		
	13-80/C3		16.08		37.66	7.00					55.16	
	13-80/B4				19.99	5.50					21.00	
	13-80/C4				8.50						100.66	
	13-80/B5				26.25	2.00					50.41	
	13-80/C5				66.47	4.00					161.98	
14°10'	13-80/B6				35.91						36.91	
	13-80/C6		1.00		87.81						101.49	
	14-80/A1				12.00						111.63	
	14-80/B1		35.57		38.83	39.42					25.33	
	14-80/A2		7.00		13.66						4.00	
	14-80/B2		10.75		42.65						131.48	
14°40'	14-80/B3		13.75		61.14	100.49					7.00	
	14-80/C3				71.65	44.50					70.16	
	14-80/B4				16.08	63.31					348.50	
	14-80/C4				9.50	6.00					190.07	
	14-80/A5				23.75						4.00	
	14-80/B5				29.07						33.25	
15°10'	14-80/C5				8.66						4.00	
	14-80/A6				23.16						29.07	
	14-80/B6				6.23						31.82	
	15-80/B1				9.58						2.50	
	15-80/B2		31.08								6.23	
	15-80/C3		14.50								9.58	
15°40'	15-80/C4				3.50						31.08	
	15-80/D4				8.00						14.50	
	15-80/E4				10.25						3.50	
	15-80/F4				18.25						8.00	
All Lands/Areas	422.23	704.01	751.24	441.10	386.96	406.48	419.02	631.58	4162.62	4162.62		

Table IV A. Depth-wise annual catch rate (kg/hr) in respect of ten major categories of fishes as obtained from the exploratory surveys of M. V. Meena Sitara during the years from 1973 to 1980 (Base: Madras)

Depth	A. SILVER BELLIES									B. PERCHES								
	1973	1974	1975	1976	1977	1978	1979	1980	All years	1973	1974	1975	1976	1977	1978	1979	1980	All years
0-10				0.0		0.0			0.00				2.4		0.0			2.08
-20	21.4	9.8	24.6	18.6	127.3	0.0	11.4	35.3	42.85		9.7	28.2	24.1	0.4	0.0	0.8	16.7	11.61
-30	16.2	15.0	34.7	45.6	126.9	23.3	9.8	19.7	50.55		7.6	38.2	41.5	2.1	5.7	0.7	4.8	20.95
-40	16.7	46.2	40.0	59.6	146.5	6.2	21.7	27.9	40.67		3.8	53.1	6.0	0.6	0.0	0.04	1.1	14.52
-50	26.5	27.0	28.8	22.8	49.5	27.8	23.7	20.9	27.83		3.2	19.8	0.0	0.2	0.6	0.06	0.7	3.56
-60	11.0	49.7	14.3	10.6	94.4	23.8	19.0	28.2	31.88		0.2	0.1	0.0	0.01	0.05	0.0	0.0	0.05
-70		21.9							21.89		11.7							11.68
-80					115.0				115.00					0.0				0.00
All Depths	17.5	31.5	31.0	38.2	111.5	22.5	20.0	28.2	37.85		3.7	32.1	24.9	1.0	1.0	0.1	2.8	9.32
	C. RAYS & SKATES									D. JEW FISHES								
0-10				41.3		0.0			35.25				0.0					0.00
-20	8.7	2.2	3.3	2.9	6.3	0.6	9.0	13.2	6.14	14.1			8.4	2.4		0.0	37.8	8.96
-30	4.0	2.9	3.6	9.1	12.1	8.0	9.9	11.4	8.46	13.5			22.6	1.6		1.4	13.4	9.96
-40	8.0	0.3	6.4	11.5	3.2	7.6	0.5	1.6	4.84	35.4			9.5	5.6		0.0	2.5	5.98
-50	9.0		8.2	3.2	3.1	1.4	1.4	2.2	4.12	11.0			0.8	0.8		4.4	3.5	2.48
-60	8.8	2.5	3.2	0.9	1.7	3.3	1.3	2.3	3.45	13.7			0.0	0.0		8.0	0.0	3.83
-70		26.3							26.32									
-80					2.1				2.10					1.5				1.50
All Depths	7.5	3.1	5.3	9.2	6.9	3.9	2.1	3.7	5.44	15.5			13.9	1.6		4.6	7.1	5.80
	E. CARANGIDS									F. THREAD-FIN BREAMS								
0-10				7.1		0.0			6.00				0.0		0.0			0.00
-20		2.2	5.1	5.3	2.9	5.9	0.8	5.3	3.28	2.7	0.9	0.0	0.8	0.0	0.0	16.6	2.4	1.81
-30		5.3	5.6	5.8	4.3	4.5	0.1	4.5	4.41	1.5	1.9	2.2	0.5	0.2	0.0	11.7	5.6	1.35
-40			7.5	1.3	3.4	6.2	1.6	1.0	3.20	0.9	0.8	1.6	2.9	0.0	0.0	4.2	2.9	2.11
-50		2.7	6.7	2.2	0.5	0.5	6.7	0.4	2.73	2.6		5.4	4.6	0.2	0.04	8.0	1.6	3.22
-60			2.7	1.0	1.5	0.6	11.5	0.01	2.48	3.7	1.2	4.5	2.3	0.03	0.04	6.8	0.4	2.60
-70		4.7							4.74		0.2							0.21
-80					1.2				1.20					0.0				0.00
All Depths		2.6	5.9	4.4	2.9	1.6	7.0	1.2	3.21	2.5	1.6	2.8	1.8	0.1	0.03	7.5	2.0	2.29

Table IV A. (Continued)

G. LIZARD FISHES										H. SHARKS								
0-10				0.0	0.0	0.0	0.0	0.0	0.00				0.0					0.00
-20	0.8	0.4	0.0	1.3	0.0	0.0	0.0	0.0	0.42	1.7	0.2	0.3	0.0	2.5	0.0	0.4	0.2	0.94
-30	0.7	0.3	1.7	0.1	0.0	5.2	0.0	0.0	0.62	2.3	2.4	0.9	0.3	0.02	0.0	0.5	1.3	0.89
-40	2.5	1.5	1.8	0.0	0.0	0.0	0.6	1.7	1.30	0.5	2.0	0.6	0.5	0.4	0.0	0.7	0.3	0.61
-50	3.8	3.2	9.7	0.4	0.1	5.8	1.1	2.3	3.20	0.8	1.0	0.9	0.4	2.1	0.6	0.1	0.1	0.72
-60	8.7	3.8	16.3	0.8	0.0	5.8	2.3	1.3	4.88	1.1	0.7	0.3	0.3	0.7	0.4	0.5	0.3	0.60
-70		0.0							0.00		2.1							2.11
-80					0.0				0.00					0.0				0.00
All Depths	4.0	2.6	5.0	0.4	0.01	5.1	1.4	1.3	2.38	1.3	1.2	0.7	0.3	0.9	0.3	0.4	0.2	0.74
I. PRAWNS										J. LOBSTERS								
0-10				0.0					0.00				0.0					0.00
-20	0.2	0.1	0.01	0.1	0.1			0.2	0.09		0.0	0.01	0.02	0.03				0.01
-30	0.2	0.2	0.2	0.2	0.3			0.1	0.20		0.0	0.01	0.03	0.02				0.02
-40	0.0	0.02	0.2	0.0	0.8			0.01	0.10		0.1	0.02	0.04	0.3				0.03
-50	0.1	0.1	0.04	0.02	0.1			0.01	0.05		0.04	0.2	0.1	0.1				0.05
-60	0.2	0.1	0.0	0.0	0.0			0.0	0.05		0.02	0.2	0.03	0.0				0.02
-70		0.0							0.00		0.0							0.00
-80					0.0				0.00					0.0				0.00
All Depths	0.2	0.1	0.1	0.1	0.3			0.02	0.10		0.03	0.1	0.04	0.04				0.02
K. OTHERS										L. ALL FISH								
0-10				106.0		0.0			90.58				156.8		0.0			133.91
-20	130.8	109.8	66.1	36.5	23.2	153.7	14.1	35.1	64.17	180.3	135.3	127.6	102.0	165.1	165.1	53.3	146.1	140.28
-30	94.7	133.2	69.1	72.2	18.9	108.0	18.2	11.9	71.72	133.1	169.4	156.1	200.3	166.4	154.6	52.4	72.4	169.13
-40	26.6	84.8	86.7	26.6	13.9	110.5	15.8	7.6	42.08	90.5	146.0	197.9	174.7	131.4	141.4	45.1	49.5	115.44
-50	49.5	99.9	35.1	31.2	5.7	34.7	15.5	4.3	46.95	103.3	142.6	114.6	65.7	62.4	71.3	60.9	41.8	94.91
-60	91.8	11.1	17.0	13.3	3.8	35.9	16.7	1.8	29.60	139.1	84.9	58.8	29.3	102.1	69.8	66.1	28.1	79.44
-70		52.4							52.42		119.4							119.37
-80					50.0				50.0					169.8				169.8
All Depths	81.9	29.7	59.3	53.1	15.2	54.1	16.1	8.8	49.49	130.4	126.0	142.2	146.3	140.4	88.6	59.2	55.5	117.12
M. EFFORT																		
0-10									10.25				1.75					12.00
-20									85.88	58.23	78.50	80.50	101.50	9.00	24.75	59.42	497.78	
-30									160.80	113.24	161.50	317.17	202.00	36.25	23.75	16.83	1031.54	
-40									70.05	56.91	156.00	80.25	31.25	13.00	82.17	141.41	631.04	
-50									134.37	330.63	139.75	100.92	63.30	49.73	132.15	169.58	1120.43	
-60									195.50	213.00	70.75	65.65	110.50	139.16	172.99	90.75	1058.30	
-70										9.50							9.50	
-80											10.00						10.00	
All depths									646.60	781.51	606.50	654.74	518.55	248.89	435.81	477.99	4370.59	

Table IV B. Depth-wise annual catch rate (kg/hr) in respect of ten major categories of fishes as obtained from the exploratory surveys of M. V. Meena Gaveshak during the years from 1973 to 1980 (Base: Madras)

Depth	A. SILVER BELLIES										B. PERCHES									
	1973	1974	1975	1976	1977	1978	1979	1980	All years	1973	1974	1975	1976	1977	1978	1979	1980	All years		
10-20	19.6	6.9	51.0	40.9	134.8	14.9	6.5	17.3	29.49	16.5	54.2	5.1	0.9	2.4	1.5	6.9	14.47			
-30	63.7	18.5	47.1	91.0	122.9	8.3	21.7	42.0	56.24	3.7	35.6	7.2	1.4	1.9	0.6	6.5	12.01			
-40	6.0	23.6	39.8	23.6	41.8	6.5	27.8	22.0	26.86	1.0	23.8	3.5	0.2	1.8	0.0	1.6	7.67			
-50	38.0	49.7	38.3	51.1	27.8	15.3	16.7	26.6	33.34	0.9	16.1	1.3	0.0	0.2	0.3	1.7	2.63			
-60	20.0	64.4		4.4	66.6	17.9	13.0	17.3	24.21	0.0		1.9	0.1	3.3	0.1	0.01	0.18			
70-80		0.0							0.00	2.1							2.10			
-90		16.4							16.39	3.0							3.01			
-100	0.0	13.1							14.90	1.1							0.30			
120-130		100.0							100.00	5.0							5.00			
All Depths	27.7	25.4	44.6	51.2	99.5	13.0	16.1	26.6	36.75	6.4	33.0	4.0	0.9	1.5	0.3	3.3	8.22			

Depth	C. RAYS & SKATES										D. JEW FISHES									
	1973	1974	1975	1976	1977	1978	1979	1980	All years	1973	1974	1975	1976	1977	1978	1979	1980	All years		
10-20	10.0	4.8	7.8	8.9	14.4	12.1	22.3	14.2	9.79	5.8		0.0	1.0		30.6	24.8	4.99			
-30	11.9	2.9	6.1	8.2	17.4	8.9	3.4	18.3	9.61	4.1		2.9	1.4		3.2	49.6	6.76			
-40	2.0	0.8	3.5	4.2	7.2	11.8	0.0	4.7	3.85	1.9		5.1	0.0		0.0	7.4	2.43			
-50	7.9	2.9	1.8	3.3	2.1	8.5	1.9	2.7	3.46	5.0		0.2	0.0		3.9	4.0	1.80			
-60	8.4	2.1		0.0	1.0	3.3	0.6	2.5	0.00	8.1		0.0	0.0		0.4	0.4	1.81			
70-80		0.0							0.00								0.00			
-90		0.0							0.00								0.00			
-100	21.8	0.0							12.00	0.0							0.00			
120-130		0.0							0.00								0.00			
All Depths	8.9	3.0	5.1	5.2	12.3	9.1	2.9	8.1	6.46	5.5		2.6	0.9		4.1	17.2	3.95			

Depth	E. CARANGIDS										F. THREAD-FIN BREAMS									
	1973	1974	1975	1976	1977	1978	1979	1980	All years	1973	1974	1975	1976	1977	1978	1979	1980	All years		
10-20	6.3	6.3	6.9	6.2	3.2	5.5	0.3	2.9	4.33	2.5	1.8	2.2	2.6	0.0	0.0	4.6	1.7	1.72		
-30	4.3	4.3	6.7	8.4	4.3	4.2	0.2	6.3	5.16	2.8	2.1	1.9	5.7	0.02	0.0	0.0	6.6	2.38		
-40	1.5	1.5	3.2	3.2	1.2	2.9	0.0	1.4	2.19	4.7	2.1	1.7	2.5	0.03	0.0	0.03	2.5	1.98		
-50	0.9	0.9	4.0	4.5	0.3	2.2	14.5	1.1	3.78	5.1	1.9	1.2	3.2	0.0	0.0	6.7	2.8	2.81		
-60	0.9	0.9		4.7	0.3	2.4	13.9	0.3	5.09	14.6	1.3		1.9	0.05	9.1	6.0	5.3	6.96		
70-80		2.1							2.10		0.0							0.00		
-90		2.2							2.19		0.0							0.00		
-100	0.7	0.7							0.30	0.0								0.00		
120-130	4.0	4.0							4.00		0.0							0.00		
All Depths	3.5	3.5	5.4	5.3	2.9	3.7	9.9	2.5	4.14	6.1	1.9	1.8	3.6	0.02	1.5	4.7	3.7	2.83		

Table IV B. (Continued)

	G. LIZARD FISHES										H. SHARKS							
10-20	0.5	0.0	0.1	0.0		2.4	0.0	0.5	0.49	1.2	1.2	0.3	0.3	0.1	0.8	0.2	0.2	0.73
-30	2.6	0.0	0.8	3.4		0.2	0.0	0.5	0.82	3.2	0.7	0.3	1.0	0.1	0.4	0.1	0.4	0.59
-40	3.8	3.5	7.1	0.9		0.0	4.9	3.3	3.64	0.6	0.0	1.0	7.0	0.1	0.5	1.2	0.5	1.86
-50	3.1	3.6	8.3	1.6		7.1	4.2	4.2	3.82	0.7	0.3	0.2	0.7	0.2	0.0	0.1	0.5	0.34
-60	18.4	1.0		0.0		7.1	3.0	3.7	6.42	0.6	0.6		0.8	0.2	0.4	0.2	0.3	0.37
70-80		0.0							0.00		0.0							0.00
-90		0.0							0.00		0.8							0.82
-100	0.0	0.0							0.00	0.0	0.9							0.40
120-130		0.0							0.00		0.0							0.00
All Depths	5.9	1.4	3.4	1.8		2.9	2.8	2.6	2.59	1.2	0.6	0.5	3.0	0.1	0.4	0.2	0.4	0.77
	I. PRAWNS					J. LOBSTERS												
10-20	0.8	0.1	0.1	0.3	0.02		1.9	0.1	0.27		0.04	0.02	0.04	0.02		0.0		0.02
-30	0.5	0.1	0.1	0.2	0.2		0.1	0.0	0.13		0.03	0.03	0.2	0.04		0.05		0.04
-40	0.0	0.04	0.1	0.03	0.0		0.0	0.01	0.03		0.04	0.1	0.1	0.08		0.0		0.06
-50	0.4	0.0	0.0	0.2	0.0		0.0	0.03	0.06		0.05	0.03	0.04	0.0		0.0		0.02
-60	0.6	0.0		0.0	0.0		0.0	0.0	0.12		0.01		0.2	0.01		0.0		0.03
70-80		0.0							0.00		0.0							0.00
-90		0.0							0.00		0.0							0.00
-100	0.0	0.0							0.00		0.0							0.00
120-130		0.0							0.00		0.0							0.00
All Depths	0.5	0.1	0.1	0.1	0.1		0.2	0.03	0.12		0.03	0.04	0.1	0.03		0.01		0.03
	K. OTHERS							L. ALL FISH										
10-20	152.7	113.5	68.9	33.5	11.3	94.1	20.6	17.5	85.95	192.9	151.1	191.5	97.8	165.7	132.2	88.5	86.1	152.25
-30	125.1	102.7	57.2	75.6	23.2	88.4	4.7	42.4	62.17	213.8	135.1	155.9	203.8	170.9	112.3	34.0	172.5	155.91
-40	31.4	24.2	48.1	30.9	10.1	35.0	6.4	7.7	28.55	50.2	56.7	128.3	81.0	60.8	58.4	40.3	51.1	79.12
-50	61.0	28.1	43.3	37.5	3.6	22.3	16.1	7.1	25.00	121.1	88.5	113.1	103.6	33.9	51.9	64.4	50.4	77.06
-60	116.2	33.0		27.4	2.0	30.2	17.8	2.1	37.32	186.9	103.2		41.3	70.3	72.8	55.0	32.0	85.42
70-80		105.9							105.90		110.1							110.10
-90		40.4							40.44		62.9							62.85
-100	46.4	47.3							46.80	68.2	83.1							74.90
120-130		36.5							36.50		145.5							145.50
All Depths	112.2	72.9	54.9	46.1	15.4	61.6	14.6	15.8	49.80	168.0	115.2	148.8	123.0	132.2	93.7	55.8	80.2	115.66
	M. EFFORT																	
10-20		140.32	216.60	129.13	22.75	63.75	114.73	31.25	88.66	807.19								
-30		68.83	170.41	317.34	132.50	198.16	101.27	62.77	139.00	1190.28								
-40		45.50	110.31	205.20	150.93	38.42	39.40	33.33	134.91	758.00								
-50		58.08	143.54	99.57	115.92	46.66	83.96	125.58	192.92	866.23								
-60		104.00	47.74		19.00	39.97	67.12	166.09	76.09	520.01								
70-80			5.25							5.25								
-90			3.66							3.66								
-100		5.50	4.50							10.00								
120-130			2.00							2.00								
All Depths		422.23	704.01	751.24	441.10	386.96	406.48	419.02	631.58	4162.62								

Table V. Latitude-wise estimated potential yields (in kg) in respect of ten major categories of fishes. (Figures in brackets are potential yields in kg. per sq. Km.)

Categories	10°40' off Velan- ganni	11°10' off Poom- puhar	11°40' off Porto- novo/ Cuddalore	12°10' off Markka- anam	12°40' off Maha- balipuram	13°10' off Madras/ Ennore	13°10' off Pulicat	14°10' off Krishna- mpatnam	14°40' off Iskapally	15°10' off Ramaya- patnam	15°40' off Nizam- patnam	All Latitudes
Silver Bellies	28754 (88.04)	488107 (373.63)	576737 (294.31)	499378 (218.43)	565402 (288.53)	609013 (310.78)	706224 (360.39)	1235124 (630.29)	938687 (410.59)	580515 (355.49)	84916 (65.00)	6312857 (333.26)
Perches	0 (0.00)	42522 (32.55)	270886 (138.24)	373189 (163.24)	24783 (12.65)	21709 (11.08)	605939 (309.22)	311615 (159.02)	202172 (88.43)	12167 (7.45)	189044 (144.71)	2054026 (108.43)
Rays & Skates	16586 (50.78)	87478 (66.96)	155807 (79.51)	207775 (90.88)	71660 (36.57)	55714 (28.43)	192502 (98.24)	215556 (110.00)	158913 (69.51)	53473 (32.75)	55330 (42.35)	1270794 (67.09)
Jew Fishes	5539 (16.96)	1793 (1.37)	30162 (15.39)	63431 (27.75)	61670 (31.47)	52064 (26.57)	168487 (85.98)	186162 (95.00)	65672 (28.73)	326280 (199.80)	0 (0.00)	961260 (50.75)
Carangids	6916 (21.18)	53793 (41.18)	19788 (10.10)	90327 (39.51)	26704 (13.63)	67241 (34.31)	105473 (53.82)	99709 (50.88)	106913 (46.76)	14729 (9.02)	88503 (67.75)	680096 (35.90)
Thread-fin Breems	0 (0.00)	20621 (15.78)	30739 (15.69)	53569 (23.43)	61478 (31.37)	61670 (31.47)	22670 (11.57)	38424 (19.61)	26224 (11.47)	26096 (15.98)	35222 (26.96)	376713 (19.89)
Lizard Fishes	0 (0.00)	0 (0.00)	16906 (8.63)	26672 (11.67)	89911 (45.88)	72044 (36.76)	7300 (3.73)	6148 (3.14)	7172 (3.14)	0 (0.00)	0 (0.00)	226153 (11.94)
Sharks	1377 (4.22)	3202 (2.45)	8837 (4.51)	27793 (12.16)	21901 (11.18)	7493 (3.82)	9414 (4.80)	17867 (9.12)	38327 (16.76)	24655 (15.10)	4227 (3.24)	165093 (8.72)
Prawns	0 (0.00)	4227 (3.24)	10374 (5.29)	4483 (1.96)	1152 (0.59)	576 (0.29)	2882 (1.47)	4034 (2.06)	2914 (1.27)	6244 (3.82)	2049 (1.57)	38935 (2.06)
Lobsters	0 (0.00)	1153 (0.88)	576 (0.29)	2241 (0.98)	192 (0.10)	576 (0.29)	192 (0.10)	576 (0.29)	672 (0.29)	0 (0.00)	0 (0.00)	6178 (0.33)
Others	45628 (139.71)	652688 (499.61)	1451833 (740.88)	1615581 (706.67)	682210 (348.14)	379624 (193.73)	1408607 (718.82)	1569793 (801.08)	2101511 (919.22)	2594389 (1588.73)	1926684 (1474.80)	14428548 (761.69)
All Fish	104800 (320.89)	1355584 (1037.65)	2572645 (1312.84)	2964439 (1296.68)	1607063 (820.11)	1327724 (677.53)	3229690 (1648.14)	3685008 (1880.49)	3649177 (1596.17)	3638548 (2228.14)	2385975 (1826.38)	26520653 (1400.06)
Area Explored in sq. km.	* 326.60	1306.40	1959.60	2286.20	1959.60	1959.60	1959.60	1959.60	2286.20	1633.00	1306.40	18942.80

NEWS—INDIA AND OVERSEAS

Abalone transplantation in South America

In an effort to save an over exploited native species from extinction, scientists at the University of North in Antofagasta in Chile are studying the possibility of transplanting California red abalone to South America. If the animal from northern hemisphere *Haliotis rufescens* can be successfully acclimatized to its new home in the southern hemisphere and if the new species poses no threat to the region's indigenous species, it will be a great economic asset.

With financial assistance from the Organisation of American States preliminary experiments are being conducted at the University of North with 300 red abalone specimens. The scientists are particularly interested in the behaviour of the shell fish in relation to the native species of Chile, its utilisation of local algae species as food and the competition that the new comers could expect in this aspect from native inhabitants. These experiments are being carried out in a specially constructed laboratory with extreme care to prevent the escape of larvae or adult specimens into the natural environment, in order to rule out the possibility of the species reacting harmfully on the established inhabitants of the region.

International Exchange News 25 (2): 1981

Chile utilises the krill resources of the Antarctic

Taking advantage of its proximity to the krill resources of the Antarctic waters, Chile has embarked on a major effort to market krill products. The government's Institute of Fishing Promotion recently distributed nearly 20 tonnes of krill sticks to Santiago super markets where they were quickly accepted. The breaded, pre-cooked and frozen sticks require only 3 minutes of frying in cooking oil to make ready for the table. A box of 10 krill sticks weighing about $\frac{1}{2}$ kg is sold for 80 U.S. cents. Private firms are now beginning to get involved in the commercial processing and marketing of the product.

According to a spokesman of the Institute, Chile is the first country to develop ready to cook products from krill without mixing them with other seafood ingredients. It could be made into soup, cheese, pudding, pate and salami. These tiny crustaceans contain all essential amino acids in addition to the two black eyes which are pure vitamin A.

International Exchange News 25 (2): 1981

