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## TRENDS IN TOTAL MARINE FISH PRODUCTION IN INDIA - 1978\*

The total marine fish production in India during 1978 was estimated at 1.40 million tonnes as compared to 1.26 million tonnes recorded during 1977, showing an increase of about 0.14 million tonnes (11.42%). Except Andhra Pradesh, all the maritime states recorded higher landings during the year (Table 1). The bulk of the increase in the total marine fish production during 1978 was accounted for by the increase observed in the states of Karnataka and Kerala, to the tune of about 0.56 lakh and 0.28 lakh tonnes respectively.

Table 1. Statewise marine fish landings in India (in tonnes) during the year 1977 and 1978.

| Sl. No.      | State          | 1978             | 1977             |
|--------------|----------------|------------------|------------------|
| 1.           | West Bengal    | 12,754           | 6,689            |
| 2.           | Orissa         | 39,670           | 15,072           |
| 3.           | Andhra Pradesh | 82,116           | 1,00,756         |
| 4.           | Tamil Nadu     | 2,12,899         | 2,06,046         |
| 5.           | Pondicherry    | 6,828            | 6,462            |
| 6.           | Kerala         | 3,73,339         | 3,45,037         |
| 7.           | Karnataka      | 1,52,860         | 97,152           |
| 8.           | Goa            | 27,111           | 24,731           |
| 9.           | Maharashtra    | 2,84,244         | 2,64,452         |
| 10.          | Gujarat        | 2,01,929         | 1,89,638         |
| 11.          | Andamans       | 7,077            | 1,532            |
| 12.          | Lakshadweep    | 2,780            | 2,215            |
| <b>TOTAL</b> |                | <b>14,03,607</b> | <b>12,59,782</b> |

### Pelagic and demersal group of fishes

The specieswise catch details are shown in Table 2. The pelagic group of species consists of *Chirocentrus*, oil sardine, other sardines, *Hilsa ilisha*, other *Hilsa*, anchovies and white baits, other clupeids, Bombay duck, *Hemirhamphus* & *Belone*, flying fish, ribbon fish, carangids, mackerel, seer fish, tunnies, *Sphyraena*, mullets, and *Bregmaceros* spp. The elasmobranchs, eels, catfishes, lizard fishes, perches, red mullets, polynemids, sciaenids, silver bellies, *Lactarius*, pomfrets, soles, prawns, lobsters and cephalopods form the

\*Prepared by the Fishery Resources Assessment Division

demersal group. The statewise distribution of pelagic and demersal group of fishes is shown in Table 3 and Fig. 1.

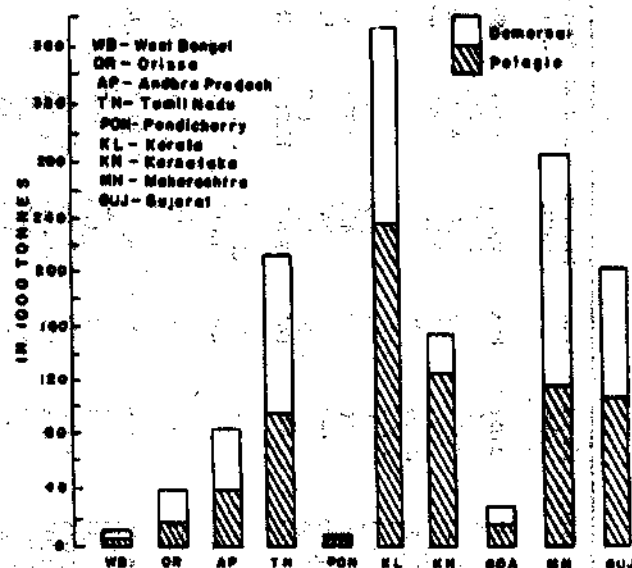


Fig. 1. Pelagic and demersal catch in different states during 1978

Kerala landed highest catch of pelagic fishes during 1978 followed by Karnataka, Maharashtra, Gujarat and Tamil Nadu in the order of abundance. In respect of demersal fishes, Maharashtra contributed the maximum catch, followed by Kerala, Tamil Nadu and Gujarat.

### All India production during 1969 to 1978

The total all India marine fish production and its species composition for the years 1969 to 1978 is shown in Table 4. The production showed a steady increase from 1969 to 1971 and then a fluctuating trend from 1972 to 1978. While a minimum of 9,13,630 t. was recorded in 1969, a maximum of 14,22,693 t. was recorded in 1975. The production during 1978 formed about 99% of the maximum production recorded in 1975. The trends in marine fish production in the various maritime states of India are also shown in tables 5 to 17.

### Statewise production

#### West Bengal

The total marine fish catch in West Bengal increased sharply by about 6,000 t. (Table 1) registering a 90%

Table 2. Statewise composition of marine fish landings in India during 1978 (In tonnes)

| Sl. No.      | Name of fish                     | West Bengal   | Orissa         | Andhra Pradesh | Tamil Nadu      | Pondicherry  | Kerala          | Karnataka       | Goa           | Maharashtra     | Gujarat         | Andamans     | Lakshadweep  | Total            | Total for 1977   |
|--------------|----------------------------------|---------------|----------------|----------------|-----------------|--------------|-----------------|-----------------|---------------|-----------------|-----------------|--------------|--------------|------------------|------------------|
| 1.           | Elasmobranchs                    | 125           | 3,386          | 8,704          | 15,121          | 199          | 9,302           | 2,051           | 863           | 10,072          | 11,511          | 89           | 198          | 61,621           | 62,216           |
| 2.           | Eels                             | —             | 3              | 1,082          | 325             | —            | 38              | 8               | 55            | 5,384           | 1,886           | —            | —            | 8,781            | 12,997           |
| 3.           | Catfishes                        | 151           | 1,794          | 3,281          | 5,252           | 168          | 9,125           | 2,831           | 1,356         | 11,081          | 4,159           | 33           | —            | 39,231           | 53,504           |
| 4.           | <i>Chirocentrus</i>              | 217           | 1,073          | 1,262          | 1,736           | 111          | 1,298           | 247             | 78            | 3,059           | 1,869           | 40           | —            | 10,990           | 11,909           |
| 5.           | a. Oil sardine                   | —             | —              | —              | 36              | —            | 1,19,937        | 46,707          | 1,398         | —               | —               | —            | —            | 1,68,078         | 1,50,130         |
|              | b. Other sardines                | 4             | 2,514          | 7,685          | 21,050          | 1,184        | 11,713          | 2,572           | 5,151         | 868             | —               | 97           | —            | 52,838           | 65,724           |
|              | c. <i>Hilsa ilisha</i>           | 193           | 7,737          | 2              | 161             | —            | 182             | 9               | 3             | 1,558           | 49              | —            | —            | 9,894            | 4,189            |
|              | d. Other <i>Hilsa</i>            | 28            | 848            | 1,349          | 4,166           | 108          | 69              | 30              | 2             | 466             | 5,703           | 31           | —            | 12,800           | 14,651           |
|              | e. <i>Anchoviella</i>            | 24            | 1,169          | 7,810          | 7,447           | 521          | 21,203          | 443             | 5             | 340             | —               | 92           | —            | 39,054           | 34,033           |
|              | f. <i>Thrissocles</i>            | 774           | 175            | 1,824          | 4,719           | 258          | 1,898           | 919             | 1,308         | 1,821           | 608             | —            | —            | 14,304           | 9,929            |
|              | g. Other clupeids                | 1,174         | 1,330          | 1,794          | 3,043           | 281          | 973             | 872             | 645           | 13,608          | 13,282          | 18           | —            | 37,020           | 41,458           |
| 6.           | a. <i>Harpodon nehereus</i>      | 1,365         | 314            | 1,099          | —               | —            | 21              | 4               | 27            | 68,781          | 53,870          | —            | —            | 1,25,481         | 85,236           |
|              | b. <i>Saurida &amp; Saurus</i>   | —             | 5              | 1,057          | 1,100           | 132          | 6,246           | 92              | 279           | 1,815           | 82              | —            | —            | 10,808           | 8,525            |
| 7.           | <i>Hemirhamphus &amp; Belone</i> | 11            | 13             | 60             | 759             | —            | 281             | 41              | 56            | 51              | 1               | 61           | 144          | 1,478            | 2,311            |
| 8.           | Flying fish                      | —             | 4              | 65             | 1,092           | 480          | —               | —               | 2             | 5               | —               | —            | 33           | 1,681            | 643              |
| 9.           | Perches                          | —             | 173            | 1,945          | 9,241           | 487          | 24,989          | 174             | 781           | 6,951           | 4,174           | 234          | 163          | 49,312           | 31,799           |
| 10.          | Red mullets                      | —             | 2              | 335            | 1,963           | 109          | 171             | 31              | —             | 344             | 2               | —            | 27           | 2,984            | 2,422            |
| 11.          | Polynemids                       | 87            | 1,287          | 1,075          | 706             | 27           | 35              | 3               | 1             | 1,909           | 339             | —            | —            | 5,469            | 3,929            |
| 12.          | Sciaenids                        | 1,772         | 5,198          | 5,597          | 14,239          | 374          | 13,045          | 1,728           | 3,256         | 17,202          | 33,968          | —            | —            | 96,379           | 99,887           |
| 13.          | Ribbon fish                      | 681           | 336            | 5,505          | 28,664          | 139          | 24,207          | 404             | 504           | 10,400          | 6,944           | 1            | —            | 77,785           | 42,407           |
| 14.          | a. <i>Caranx</i>                 | 2             | 68             | 2,000          | 3,104           | 218          | 7,197           | 202             | 1,803         | 1,899           | 270             | 133          | 60           | 16,956           | 30,666           |
|              | b. <i>Chorinemus</i>             | 38            | 815            | 665            | 971             | 33           | 148             | 13              | 56            | 300             | 320             | —            | —            | 3,359            | 4,119            |
|              | c. <i>Trachynotus</i>            | —             | —              | —              | 84              | —            | 19              | 3               | —             | —               | —               | —            | —            | 106              | 80               |
|              | d. Other carangids               | —             | —              | 87             | 171             | —            | 72              | 43              | —             | 50              | —               | —            | —            | 423              | 219              |
|              | e. <i>Coryphaena</i>             | —             | —              | 24             | 18              | 3            | 19              | —               | —             | —               | —               | —            | —            | 64               | 226              |
|              | f. <i>Elacate</i>                | —             | 3              | 53             | 239             | —            | 166             | 55              | 52            | —               | —               | —            | —            | 568              | 429              |
| 15.          | a. <i>Leiognathus</i>            | 297           | 256            | 2,174          | 30,281          | 372          | 3,040           | 4,241           | 704           | 323             | —               | 89           | —            | 41,777           | 34,504           |
|              | b. <i>Gazza</i>                  | —             | —              | —              | 104             | —            | —               | —               | —             | —               | —               | —            | —            | 104              | 61               |
| 16.          | <i>Lactarius</i>                 | —             | 12             | 684            | 840             | —            | 1,533           | 198             | 443           | 836             | 3,360           | —            | —            | 7,906            | 10,961           |
| 17.          | Pomfrets                         | 282           | 5,714          | 2,445          | 789             | 50           | 1,614           | 1,957           | 367           | 13,050          | 15,141          | 25           | —            | 41,434           | 35,127           |
| 18.          | Mackerel                         | —             | 196            | 2,520          | 1,453           | 179          | 25,917          | 50,704          | 3,371         | 787             | —               | 106          | —            | 85,233           | 62,136           |
| 19.          | Seerfish                         | 54            | 1,059          | 2,600          | 4,700           | 41           | 3,354           | 1,463           | 691           | 2,915           | 3,734           | 127          | 41           | 20,779           | 21,119           |
| 20.          | Tunnies                          | —             | 609            | 328            | 1,169           | 3            | 6,548           | 614             | 300           | 1,939           | 451             | 57           | 1,875        | 13,893           | 13,005           |
| 21.          | <i>Sphyraena</i>                 | —             | 4              | 43             | 2,147           | 25           | 721             | 276             | 7             | 388             | —               | 80           | 18           | 3,709            | 2,423            |
| 22.          | <i>Mugil</i>                     | —             | 3              | 237            | 829             | 26           | 1               | 1               | 32            | 102             | 1,264           | 131          | —            | 2,626            | 2,269            |
| 23.          | <i>Bregmaceros</i>               | —             | —              | —              | —               | —            | —               | —               | —             | 21              | 163             | —            | —            | 184              | 30               |
| 24.          | Soles                            | 24            | 103            | 347            | 1,580           | 109          | 7,276           | 1,820           | 417           | 1,676           | 268             | —            | —            | 13,620           | 10,810           |
| 25.          | a. Penaeid prawns                | 605           | 2,599          | 8,031          | 13,327          | 245          | 45,034          | 8,422           | 1,647         | 41,091          | 7,938           | 265          | —            | 1,29,204         | 96,472           |
|              | b. Non-penaeid prawns            | 663           | 12             | 1,532          | 585             | 71           | 394             | 18              | 26            | 44,255          | 3,096           | —            | —            | 50,652           | 73,992           |
|              | c. Lobsters                      | —             | —              | 20             | 249             | 2            | 38              | 39              | 13            | 607             | 339             | —            | —            | 1,307            | 1,217            |
|              | d. Crabs & other crustaceans     | —             | 4              | 477            | 9,290           | 251          | 2,176           | 741             | 531           | 148             | 584             | —            | —            | 14,202           | 20,068           |
| 26.          | Cephalopods                      | 30            | 4              | 297            | 1,042           | 36           | 6,516           | 1,346           | 124           | 4,557           | 1,959           | —            | 20           | 15,931           | 10,005           |
| 27.          | Miscellaneous                    | 4,153         | 848            | 6,021          | 19,107          | 586          | 16,823          | 21,538          | 757           | 13,585          | 24,595          | 5,368        | 201          | 1,13,582         | 91,945           |
| <b>TOTAL</b> |                                  | <b>12,754</b> | <b>139,670</b> | <b>82,116</b>  | <b>2,12,899</b> | <b>6,828</b> | <b>3,73,339</b> | <b>1,52,860</b> | <b>27,111</b> | <b>2,84,244</b> | <b>2,01,929</b> | <b>7,077</b> | <b>2,780</b> | <b>14,03,607</b> | <b>12,59,782</b> |

Table 3. Statewise distribution of pelagic and demersal group of fishes during 1978 (in tonnes)

| Sl. No. | State          | Pelagic  | Demersal | Total    |
|---------|----------------|----------|----------|----------|
| 1.      | West Bengal    | 6,769    | 5,985    | 12,754   |
| 2.      | Orissa         | 18,669   | 21,001   | 39,670   |
| 3.      | Andhra Pradesh | 39,941   | 42,175   | 82,116   |
| 4.      | Tamil Nadu     | 96,411   | 1,16,488 | 2,12,899 |
| 5.      | Pondicherry    | 3,949    | 2,879    | 6,828    |
| 6.      | Kerala         | 2,36,604 | 1,36,735 | 3,73,339 |
| 7.      | Karnataka      | 1,22,945 | 29,915   | 1,52,860 |
| 8.      | Goa            | 15,936   | 11,175   | 27,111   |
| 9.      | Maharashtra    | 1,14,847 | 1,69,397 | 2,84,244 |
| 10.     | Gujarat        | 1,05,542 | 96,387   | 2,01,929 |

rise over that of the previous year. Sciaenids, other clupeids, non-penaeid prawns, ribbon fish, and Bombay duck mainly contributed to the higher landings, the increase being about 950, 470, 390, 380 and 300 t. respectively. Table 5 shows the species composition of marine fish landings in West Bengal during 1976 to 1978. Prior to 1976 no separate estimates were available for West Bengal alone. However the estimates for West Bengal and Orissa were combined and the same are shown in Table 6 for the years 1969 to 1975.

#### Orissa

The total marine fish production in Orissa showed a significant increase of about 24,600 t. as compared to 1977 (Table 1). Part of this contribution (about 10,000 t.) came from landings at Paradeep. The increase was mainly due to the higher landings of sciaenids *Hilsa ilisha*, pomfrets, penaeid prawns and elasmobranchs to the extent of 4,900, 4,800, 4,700, 1,800 and 1,700 t. respectively. Table 7 shows the species composition of marine fish landings in Orissa for the years 1976 to 1978. The species details of marine fish catch for the years 1969 to 1975 are shown in Table 6, combined with that of West Bengal.

#### Andhra Pradesh

A decline of about 19,000 t. (19%) in the total catch was noticed in this state during 1978 (Table 1). This was due to the set back in the fisheries of sciaenids, silver bellies, non-penaeid prawns, other sardines, ribbon fish, catfishes and *Caranx* spp., the decrease in their landings being 4,600, 3,700, 3,600, 3,300, 3,000, 2,400 and 2,000 t. respectively. However an increase was observed in the landings of elasmobranchs,

penaeid prawns and mackerel to the tune of about 2,200, 1,800 and 1,500 tonnes respectively. Table 8 shows the species composition of marine fish landings in Andhra Pradesh for the years 1969 to 1978.

Table 5. Composition of marine fish landings in West Bengal during 1976 to 1978 (In tonnes)

| Sl. No. | Name of fish                     | 1976   | 1977  | 1978   |
|---------|----------------------------------|--------|-------|--------|
| 1.      | Elasmobranchs                    | 493    | 73    | 125    |
| 2.      | Eels                             | 1      | 1     | —      |
| 3.      | Catfishes                        | 785    | 134   | 151    |
| 4.      | <i>Chirocentrus</i>              | 251    | 107   | 217    |
| 5.      | Oil sardine                      | —      | —     | —      |
| a.      | Lesser sardines                  | 12     | —     | 4      |
| c.      | <i>Hilsa ilisha</i>              | 799    | 96    | 193    |
| d.      | Other <i>Hilsa</i>               | —      | —     | 28     |
| e.      | <i>Anchoviella</i>               | 6      | 4     | 24     |
| f.      | <i>Thrissocles</i>               | 1,397  | 365   | 774    |
| g.      | Other clupeids                   | 1,790  | 705   | 1,174  |
| 6.      | a. <i>Harpodon nehereus</i>      | 2,253  | 1,060 | 1,365  |
| b.      | <i>Saurida &amp; Saurus</i>      | —      | —     | —      |
| 7.      | <i>Hemirhamphus &amp; Belone</i> | —      | —     | 11     |
| 8.      | Flying fish                      | —      | —     | —      |
| 9.      | Perches                          | 1      | —     | —      |
| 10.     | Red mullets                      | —      | —     | —      |
| 11.     | Polynemids                       | 69     | 25    | 87     |
| 12.     | Sciaenids                        | 4,066  | 819   | 1,772  |
| 13.     | Ribbon fish                      | 701    | 306   | 681    |
| 14.     | a. <i>Caranx</i>                 | —      | —     | 2      |
| b.      | <i>Chorinemus</i>                | 37     | 12    | 38     |
| c.      | <i>Trachynotus</i>               | —      | —     | —      |
| d.      | Other carangids                  | —      | —     | —      |
| e.      | <i>Coryphaena</i>                | —      | —     | —      |
| f.      | <i>Elacate</i>                   | —      | —     | —      |
| 15.     | a. <i>Letognathus</i>            | 219    | 15    | 297    |
| b.      | <i>Gazza</i>                     | —      | —     | —      |
| 16.     | <i>Lactarius</i>                 | —      | 1     | —      |
| 17.     | Pomfrets                         | 586    | 143   | 282    |
| 18.     | Mackerel                         | —      | —     | —      |
| 19.     | Seer fish                        | 287    | 32    | 54     |
| 20.     | Tunnies                          | —      | —     | —      |
| 21.     | <i>Sphyraena</i>                 | —      | —     | —      |
| 22.     | Mugil                            | 2      | —     | —      |
| 23.     | <i>Bregmaceros</i>               | —      | —     | —      |
| 24.     | Soles                            | —      | —     | 24     |
| 25.     | a. Penaeid prawns                | 2,139  | 602   | 605    |
| b.      | Non-penaeid prawns               | 2,708  | 269   | 663    |
| c.      | Other crustaceans                | —      | —     | —      |
| 26.     | Cephalopods                      | —      | —     | 30     |
| 27.     | Miscellaneous                    | 6,809  | 1,920 | 4,153  |
| TOTAL   |                                  | 25,411 | 6,689 | 12,754 |

#### Tamil Nadu

A marginal increase of about 7,000 t. was seen in the total landings in Tamil Nadu as compared to 1977 (Table 1). An interesting feature noticed was the heavy landings of ribbon fish and silver bellies resulting in an increase in the catch by about 24,000 t. and 12,000 t. respectively. These two groups had shown a decline in 1977 as compared to 1976. The other groups that contributed to the increase in the total landings were penaeid prawns, *Thrissocles* spp, perches and red mullet, the increase in their landings being about 5,100, 1,700,

Table 4. Composition of marine fish landings in India during 1969 to 1978 (In tonnes)

| Sl. No.      | Name of fish                     | 1969            | 1970             | 1971             | 1972            | 1973             | 1974             | 1975             | 1976             | 1977             | 1978             |
|--------------|----------------------------------|-----------------|------------------|------------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|
| 1.           | Elasmobranchs                    | 35,442          | 44,048           | 41,348           | 46,237          | 44,917           | 66,054           | 65,230           | 54,605           | 62,216           | 61,621           |
| 2.           | Eels                             | 3,052           | 6,983            | 4,056            | 4,509           | 3,869            | 4,011            | 5,710            | 8,296            | 12,997           | 8,781            |
| 3.           | Catfishes                        | 26,903          | 50,631           | 48,858           | 42,443          | 52,642           | 76,196           | 68,689           | 43,540           | 53,504           | 39,231           |
| 4.           | <i>Chirocentrus</i>              | 9,337           | 9,158            | 9,366            | 9,532           | 11,090           | 9,026            | 11,813           | 10,368           | 11,909           | 10,990           |
| 5.           | a. Oil sardine                   | 1,74,249        | 2,26,997         | 2,09,261         | 1,27,568        | 1,44,395         | 1,26,676         | 1,59,240         | 1,69,262         | 1,50,130         | 1,68,078         |
|              | b. Lesser sardines               | 52,467          | 55,220           | 61,283           | 44,629          | 1,08,523         | 83,921           | 1,12,117         | 1,00,000         | 65,724           | 52,838           |
|              | c. <i>Hilsa ilisha</i>           | 661             | 1,050            | 1,769            | 1,409           | 404              | 4,248            | 8,897            | 7,842            | 4,189            | 9,894            |
|              | d. Other <i>Hilsa</i>            | 7,873           | 9,492            | 10,361           | 12,229          | 11,918           | 7,541            | 7,567            | 8,482            | 14,651           | 12,800           |
|              | e. <i>Anchoviella</i>            | 31,436          | 24,400           | 19,516           | 18,699          | 25,394           | 41,507           | 30,744           | 30,069           | 34,033           | 39,054           |
|              | f. <i>Thrissoles</i>             | 9,009           | 14,087           | 10,801           | 11,130          | 13,194           | 11,433           | 9,997            | 17,660           | 9,929            | 14,304           |
|              | g. Other clupeids                | 26,316          | 26,439           | 24,100           | 28,490          | 35,350           | 43,226           | 52,786           | 57,164           | 41,458           | 37,020           |
| 6.           | a. <i>Harpodon nehereus</i>      | 76,276          | 78,443           | 71,508           | 51,570          | 64,345           | 61,138           | 99,614           | 87,075           | 85,236           | 1,25,481         |
|              | b. <i>Saurida &amp; Saurus</i>   | 3,043           | 2,813            | 3,687            | 4,748           | 4,049            | 12,520           | 14,323           | 5,292            | 8,525            | 10,808           |
| 7.           | <i>Hemirhamphus &amp; Belone</i> | 981             | 1,814            | 1,018            | 687             | 1,110            | 4,574            | 1,980            | 1,169            | 2,311            | 1,478            |
| 8.           | Flying fish                      | 4,039           | 2,844            | 9,179            | 1,415           | 6,388            | 1,012            | 1,832            | 1,439            | 643              | 1,681            |
| 9.           | Perches                          | 12,865          | 13,913           | 12,993           | 15,247          | 21,513           | 36,837           | 35,232           | 18,162           | 31,799           | 49,312           |
| 10.          | Red mullets                      | 3,475           | 2,118            | 3,881            | 6,004           | 3,925            | 7,009            | 2,641            | 5,216            | 2,422            | 2,984            |
| 11.          | Polynemids                       | 3,480           | 7,168            | 7,252            | 7,100           | 9,248            | 10,637           | 14,044           | 14,573           | 3,929            | 5,469            |
| 12.          | Sciaenids                        | 35,041          | 41,903           | 36,903           | 40,159          | 87,682           | 79,261           | 1,14,535         | 87,581           | 99,887           | 96,379           |
| 13.          | Ribbon fish                      | 31,722          | 26,984           | 44,690           | 36,225          | 53,106           | 63,029           | 57,330           | 64,542           | 42,407           | 77,785           |
| 14.          | a. <i>Caranx</i>                 | 21,415          | 18,412           | 20,592           | 27,009          | 25,298           | 19,316           | 23,005           | 25,745           | 30,666           | 16,956           |
|              | b. <i>Chorinemus</i>             | 2,443           | 2,120            | 2,109            | 2,952           | 2,827            | 3,797            | 3,380            | 3,322            | 4,119            | 3,359            |
|              | c. <i>Trachymotus</i>            | 149             | 143              | 17               | 2               | 189              | 122              | 64               | 35               | 80               | 106              |
|              | d. Other carangids               | 7               | 966              | 304              | 308             | 129              | 91               | 207              | 1,572            | 219              | 423              |
|              | e. <i>Coryphaena</i>             | 237             | 254              | 59               | 222             | 228              | 286              | 411              | 261              | 226              | 64               |
|              | f. <i>Elacate</i>                | 309             | 518              | 347              | 403             | 529              | 229              | 221              | 383              | 429              | 568              |
| 15.          | a. <i>Leiognathus</i>            | 44,038          | 49,275           | 32,510           | 32,314          | 48,127           | 50,902           | 39,813           | 42,445           | 34,504           | 41,777           |
|              | b. <i>Gazza</i>                  | 102             | 154              | 156              | 78              | 41               | 338              | 424              | 966              | 61               | 104              |
| 16.          | <i>Lactarius</i>                 | 4,546           | 4,697            | 5,313            | 7,579           | 13,912           | 8,913            | 11,848           | 12,045           | 10,961           | 7,906            |
| 17.          | Pomfrets                         | 24,176          | 17,589           | 21,000           | 19,007          | 22,052           | 22,421           | 24,987           | 37,701           | 35,127           | 41,434           |
| 18.          | Mackerel                         | 91,837          | 1,39,206         | 2,04,575         | 1,08,971        | 79,423           | 37,462           | 45,947           | 65,497           | 62,136           | 85,233           |
| 19.          | Seer fish                        | 11,516          | 13,410           | 18,339           | 21,210          | 19,700           | 19,841           | 18,897           | 20,159           | 21,119           | 20,779           |
| 20.          | Tunnies                          | 3,445           | 3,015            | 6,032            | 5,760           | 5,678            | 10,839           | 11,285           | 19,322           | 13,005           | 13,893           |
| 21.          | <i>Sphyraena</i>                 | 1,996           | 1,530            | 1,271            | 2,367           | 3,415            | 4,862            | 2,150            | 2,388            | 2,423            | 3,709            |
| 22.          | <i>Mugil</i>                     | 2,693           | 2,428            | 3,737            | 1,559           | 3,138            | 4,497            | 3,515            | 2,613            | 2,269            | 2,626            |
| 23.          | <i>Bregmaceros</i>               | 1,684           | 2,196            | 4,345            | 5,488           | 4,213            | 1,872            | 1,043            | 380              | 30               | 184              |
| 24.          | Soles                            | 11,991          | 13,364           | 11,380           | 9,718           | 14,642           | 18,917           | 12,044           | 10,088           | 10,810           | 13,620           |
| 25.          | a. Penaeid prawns                | 72,133          | 89,857           | 72,109           | 78,361          | 1,36,514         | 1,14,934         | 1,41,713         | 1,14,640         | 96,472           | 1,29,204         |
|              | b. Non-penaeid prawns            | 33,964          | 31,834           | 76,734           | 85,488          | 66,955           | 55,244           | 79,038           | 76,787           | 73,992           | 50,652           |
|              | c. Lobsters                      | —               | —                | —                | —               | —                | —                | 2,991            | 2,532            | 1,217            | 1,307            |
|              | d. Crabs & other crustaceans     | 5,670           | 10,832           | 9,612            | 11,599          | 12,508           | 16,663           | 19,893           | 19,999           | 20,068           | 14,202           |
| 26.          | Cephalopods                      | 769             | 1,184            | 1,505            | 1,026           | 1,394            | 3,677            | 7,889            | 10,826           | 10,005           | 15,931           |
| 27.          | Miscellaneous                    | 30,843          | 36,118           | 37,513           | 48,598          | 56,266           | 72,718           | 97,607           | 90,812           | 91,945           | 1,13,582         |
| <b>TOTAL</b> |                                  | <b>9,13,630</b> | <b>10,85,607</b> | <b>11,61,389</b> | <b>9,80,049</b> | <b>12,20,240</b> | <b>12,17,797</b> | <b>14,22,693</b> | <b>13,52,855</b> | <b>12,59,782</b> | <b>14,03,607</b> |

Table 6. Composition of marine fish landings in West Bengal & Orissa during 1969 to 1975 (in tonnes)

| Sl. No. | Name of fish                     | 1969   | 1970   | 1971   | 1972   | 1973   | 1974   | 1975   |
|---------|----------------------------------|--------|--------|--------|--------|--------|--------|--------|
| 1.      | Elasmobranchs                    | 492    | 1,167  | 325    | 829    | 833    | 1,672  | 1,450  |
| 2.      | Eels                             | —      | —      | 8      | 24     | 43     | 84     | 4      |
| 3.      | Catfishes                        | 191    | 446    | 315    | 525    | 534    | 1,232  | 3,383  |
| 4.      | <i>Chirocentrus</i>              | 1,025  | 1,163  | 464    | 334    | 737    | 565    | 687    |
| 5.      | a. Oil sardine                   | 247    | —      | 2      | —      | 38     | 4      | —      |
|         | b. Lesser sardines               | 3,905  | 3,058  | 2,044  | 1,442  | 2,035  | 1,740  | 957    |
|         | c. <i>Hilsa ilisha</i>           | 47     | 289    | 104    | 37     | 162    | 3,513  | 5,254  |
|         | d. Other <i>Hilsa</i>            | 22     | —      | 77     | 7      | 203    | 207    | 181    |
|         | e. <i>Anchoviella</i>            | 900    | 510    | 316    | 673    | 768    | 362    | 207    |
|         | f. <i>Thrissocles</i>            | 234    | 806    | 222    | 374    | 160    | 785    | 1,608  |
|         | g. Other clupeids                | 2,737  | 7,112  | 1,342  | 819    | 3,408  | 2,122  | 3,436  |
| 6.      | a. <i>Harpodon nehereus</i>      | 1,348  | 818    | 1,031  | 924    | 1,984  | 1,326  | 3,043  |
|         | b. <i>Saurida &amp; Saurus</i>   | 26     | 89     | 10     | 9      | 3      | 5      | 6      |
| 7.      | <i>Hemirhamphus &amp; Belone</i> | 5      | 6      | 3      | 4      | 1      | —      | 5      |
| 8.      | Flying fish                      | —      | —      | —      | —      | —      | —      | —      |
| 9.      | Perches                          | 4      | 30     | 121    | 50     | 104    | 38     | 201    |
| 10.     | Red mullets                      | 34     | —      | 5      | 10     | 4      | 20     | 14     |
| 11.     | Polynemids                       | 50     | 258    | 88     | 88     | 136    | 313    | 224    |
| 12.     | Sciaenids                        | 1,274  | 2,617  | 2,727  | 2,479  | 1,323  | 1,671  | 4,474  |
| 13.     | Ribbon fish                      | 581    | 1,470  | 825    | 530    | 902    | 550    | 1,252  |
| 14.     | a. <i>Caranx</i>                 | 372    | 844    | 91     | 79     | 132    | 27     | 237    |
|         | b. <i>Chorinemus</i>             | 100    | 91     | 70     | 74     | 172    | 212    | 165    |
|         | c. <i>Trachynotus</i>            | —      | —      | —      | —      | —      | —      | —      |
|         | d. Other carangids               | —      | —      | —      | —      | —      | 1      | 2      |
|         | e. <i>Coryphaena</i>             | —      | —      | —      | —      | —      | —      | —      |
|         | f. <i>Elacate</i>                | —      | —      | —      | —      | —      | 16     | 1      |
| 15.     | a. <i>Leiognathus</i>            | 937    | 891    | 317    | 921    | 438    | 399    | 552    |
|         | b. <i>Gazza</i>                  | —      | —      | 4      | —      | —      | —      | —      |
| 16.     | <i>Lactorius</i>                 | 5      | 58     | 8      | 29     | 7      | 24     | 6      |
| 17.     | Pomfrets                         | 423    | 426    | 643    | 634    | 728    | 1,110  | 2,501  |
| 18.     | Mackerel                         | 28     | 1,764  | 398    | 102    | 80     | 211    | 116    |
| 19.     | Seer fish                        | 612    | 826    | 338    | 329    | 769    | 1,169  | 554    |
| 20.     | Tunnies                          | —      | 1      | 42     | 28     | 46     | 9      | 16     |
| 21.     | <i>Sphyraena</i>                 | —      | 6      | 9      | 6      | 1      | 5      | 3      |
| 22.     | <i>Mugil</i>                     | 13     | 37     | 23     | 68     | 18     | 40     | 44     |
| 23.     | <i>Bregmaceros</i>               | —      | —      | —      | —      | —      | —      | —      |
| 24.     | Soles                            | 45     | 57     | 8      | 41     | 24     | 100    | 30     |
| 25.     | a. Penaeid prawns                | 5,638  | 2,994  | 1,414  | 1,471  | 2,565  | 2,322  | 2,920  |
|         | b. Non-penaeid prawns            | —      | 22     | 86     | —      | 486    | 1,165  | 2,787  |
|         | c. Other crustaceans             | —      | 3      | 1      | 3      | 60     | 45     | 8      |
| 26.     | Cephalopods                      | 2      | 3      | 89     | 7      | 7      | —      | 2      |
| 27.     | Miscellaneous                    | 1,582  | 3,541  | 4,462  | 2,380  | 3,825  | 3,028  | 9,431  |
| TOTAL   |                                  | 22,879 | 31,403 | 18,032 | 15,330 | 22,736 | 26,092 | 45,761 |

1,300 and 1,100 t. respectively. However, a decline was noticed in the landings of catfishes, white baits, other sardines, mackerel, elasmobranchs, *Caranx* spp., tunnies, crabs and other crustaceans and seer fish, the decrease in their catch being 10,000, 5,900, 5,200, 4,200, 3,200, 3,000, 2,100, 1,700 and 1,700 t. respectively. The species composition of marine fish landings in Tamil Nadu during 1969 to 1978 is shown in Table 9.

#### Pondicherry

A slight increase of about 400 t. in the total landings was noticed in this Union Territory as compared to 1977 (Table 1). The landings of flying fish, other clupeids, penaeid prawns and sciaenids showed an increase of about 480, 280, 140 and 120 t. respectively. The catch of *Caranx* spp., mackerel and *Lactorius*, however, showed a decline of about 270, 200 and 180 t. res-

pectively. Table 10 shows the species composition of marine fish landings in Pondicherry during 1969 to 1978.

#### Kerala

In Kerala, the total marine fish landings during 1978 showed an increase of 28,000 t. over that of 1977 (Table 1). This increase was contributed by the higher landings of ribbon fish, white baits, perches, mackerel, penaeid prawns and elasmobranchs, the increase in their landings being 17,000, 11,000, 11,000, 6,000, 5,000 and 3,500 t. respectively. The landings of other sardines, *Caranx* spp., silver bellies, crabs and pomfrets, however, showed a decline of 9,000, 8,500, 5,000, 2,500 and 2,000 t. respectively. The species composition of marine fish landings in Kerala during 1969 to 1978 is shown in Table 11.

**Table 7. Composition of Marine fish landings in Orissa during 1976 to 1978 (In tonnes)**

| Sl. No. | Name of fish                     | 1976  | 1977  | 1978  |
|---------|----------------------------------|-------|-------|-------|
| 1.      | Elasmobranchs                    | 2,974 | 1,658 | 3,386 |
| 2.      | Eels                             | 1     | —     | 3     |
| 3.      | Catfishes                        | 1,988 | 1,035 | 1,794 |
| 4.      | <i>Chirocentrus</i>              | 517   | 752   | 1,073 |
| 5.      | a. Oil sardine                   | —     | —     | —     |
|         | b. Lesser sardines               | 1,657 | 1,227 | 2,514 |
|         | c. <i>Hilsa ilisha</i>           | 5,477 | 2,948 | 7,737 |
|         | d. Other <i>Hilsa</i>            | 129   | 492   | 848   |
|         | e. <i>Anchoviella</i>            | 339   | 486   | 1,169 |
|         | f. <i>Thrissoles</i>             | 106   | 197   | 175   |
|         | g. Other clupeids                | 772   | 778   | 1,330 |
| 6.      | a. <i>Harpodon nehereus</i>      | 87    | 86    | 314   |
|         | b. <i>Saurida &amp; Saurus</i>   | 1     | 5     | 5     |
| 7.      | <i>Hemirhamphus &amp; Belone</i> | 1     | —     | 13    |
| 8.      | Flying fish                      | —     | —     | 4     |
| 9.      | Perches                          | 31    | 55    | 173   |
| 10.     | Red mullets                      | 1     | 1     | 2     |
| 11.     | Polynemids                       | 244   | 406   | 1,287 |

|              |                       |               |               |               |
|--------------|-----------------------|---------------|---------------|---------------|
| 12.          | Sciaenids             | 333           | 312           | 5,198         |
| 13.          | Ribbon fish           | 130           | 174           | 336           |
| 14.          | a. <i>Caranx</i>      | 147           | 103           | 68            |
|              | b. <i>Chorinemus</i>  | 237           | 386           | 815           |
|              | c. <i>Trachynotus</i> | —             | —             | —             |
|              | d. Other carangids    | —             | —             | —             |
|              | e. <i>Coryphaena</i>  | 2             | 1             | —             |
|              | f. <i>Elacate</i>     | —             | 9             | 3             |
| 15.          | a. <i>Leiognathus</i> | 378           | 233           | 256           |
|              | b. <i>Gazza</i>       | 1             | —             | —             |
| 16.          | <i>Lactarius</i>      | 1             | 18            | 12            |
| 17.          | Pomfrets              | 10,699        | 1,018         | 5,714         |
| 18.          | Mackerel              | 425           | 195           | 196           |
| 19.          | Seer fish             | 940           | 672           | 1,059         |
| 20.          | Tunnies               | 84            | 37            | 609           |
| 21.          | <i>Sphyraena</i>      | 1             | 3             | 4             |
| 22.          | <i>Mugil</i>          | 5             | —             | 3             |
| 23.          | <i>Bregmaceros</i>    | —             | —             | —             |
| 24.          | Soles                 | 6             | 72            | 103           |
| 25.          | a. Penaeid prawns     | 688           | 802           | 2,599         |
|              | b. Non-penaeid prawns | 100           | 17            | 12            |
|              | c. Other crustaceans  | 23            | 6             | 4             |
| 26.          | Cephalopods           | 27            | —             | 4             |
| 27.          | Miscellaneous         | 1,271         | 888           | 848           |
| <b>TOTAL</b> |                       | <b>29,823</b> | <b>15,072</b> | <b>39,670</b> |

**Table 8. Composition of marine fish landings in Andhra Pradesh during 1969 to 1978 (In tonnes)**

| Sl. No.      | Name of fish                     | 1969          | 1970          | 1971          | 1972          | 1973          | 1974            | 1975            | 1976            | 1977            | 1978          |
|--------------|----------------------------------|---------------|---------------|---------------|---------------|---------------|-----------------|-----------------|-----------------|-----------------|---------------|
| 1.           | Elasmobranchs                    | 3,969         | 4,038         | 4,530         | 7,400         | 8,354         | 11,394          | 9,977           | 6,688           | 6,450           | 8,704         |
| 2.           | Eels                             | 93            | 387           | 107           | 110           | 270           | 451             | 1,837           | 205             | 438             | 1,082         |
| 3.           | Catfishes                        | 3,088         | 2,346         | 2,724         | 3,651         | 10,780        | 15,890          | 9,824           | 6,131           | 5,662           | 3,281         |
| 4.           | <i>Chirocentrus</i>              | 1,460         | 1,462         | 1,439         | 2,248         | 2,635         | 2,281           | 2,920           | 1,837           | 1,217           | 1,262         |
| 5.           | a. Oil sardine                   | —             | —             | —             | —             | 125           | 564             | 131             | 112             | —               | —             |
|              | b. Other sardines                | 13,371        | 19,097        | 19,949        | 7,587         | 11,928        | 31,520          | 32,994          | 23,220          | 10,972          | 7,685         |
|              | c. <i>Hilsa ilisha</i>           | 2             | 67            | 796           | 220           | 45            | —               | 70              | 280             | 41              | 2             |
|              | d. Other <i>Hilsa</i>            | 1,084         | 892           | 769           | 3,087         | 2,783         | 2,347           | 930             | 1,815           | 1,654           | 1,349         |
|              | e. <i>Anchoviella</i>            | 5,399         | 5,035         | 1,332         | 2,005         | 4,865         | 9,869           | 7,037           | 11,309          | 8,947           | 7,810         |
|              | f. <i>Thrissoles</i>             | 2,791         | 1,310         | 953           | 1,111         | 2,486         | 1,895           | 1,776           | 1,763           | 1,398           | 1,824         |
|              | g. Other clupeids                | 4,585         | 2,685         | 6,004         | 8,892         | 9,184         | 10,195          | 7,536           | 8,410           | 2,363           | 1,794         |
| 6.           | a. <i>Harpodon nehereus</i>      | 152           | 220           | 778           | 297           | 221           | 125             | 359             | 214             | 960             | 1,099         |
|              | b. <i>Saurida &amp; Saurus</i>   | 445           | 93            | 112           | 504           | 386           | 267             | 242             | 166             | 875             | 1,057         |
| 7.           | <i>Hemirhamphus &amp; Belone</i> | 33            | 323           | 208           | 17            | 3             | 194             | 24              | 14              | 135             | 60            |
| 8.           | Flying fish                      | 29            | 464           | 247           | 52            | 105           | 2               | 1               | —               | 84              | 65            |
| 9.           | Perches                          | 538           | 643           | 1,466         | 1,485         | 1,470         | 2,213           | 4,888           | 1,751           | 2,727           | 1,945         |
| 10.          | Red mullets                      | 193           | 238           | 372           | 447           | 220           | 305             | 721             | 553             | 315             | 335           |
| 11.          | Polynemids                       | 920           | 615           | 1,570         | 2,185         | 1,393         | 2,231           | 1,836           | 1,813           | 698             | 1,075         |
| 12.          | Sciaenids                        | 6,874         | 4,091         | 5,954         | 7,277         | 7,576         | 12,358          | 11,682          | 10,891          | 10,182          | 5,597         |
| 13.          | Ribbon fish                      | 9,970         | 6,473         | 7,432         | 3,585         | 3,761         | 11,834          | 11,701          | 12,443          | 8,546           | 5,505         |
| 14.          | a. <i>Caranx</i>                 | 1,958         | 2,529         | 2,484         | 2,425         | 2,589         | 2,901           | 3,498           | 3,047           | 4,003           | 2,000         |
|              | b. <i>Chorinemus</i>             | 262           | 202           | 533           | 552           | 1,056         | 1,620           | 1,790           | 1,820           | 530             | 665           |
|              | c. <i>Trachynotus</i>            | —             | —             | —             | —             | —             | —               | 6               | 1               | —               | —             |
|              | d. Other carangids               | —             | 36            | 15            | —             | —             | —               | 6               | 5               | 78              | 87            |
|              | e. <i>Coryphaena</i>             | 8             | 74            | 17            | 106           | 36            | 101             | 251             | 89              | 137             | 24            |
|              | f. <i>Elacate</i>                | 30            | 21            | 2             | 38            | 56            | 2               | 25              | 14              | 7               | 53            |
| 15.          | a. <i>Leiognathus</i>            | 2,428         | 2,541         | 2,247         | 2,971         | 2,806         | 4,830           | 11,268          | 3,876           | 5,903           | 2,174         |
|              | b. <i>Gazza</i>                  | —             | 6             | —             | 1             | 3             | 12              | 101             | 48              | —               | —             |
| 16.          | <i>Lactarius</i>                 | 1,306         | 975           | 841           | 1,396         | 982           | 1,914           | 2,513           | 1,718           | 1,132           | 684           |
| 17.          | Pomfrets                         | 2,205         | 2,017         | 3,591         | 4,165         | 4,087         | 3,945           | 5,697           | 4,088           | 2,529           | 2,445         |
| 18.          | Mackerel                         | 1,588         | 2,090         | 1,402         | 5,396         | 2,519         | 1,734           | 1,593           | 2,084           | 1,040           | 2,520         |
| 19.          | Seer fish                        | 2,951         | 3,608         | 3,352         | 5,830         | 4,054         | 4,438           | 5,277           | 3,412           | 3,261           | 2,600         |
| 20.          | Tunnies                          | 193           | 135           | 293           | 495           | 141           | 683             | 664             | 334             | 449             | 328           |
| 21.          | <i>Sphyraena</i>                 | 150           | 8             | 70            | 88            | 18            | 119             | 119             | 187             | 108             | 43            |
| 22.          | <i>Mugil</i>                     | 288           | 141           | 543           | 118           | 255           | 1,848           | 954             | 892             | 170             | 237           |
| 23.          | <i>Bregmaceros</i>               | —             | —             | —             | —             | —             | —               | —               | —               | —               | —             |
| 24.          | Soles                            | 103           | 91            | 79            | 215           | 187           | 220             | 305             | 56              | 680             | 347           |
| 25.          | a. Penaeid prawns                | 4,307         | 5,004         | 8,917         | 5,145         | 8,170         | 9,857           | 7,152           | 8,833           | 6,266           | 8,031         |
|              | b. Non-penaeid prawns            | 1,757         | 1,886         | 288           | 437           | 669           | 2,842           | 3,523           | 2,275           | 5,109           | 1,532         |
|              | c. Lobsters                      | —             | —             | —             | —             | —             | —               | 102             | 3               | 2               | 20            |
|              | d. Crabs & other crustaceans     | 114           | 97            | 95            | 279           | 364           | 934             | 605             | 329             | 719             | 477           |
| 26.          | Cephalopods                      | 70            | 663           | 114           | 67            | 61            | 165             | 151             | 242             | 408             | 297           |
| 27.          | Miscellaneous                    | 2,812         | 1,856         | 2,385         | 2,596         | 2,901         | 4,818           | 3,552           | 8,353           | 4,561           | 6,021         |
| <b>TOTAL</b> |                                  | <b>77,526</b> | <b>74,459</b> | <b>84,010</b> | <b>84,480</b> | <b>99,544</b> | <b>1,58,818</b> | <b>1,55,638</b> | <b>1,31,321</b> | <b>1,00,756</b> | <b>82,116</b> |

Table 9. Composition of marine fish landings in Tamil Nadu during 1969 to 1978 (In tonnes)

| Sl. No. | Name of fish                     | 1969     | 1970     | 1971     | 1972     | 1973     | 1974     | 1975     | 1976     | 1977     | 1978     |
|---------|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1.      | Elasmobranchs                    | 13,030   | 18,974   | 16,913   | 12,960   | 12,844   | 23,025   | 20,614   | 19,039   | 18,327   | 15,121   |
| 2.      | Eels                             | 263      | 219      | 147      | 47       | 121      | 296      | 110      | 620      | 232      | 325      |
| 3.      | Catfishes                        | 4,026    | 7,158    | 7,219    | 5,353    | 9,861    | 10,322   | 7,469    | 5,033    | 15,205   | 5,252    |
| 4.      | <i>Chirocentrus</i>              | 3,950    | 3,618    | 2,952    | 2,320    | 3,178    | 1,625    | 1,811    | 2,058    | 2,475    | 1,736    |
| 5.      | a. Oil sardine                   | 18       | 46       | 45       | 146      | 45       | —        | —        | —        | 714      | 36       |
|         | b. Lesser sardines               | 17,581   | 16,963   | 23,562   | 21,051   | 26,059   | 15,430   | 35,610   | 25,169   | 26,259   | 21,050   |
|         | c. <i>Hilsa ilisha</i>           | 116      | 15       | 191      | 170      | 10       | 14       | 121      | 22       | 343      | 161      |
|         | d. Other <i>Hilsa</i>            | 2,569    | 2,336    | 2,804    | 2,088    | 1,349    | 681      | 1,158    | 2,331    | 5,784    | 4,166    |
|         | e. <i>Anchoviella</i>            | 11,990   | 7,726    | 5,162    | 4,378    | 9,105    | 10,745   | 10,873   | 7,869    | 13,388   | 7,447    |
|         | f. <i>Thissocles</i>             | 3,395    | 4,183    | 4,968    | 5,278    | 4,821    | 4,645    | 3,127    | 8,362    | 3,008    | 4,719    |
|         | g. Other clupeids                | 2,397    | 2,323    | 2,193    | 3,107    | 3,706    | 2,815    | 5,406    | 15,851   | 2,602    | 3,043    |
| 6.      | a. <i>Harpodon nehereus</i>      | 99       | 2        | 13       | 48       | 235      | —        | 1        | —        | 14       | —        |
|         | b. <i>Saurida &amp; Saurus</i>   | 1,636    | 1,213    | 1,395    | 923      | 871      | 1,196    | 1,026    | 823      | 572      | 1,100    |
| 7.      | <i>Hemirhamphus &amp; Belone</i> | 426      | 813      | 492      | 403      | 675      | 3,949    | 1,482    | 717      | 1,574    | 759      |
| 8.      | Flying fish                      | 3,768    | 2,103    | 8,375    | 1,290    | 6,221    | 726      | 1,657    | 1,232    | 526      | 1,092    |
| 9.      | Perches                          | 7,590    | 5,857    | 5,743    | 6,350    | 4,914    | 8,426    | 8,153    | 5,341    | 7,918    | 9,241    |
| 10.     | Red mullets                      | 948      | 1,164    | 1,268    | 1,311    | 1,010    | 1,959    | 1,566    | 626      | 832      | 1,963    |
| 11.     | Polynemids                       | 1,551    | 1,921    | 1,615    | 906      | 1,806    | 877      | 1,339    | 1,944    | 1,592    | 706      |
| 12.     | Sciaenids                        | 8,586    | 10,045   | 5,495    | 6,221    | 10,607   | 9,943    | 10,096   | 10,562   | 13,756   | 14,239   |
| 13.     | Ribbon fish                      | 6,500    | 6,833    | 10,897   | 10,498   | 9,625    | 8,369    | 17,782   | 19,054   | 4,594    | 28,664   |
| 14.     | a. <i>Caranx</i>                 | 8,642    | 6,541    | 8,486    | 7,109    | 5,624    | 5,188    | 6,225    | 7,082    | 6,120    | 3,104    |
|         | b. <i>Chorinemus</i>             | 1,089    | 1,218    | 1,343    | 1,045    | 843      | 1,541    | 1,090    | 646      | 1,465    | 971      |
|         | c. <i>Trachinotus</i>            | 143      | 143      | 11       | —        | —        | 2        | —        | 28       | 73       | 84       |
|         | d. Other carangids               | 3        | 24       | 24       | 29       | 9        | 2        | 8        | 907      | 22       | 171      |
|         | e. <i>Coryphaena</i>             | 220      | 178      | 41       | 24       | 32       | 77       | 65       | 105      | 58       | 18       |
|         | f. <i>Elacate</i>                | 218      | 169      | 31       | 280      | 75       | 101      | 87       | 217      | 230      | 239      |
| 15.     | a. <i>Lelognathus</i>            | 22,789   | 27,071   | 18,913   | 21,564   | 22,133   | 23,906   | 20,142   | 29,664   | 17,783   | 30,281   |
|         | b. <i>Gazza</i>                  | 94       | 74       | 5        | 62       | 34       | 28       | 29       | 6        | 54       | 104      |
| 16.     | <i>Loctarius</i>                 | 1,028    | 977      | 640      | 1,348    | 2,823    | 722      | 1,822    | 775      | 740      | 840      |
| 17.     | Pomfrets                         | 1,647    | 1,786    | 834      | 461      | 1,705    | 720      | 1,303    | 822      | 628      | 789      |
| 18.     | Mackerel                         | 1,893    | 2,040    | 2,983    | 7,838    | 8,843    | 2,639    | 5,826    | 10,488   | 5,674    | 1,433    |
| 19.     | Seer fish                        | 2,461    | 2,926    | 5,032    | 6,010    | 5,763    | 5,178    | 4,100    | 3,784    | 6,424    | 4,700    |
| 20.     | Tunnies                          | 1,368    | 788      | 1,044    | 658      | 624      | 1,691    | 1,783    | 2,923    | 3,238    | 1,169    |
| 21.     | <i>Sphyræna</i>                  | 1,445    | 1,383    | 875      | 997      | 858      | 800      | 1,506    | 1,554    | 1,702    | 2,147    |
| 22.     | <i>Mugil</i>                     | 940      | 769      | 817      | 266      | 1,449    | 261      | 1,566    | 285      | 923      | 829      |
| 23.     | <i>Bregmaceros</i>               | —        | —        | —        | —        | —        | —        | —        | —        | —        | —        |
| 24.     | Soles                            | 662      | 672      | 689      | 518      | 683      | 1,247    | 785      | 909      | 908      | 1,580    |
| 25.     | a. Penaeid prawns                | 5,526    | 4,724    | 3,637    | 4,885    | 4,504    | 8,060    | 11,460   | 8,864    | 8,197    | 13,327   |
|         | b. Non-penaeid prawns            | 288      | 540      | 62       | 148      | 1,285    | 46       | 573      | 169      | 159      | 585      |
|         | c. Lobsters                      | —        | —        | —        | —        | —        | —        | 465      | 525      | 286      | 249      |
|         | d. Crabs & other crustaceans     | 4,789    | 4,420    | 6,059    | 9,518    | 7,719    | 9,752    | 13,896   | 16,413   | 11,018   | 9,290    |
| 26.     | Cephalopods                      | 293      | 77       | 389      | 248      | 426      | 955      | 2,953    | 1,451    | 1,375    | 1,042    |
| 27.     | Miscellaneous                    | 5,899    | 5,484    | 7,255    | 7,297    | 9,924    | 7,754    | 16,128   | 11,808   | 19,204   | 19,107   |
| TOTAL   |                                  | 1,51,876 | 1,55,516 | 1,60,619 | 1,55,153 | 1,82,419 | 1,75,713 | 2,21,215 | 2,26,078 | 2,06,046 | 2,12,899 |

### Karnataka

A record catch of 1.53 lakhs t. was noticed during 1978 in this state (Table 1) which was due to the increase in the number of purse-seine operations which alone caught about 75,000 t. of fish during 1978. The landings of mackerel, oil sardine, penaeid prawns, silver bellies, other sardines and pomfrets showed an increase of 24,500, 15,600, 5,100, 2,600, 2,400 and 1,700 t. respectively. Table 12 shows the species composition of marine fish landings in Karnataka during 1969 to 1978.

### Goa

An increase of 2,400 t. in the total landings was observed during 1978 as compared to 1977 (Table 1).

While the catch of other sardines, *Thissocles* spp., *Caranx* spp., oil sardine and seer fish increased by 1,100, 1,000, 650, 600 and 600 t. respectively, the landings of mackerel declined by about 4,300 t. The species composition of marine fish landings in Goa during 1969 to 1978 is shown in Table 13.

### Maharashtra

In Maharashtra, the total marine fish landings increased by about 20,000 t. (Table 1) This was mainly brought about by the higher landings of Bombay duck, the increase in the landings being 18,000 t. The other important groups that contributed to the rise in the landings were penaeid prawns (14,000t.), ribbon fish (4,000 t.), cephalopods (4,000t.) perches (4,000t.); catfish



Table 10. Composition of marine fish landings in Pondicherry during 1969 to 1978 (In tonnes)

| Sl. No.      | Name of fish                     | 1969          | 1970          | 1971          | 1972         | 1973         | 1974         | 1975         | 1976          | 1977         | 1978         |
|--------------|----------------------------------|---------------|---------------|---------------|--------------|--------------|--------------|--------------|---------------|--------------|--------------|
| 1.           | Elasmobranchs                    | 277           | 436           | 848           | 492          | 322          | 186          | 129          | 165           | 352          | 199          |
| 2.           | Eels                             | 188           | 17            | 103           | 1            | 2            | 3            | 4            | 6             | 5            | —            |
| 3.           | Catfishes                        | 139           | 148           | 360           | 72           | 122          | 65           | 55           | 66            | 137          | 168          |
| 4.           | <i>Chirocentrus</i>              | 185           | 266           | 277           | 153          | 291          | 58           | 50           | 63            | 63           | 111          |
| 5.           | a. Oil sardine                   | —             | —             | —             | —            | —            | —            | —            | —             | —            | —            |
|              | b. Lesser sardines               | 1,530         | 1,752         | 1,807         | 724          | 500          | 1,203        | 1,046        | 1,839         | 1,156        | 1,184        |
|              | c. <i>Hilsa ilisha</i>           | —             | —             | 5             | —            | —            | —            | 31           | —             | —            | —            |
|              | d. Other <i>Hilsa</i>            | 6             | 74            | 159           | 93           | 157          | 173          | 277          | 121           | 43           | 108          |
|              | e. <i>Anchoviella</i>            | 2,284         | 2,480         | 697           | 439          | 695          | 692          | 412          | 178           | 548          | 521          |
|              | f. <i>Thrissoles</i>             | 400           | 805           | 338           | 442          | 619          | 519          | 337          | 565           | 405          | 258          |
|              | g. Other clupeids                | 513           | 501           | 106           | 141          | 66           | 71           | 50           | 1             | —            | 281          |
| 6.           | a. <i>Harpodon nehereus</i>      | 2             | —             | —             | —            | —            | —            | —            | —             | —            | —            |
|              | b. <i>Saurida &amp; Saurus</i>   | 101           | 111           | 276           | 122          | 103          | 26           | 44           | 105           | 103          | 132          |
| 7.           | <i>Hemirhamphus &amp; Belone</i> | —             | 1             | 26            | 3            | —            | 21           | 55           | 2             | 4            | —            |
| 8.           | Flying fish                      | 218           | 253           | 492           | 42           | 18           | 110          | 142          | 165           | 3            | 480          |
| 9.           | Perches                          | 234           | 252           | 510           | 277          | 405          | 132          | 389          | 769           | 391          | 487          |
| 10.          | Red mullets                      | 35            | 104           | 132           | 66           | 121          | 76           | 100          | 77            | 32           | 109          |
| 11.          | Polynemids                       | 27            | 26            | 16            | 15           | 20           | 25           | 14           | 26            | 5            | 27           |
| 12.          | Sciaenids                        | 895           | 481           | 391           | 546          | 626          | 250          | 212          | 434           | 258          | 374          |
| 13.          | Ribbon fish                      | 698           | 322           | 96            | 402          | 434          | 236          | 314          | 428           | 143          | 139          |
| 14.          | a. <i>Caranx</i>                 | 589           | 233           | 1,004         | 311          | 227          | 472          | 610          | 501           | 490          | 218          |
|              | b. <i>Chorinemus</i>             | 26            | 3             | 22            | —            | —            | 2            | —            | 2             | 5            | 33           |
|              | c. <i>Trachynotus</i>            | —             | —             | —             | —            | —            | —            | —            | —             | —            | —            |
|              | d. Other carangids               | —             | —             | —             | —            | —            | —            | —            | —             | —            | —            |
|              | e. <i>Coryphaena</i>             | 8             | 1             | —             | —            | 3            | 5            | —            | 7             | 2            | 3            |
|              | f. <i>Elacate</i>                | —             | —             | 7             | —            | —            | —            | —            | —             | 1            | —            |
| 15.          | a. <i>Leiognathus</i>            | 556           | 661           | 593           | 412          | 546          | 249          | 511          | 482           | 318          | 372          |
|              | b. <i>Gazza</i>                  | —             | —             | —             | —            | —            | —            | —            | —             | 7            | —            |
| 16.          | <i>Lactarius</i>                 | 77            | 83            | 53            | 17           | 2            | 12           | 30           | 121           | 175          | —            |
| 17.          | Pomfrets                         | 127           | 105           | 48            | 67           | 82           | 24           | 13           | 44            | 53           | 50           |
| 18.          | Mackerel                         | 500           | 510           | 650           | 3,317        | 2,649        | 2,317        | 2,259        | 1,598         | 398          | 179          |
| 19.          | Seer fish                        | 33            | 83            | 76            | 25           | 46           | 68           | 23           | 28            | 34           | 41           |
| 20.          | Tunnies                          | 2             | 2             | 16            | 1            | —            | 9            | —            | 1             | —            | 3            |
| 21.          | <i>Sphyaena</i>                  | 14            | 35            | 97            | 3            | 1            | 28           | 27           | 15            | 9            | 25           |
| 22.          | <i>Mugil</i>                     | —             | 46            | 7             | 15           | 19           | 1            | 31           | 4             | 14           | 26           |
| 23.          | <i>Bregmaceros</i>               | —             | —             | —             | —            | —            | —            | —            | —             | —            | —            |
| 24.          | Soles                            | 36            | 63            | 119           | 65           | 214          | 48           | 125          | 254           | 78           | 109          |
| 25.          | a. Penaeid prawns                | 614           | 447           | 289           | 177          | 33           | 27           | 62           | 93            | 103          | 245          |
|              | b. Non-penaeid prawns            | —             | —             | 1             | 5            | 8            | 2            | 2            | —             | 2            | 71           |
|              | c. Lobsters                      | —             | —             | —             | —            | —            | —            | 25           | 33            | 20           | 2            |
|              | d. Crabs & other crustaceans     | 156           | 92            | 178           | 408          | 194          | 201          | 260          | 516           | 296          | 251          |
| 26.          | Cephalopods                      | 25            | 9             | 52            | 22           | 20           | 28           | 58           | 211           | 62           | 36           |
| 27.          | Miscellaneous                    | 142           | 222           | 603           | 105          | 137          | 359          | 453          | 1,203         | 747          | 586          |
| <b>TOTAL</b> |                                  | <b>10,637</b> | <b>10,624</b> | <b>10,454</b> | <b>8,980</b> | <b>8,682</b> | <b>7,698</b> | <b>8,150</b> | <b>10,123</b> | <b>6,462</b> | <b>6,828</b> |

(3,000 t.) and elasmobranchs (2,000 t.). The landings of non-penaeid prawns, other clupeids and pomfrets, however, declined by about 23,000, 9,000 and 4,000 t. respectively. Table 14 shows the species composition of catch in Maharashtra during 1969 to 1978.

#### Gujarat

The total landings in this state crossed 2 lakhs t. mark during the year. The catch of Bombay duck, pomfrets, other clupeids, perches, non-penaeid prawns and seer fish registered an increase of 22,000, 6,000, 4,000, 3,000, 2,000 and 2,000 t. respectively. A decline in the landings of ribbon fishes, eels, elasmobranchs, sciaenids, catfish, *Lactarius* and crabs & other crusta-

ceans was also noticed to the extent of 7,000, 6,600, 6,000, 6,000, 5,000, 4,000 and 2,000 t. respectively. The species composition of marine fish landings in Gujarat for the years 1969 to 1978 is shown in Table 15.

#### Andamans

The total landings in Andamans showed an increase of about 5,500 t. during 1978 as compared to 1977, which is due to higher input of effort (Table 1). Since the distribution of various species that accounted for 5,368 t. is not available the same is shown under miscellaneous in Table 2. (The landings of penaeid prawns, however, showed an increase of about 200 t.). The species composition of marine fish catch in Andamans for the year 1969 to 1978 is shown in Table 16.

Table 11. Composition of marine fish landings in Kerala during 1969 to 1978 (In tonnes)

| Sl. No. | Name of fish                     | 1969     | 1970     | 1971     | 1972     | 1973     | 1974     | 1975     | 1976     | 1977     | 1978     |
|---------|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1.      | Elasmobranchs                    | 5,759    | 7,490    | 4,889    | 6,986    | 8,852    | 10,338   | 10,292   | 7,308    | 5,796    | 9,302    |
| 2.      | Eels                             | 9        | 1        | 31       | 5        | 3        | 49       | 12       | 10       | 6        | 38       |
| 3.      | Catfishes                        | 6,245    | 16,380   | 15,189   | 12,636   | 17,438   | 33,526   | 32,603   | 12,743   | 7,947    | 9,125    |
| 4.      | <i>Chirocentrus</i>              | 308      | 877      | 464      | 397      | 544      | 860      | 605      | 807      | 547      | 1,298    |
| 5.      | a. Oil sardine                   | 1,39,983 | 1,91,683 | 1,94,977 | 1,04,426 | 1,22,783 | 1,02,135 | 97,183   | 1,23,937 | 1,17,356 | 1,19,937 |
|         | b. Lesser sardines               | 9,485    | 6,139    | 11,403   | 6,790    | 62,421   | 31,335   | 33,652   | 34,305   | 20,754   | 11,713   |
|         | c. <i>Hilsa ilisha</i>           | —        | —        | 9        | 19       | —        | —        | 10       | 12       | 36       | 182      |
|         | d. Other <i>Hilsa</i>            | —        | 13       | 6        | 3        | 39       | 33       | —        | —        | 14       | 69       |
|         | e. <i>Anchoviella</i>            | 10,846   | 7,948    | 10,842   | 10,672   | 8,940    | 19,463   | 11,432   | 9,987    | 10,105   | 21,203   |
|         | f. <i>Thrissoceles</i>           | 1,166    | 4,610    | 2,349    | 2,001    | 1,663    | 1,321    | 1,638    | 2,732    | 1,648    | 1,898    |
|         | g. Other clupeids                | 1,589    | 1,566    | 1,668    | 1,346    | 1,158    | 1,323    | 998      | 1,174    | 512      | 973      |
| 6.      | a. <i>Harpodon nehereus</i>      | —        | —        | 1        | 43       | 45       | 18       | —        | —        | —        | 21       |
|         | b. <i>Saurida &amp; Saurus</i>   | 546      | 1,066    | 1,395    | 1,426    | 1,136    | 8,839    | 11,294   | 99       | 5,169    | 6,246    |
| 7.      | <i>Hemirhamphus &amp; Belone</i> | 83       | 30       | 97       | 88       | 185      | 331      | 278      | 141      | 281      | 281      |
| 8.      | Flying Fish                      | —        | 3        | 2        | —        | 1        | 2        | —        | 1        | —        | —        |
| 9.      | Perches                          | 2,340    | 4,336    | 3,663    | 3,939    | 8,663    | 20,970   | 14,741   | 3,069    | 14,121   | 24,989   |
| 10.     | Red mullets                      | 1,548    | 279      | 1,573    | 2,960    | 1,537    | 3,881    | 23       | 2,577    | 240      | 171      |
| 11.     | Polynemids                       | 142      | 22       | 569      | 24       | 570      | 3        | 105      | 122      | 69       | 35       |
| 12.     | Sciaenids                        | 3,195    | 5,792    | 4,145    | 6,137    | 11,723   | 9,220    | 16,811   | 6,955    | 11,965   | 13,045   |
| 13.     | Ribbon fish                      | 7,446    | 4,922    | 17,380   | 10,459   | 23,897   | 30,192   | 15,175   | 7,687    | 7,440    | 24,207   |
| 14.     | a. <i>Caranx</i>                 | 3,542    | 2,563    | 4,952    | 14,848   | 14,283   | 5,260    | 7,190    | 10,478   | 15,673   | 7,197    |
|         | b. <i>Chorinemus</i>             | 55       | 77       | 49       | 817      | 48       | 72       | 135      | 265      | 540      | 148      |
|         | c. <i>Trachinotus</i>            | 6        | —        | 6        | 2        | —        | —        | 6        | —        | 7        | 19       |
|         | d. Other carangids               | 4        | 38       | 3        | 36       | 36       | 73       | 85       | 6        | 78       | 72       |
|         | e. <i>Coryphaena</i>             | 1        | 1        | 1        | 92       | 153      | 94       | 61       | 56       | 28       | 19       |
|         | f. <i>Elacate</i>                | 51       | 118      | 299      | 76       | 52       | 35       | 62       | 106      | 158      | 166      |
| 15.     | a. <i>Leiagnathus</i>            | 14,019   | 16,167   | 8,609    | 5,042    | 18,388   | 17,518   | 5,211    | 2,727    | 7,708    | 3,040    |
|         | b. <i>Gazza</i>                  | —        | —        | 21       | 15       | 4        | 5        | —        | —        | —        | —        |
| 16.     | <i>Lactarius</i>                 | 1,301    | 1,443    | 2,991    | 3,034    | 6,663    | 2,904    | 983      | 468      | 823      | 1,533    |
| 17.     | Pomfrets                         | 1,177    | 693      | 2,416    | 1,932    | 1,809    | 1,500    | 1,181    | 799      | 3,712    | 1,614    |
| 18.     | Mackerel                         | 29,981   | 54,659   | 95,164   | 34,516   | 19,780   | 10,335   | 14,930   | 19,978   | 19,968   | 25,917   |
| 19.     | Seer fish                        | 1,010    | 1,731    | 2,800    | 1,386    | 1,690    | 4,909    | 4,065    | 5,936    | 3,250    | 3,354    |
| 20.     | Tunnies                          | 978      | 1,226    | 3,043    | 3,626    | 2,699    | 5,927    | 5,845    | 12,880   | 6,705    | 6,548    |
| 21.     | <i>Sphyraena</i>                 | 339      | 79       | 174      | 1,125    | 2,333    | 3,865    | 396      | 494      | 353      | 721      |
| 22.     | <i>Mugil</i>                     | 64       | 154      | 549      | 91       | 103      | 953      | 74       | 26       | 38       | 1        |
| 23.     | <i>Bregmaceros</i>               | —        | —        | —        | —        | —        | —        | —        | —        | —        | —        |
| 24.     | Soles                            | 10,039   | 10,212   | 8,807    | 6,119    | 8,551    | 12,771   | 6,932    | 3,567    | 5,778    | 7,276    |
| 25.     | a. Penaeid prawns                | 34,334   | 36,940   | 31,294   | 35,866   | 84,770   | 59,815   | 77,207   | 34,478   | 40,150   | 45,034   |
|         | b. Non-penaeid prawns            | 34       | 14       | 1,519    | 711      | 981      | 1,014    | 755      | 55       | 174      | 394      |
|         | c. Lobsters                      | —        | —        | —        | —        | —        | —        | 31       | 50       | 40       | 38       |
|         | d. Crabs & other crustaceans     | 435      | 556      | 523      | 158      | 1,781    | 2,886    | 1,797    | 1,316    | 4,621    | 2,176    |
| 26.     | Cephalopods                      | 164      | 86       | 473      | 350      | 339      | 2,175    | 3,342    | 872      | 4,973    | 6,516    |
| 27.     | Miscellaneous                    | 6,923    | 12,966   | 11,002   | 15,419   | 12,208   | 14,305   | 43,696   | 22,824   | 26,254   | 16,823   |
| TOTAL   |                                  | 2,94,787 | 3,92,880 | 4,45,347 | 2,95,618 | 4,48,269 | 4,20,257 | 4,20,836 | 3,31,047 | 3,45,037 | 3,73,339 |

### Lakshadweep

In Lakshadweep, the total landings increased by 565 t. during 1978 as compared to 1977. The landings of tunnies showed an increase of about 700 t. The catch of elasmobranchs and perches, however, declined by about 100 t. and 50 t. respectively. Table 17 shows the species composition of marine fish landings in Lakshadweep during 1969 to 1978.

### Major groups of fishes

From Table 2 it is seen that oil sardine contributed to the maximum percentage in the total landings during 1978 recording about 1,68,078 t. (11.98%). The other

important groups of species in the order of abundance are penaeid prawns (1,29,204 t.-9.21%), Bombay duck (1,25,481 t.-8.94%), sciaenids (96,379 t.-6.87%), mackerel (85,233 t.-6.07%), ribbon fish (77,785 t.-5.54%), non-penaeid prawns (50,654 t.-3.61%), perches (49,312 t.-3.51%) and silver bellies (41,881 t.-2.98%).

### Oil sardine

The landings of oil sardine during 1978 showed an increase of about 18,000 t. as compared to 1977. This was due to higher landings in the states of Kerala, Karnataka and Goa. During the years 1969 to 1978, the oil sardine catch showed wide fluctuations (Table 4 & Fig. 2). A minimum of about 1,27,000 t. was recorded

Table 12. Composition of marine fish landings in Karnataka during 1969 to 1978 (In tonnes)

| Sl. No. | Name of fish                     | 1969   | 1970     | 1971     | 1972   | 1973   | 1974   | 1975   | 1976   | 1977   | 1978     |
|---------|----------------------------------|--------|----------|----------|--------|--------|--------|--------|--------|--------|----------|
| 1.      | Elasmobranchs                    | 1,130  | 1,416    | 2,753    | 4,587  | 1,690  | 2,007  | 1,726  | 1,489  | 3,238  | 2,051    |
| 2.      | Eels                             | 8      | —        | —        | 8      | 8      | 8      | 81     | —      | 3      | 8        |
| 3.      | Catfishes                        | 3,857  | 9,220    | 1,331    | 3,184  | 2,372  | 2,011  | 3,222  | 4,279  | 5,162  | 2,831    |
| 4.      | <i>Chirocentrus</i>              | 151    | 124      | 176      | 343    | 219    | 684    | 412    | 184    | 717    | 247      |
| 5.      | a. Oil sardine                   | 33,580 | 33,834   | 11,836   | 15,610 | 15,495 | 20,784 | 52,701 | 41,451 | 31,145 | 46,707   |
|         | b. Lesser sardines               | 3,962  | 2,034    | 491      | 1,563  | 1,164  | 228    | 775    | 641    | 180    | 2,572    |
|         | c. <i>Hilsa ilisha</i>           | 1      | 21       | 18       | 785    | 50     | 459    | 1      | —      | 44     | 9        |
|         | d. Other <i>Hilsa</i>            | 29     | 94       | 14       | 5      | 33     | 1      | 10     | 30     | 113    | 30       |
|         | e. <i>Anchoviella</i>            | 236    | 142      | 97       | 124    | 235    | 51     | 10     | 54     | 174    | 443      |
|         | f. <i>Thrissocles</i>            | 189    | 1,009    | 180      | 575    | 263    | 1,079  | 344    | 900    | 831    | 919      |
|         | g. Other clupeids                | 976    | 966      | 365      | 698    | 690    | 957    | 568    | 457    | 1,677  | 872      |
| 6.      | a. <i>Harpodon nehereus</i>      | 20     | 53       | 10       | 1      | 17     | 5      | 2      | 7      | 4      | 4        |
|         | b. <i>Saurida &amp; Saurus</i>   | 2      | 75       | 351      | 18     | —      | 3      | 75     | 187    | 385    | 92       |
| 7.      | <i>Hemirhamphus &amp; Belone</i> | 161    | 182      | 38       | 27     | 18     | 5      | 36     | 87     | 57     | 41       |
| 8.      | Flying fish                      | —      | —        | —        | 1      | —      | —      | —      | —      | —      | —        |
| 9.      | Perches                          | 52     | 67       | 132      | 177    | 122    | 203    | 727    | 454    | 1,489  | 174      |
| 10.     | Red mullets                      | —      | 31       | 9        | 65     | 3      | —      | 3      | 145    | 19     | 31       |
| 11.     | Polynemids                       | 20     | 20       | 1        | 69     | 8      | 16     | 3      | —      | 3      | 3        |
| 12.     | Sciaenids                        | 1,187  | 1,885    | 1,313    | 2,114  | 1,013  | 3,208  | 1,853  | 3,216  | 2,762  | 1,728    |
| 13.     | Ribbon fish                      | 144    | 280      | 330      | 748    | 138    | 303    | 219    | 583    | 237    | 404      |
| 14.     | a. <i>Caranx</i>                 | 1,585  | 860      | 440      | 516    | 1,226  | 771    | 746    | 656    | 760    | 202      |
|         | b. <i>Chorinemus</i>             | 25     | —        | 5        | 286    | 12     | 72     | 55     | 80     | 506    | 13       |
|         | c. <i>Trachinotus</i>            | —      | —        | —        | —      | —      | 115    | 49     | —      | —      | 3        |
|         | d. Other carangids               | —      | —        | —        | —      | —      | 11     | 92     | —      | 41     | 43       |
|         | e. <i>Coryphaena</i>             | —      | —        | —        | —      | —      | —      | 23     | —      | —      | —        |
|         | f. <i>Elacate</i>                | 9      | 11       | 8        | 3      | 220    | 54     | 31     | 32     | 1      | 55       |
| 15.     | a. <i>Lelognathus</i>            | 1,909  | 1,334    | 1,321    | 795    | 2,659  | 2,058  | 1,240  | 4,086  | 1,631  | 4,241    |
|         | b. <i>Gazza</i>                  | —      | —        | —        | —      | —      | —      | —      | —      | —      | —        |
| 16.     | <i>Lactarius</i>                 | 292    | 562      | 487      | 899    | 1,740  | 1,546  | 495    | 216    | 101    | 198      |
| 17.     | Pomfrets                         | 341    | 354      | 866      | 618    | 1,153  | 303    | 213    | 438    | 249    | 1,957    |
| 18.     | Mackerel                         | 13,253 | 46,337   | 64,047   | 32,249 | 35,468 | 9,696  | 12,469 | 22,455 | 26,214 | 50,704   |
| 19.     | Seer fish                        | 720    | 1,552    | 2,506    | 2,498  | 1,313  | 1,532  | 776    | 1,341  | 1,831  | 1,463    |
| 20.     | Tunnies                          | 109    | 4        | 515      | 134    | 124    | 394    | 212    | 576    | 622    | 614      |
| 21.     | <i>Sphyraena</i>                 | 5      | —        | 21       | 32     | 130    | 26     | 14     | 9      | 3      | 276      |
| 22.     | <i>Magil</i>                     | 64     | 38       | —        | 12     | 33     | —      | 8      | 6      | —      | 1        |
| 23.     | <i>Bregmaceros</i>               | —      | —        | —        | —      | —      | —      | —      | —      | —      | —        |
| 24.     | Soles                            | 325    | 628      | 656      | 1,594  | 626    | 2,377  | 373    | 637    | 985    | 1,820    |
| 25.     | a. Penaeid prawns                | 3,980  | 7,538    | 4,420    | 8,058  | 8,235  | 12,695 | 3,074  | 2,594  | 3,335  | 8,422    |
|         | b. Non-penaeid prawns            | —      | 1        | —        | 17     | 1      | 1      | —      | —      | —      | 18       |
|         | c. Lobsters                      | —      | —        | —        | —      | —      | —      | 12     | 8      | 4      | 39       |
|         | d. Crabs & other crustaceans     | 26     | 34       | 1,763    | 346    | 934    | 1,742  | 2,540  | 156    | 207    | 741      |
| 26.     | Cephalopods                      | 57     | 11       | 7        | 25     | 19     | 20     | 175    | 3,067  | 965    | 1,346    |
| 27.     | Miscellaneous                    | 7,388  | 6,219    | 7,217    | 13,892 | 14,053 | 10,838 | 2,129  | 4,762  | 11,457 | 21,538   |
| TOTAL   |                                  | 75,793 | 1,16,936 | 1,03,724 | 92,676 | 91,484 | 76,263 | 87,494 | 95,283 | 97,152 | 1,52,860 |

in 1974 and a maximum of about 2,27,000 t. was recorded in 1970. The oil sardine catch during 1978 accounted for 74% of the highest recorded in 1970

**Penaeid prawns**

During 1978, the penaeid prawns catch recorded an increase of about 33,000 t. Except Gujarat all the maritime states of India recorded comparatively higher landings. The catch of penaeid prawns showed year to year fluctuations from 1969 to 1978 (Table 4 & Fig.3). While a minimum of 72,109 t. was recorded in 1971, a maximum of 1,41,713 t. was seen in 1975. During 1978 the penaeid prawn landings formed 91% of the highest recorded in 1975.

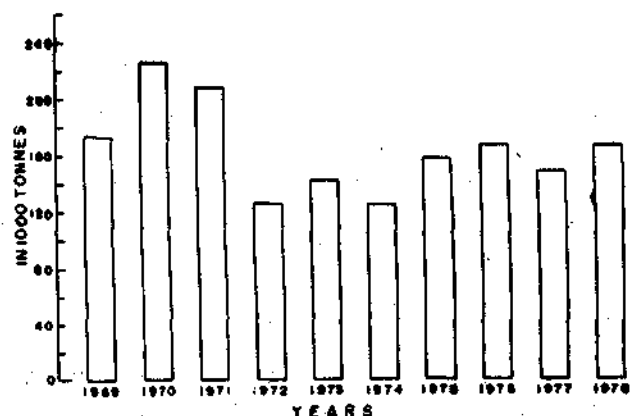


Fig. 2. Landings of oil sardine during 1969 to 1978.

Table 13. Composition of marine fish landings in Goa during 1969 to 1978 (In tonnes)

| Sl. No.      | Name of fish                     | 1969          | 1970          | 1971          | 1972          | 1973          | 1974          | 1975          | 1976          | 1977          | 1978          |
|--------------|----------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 1.           | Elasmobranchs                    | 138           | 163           | 229           | 299           | 199           | 387           | 572           | 1,038         | 625           | 863           |
| 2.           | Eels                             | —             | —             | —             | —             | —             | —             | 64            | 1             | —             | 55            |
| 3.           | Catfishes                        | 115           | 85            | 84            | 281           | 230           | 348           | 1,367         | 834           | 918           | 1,356         |
| 4.           | <i>Chirocentrus</i>              | 3             | 11            | 13            | 21            | 34            | 78            | 32            | 54            | 32            | 78            |
| 5.           | a. Oil sardine                   | —             | 1,134         | 1,994         | 3,793         | 3,426         | 2,106         | 7,526         | 1,385         | 807           | 1,398         |
|              | b. Lesser sardines               | 1,343         | 2,694         | 72            | 2,165         | 1,272         | 1,172         | 3,914         | 11,100        | 4,066         | 5,151         |
|              | c. <i>Hilsa ilisha</i>           | —             | —             | —             | —             | —             | —             | —             | —             | —             | 3             |
|              | d. Other <i>Hilsa</i>            | —             | —             | —             | —             | —             | —             | —             | —             | —             | 2             |
|              | e. <i>Anchoviella</i>            | 35            | 34            | 44            | 123           | 146           | —             | 31            | —             | 9             | 5             |
|              | f. <i>Thrisoicles</i>            | —             | —             | —             | —             | —             | 81            | 123           | 290           | 293           | 1,308         |
|              | g. Other clupeids                | 50            | 36            | 260           | 8             | 120           | 276           | 419           | 667           | 520           | 645           |
| 6.           | a. <i>Harpodon nehereus</i>      | —             | 2             | 2             | —             | —             | —             | 10            | 46            | 20            | 27            |
|              | b. <i>Saurida &amp; Saurus</i>   | 4             | 1             | —             | —             | —             | 1             | 151           | 25            | 239           | 279           |
| 7.           | <i>Hemirhamphus &amp; Belone</i> | —             | —             | —             | —             | —             | —             | —             | 8             | 13            | 56            |
| 8.           | Flying fish                      | —             | —             | —             | —             | —             | —             | —             | —             | —             | 2             |
| 9.           | Perches                          | 4             | —             | —             | 26            | 4             | 9             | 45            | 310           | 505           | 781           |
| 10.          | Red mullets                      | —             | 1             | —             | —             | 6             | 34            | 77            | —             | —             | —             |
| 11.          | Polynemids                       | —             | 4             | 15            | 13            | 13            | 44            | 63            | —             | 1             | 1             |
| 12.          | Sciaenids                        | 86            | 97            | 106           | 280           | 171           | 883           | 3,048         | 2,640         | 2,779         | 3,256         |
| 13.          | Ribbon fish                      | 134           | 60            | 23            | 12            | 48            | 111           | 355           | 1,123         | 449           | 504           |
| 14.          | a. <i>Caranx</i>                 | 2             | —             | —             | 4             | 2             | 952           | 1,078         | 794           | 1,149         | 1,803         |
|              | b. <i>Chorlinemus</i>            | 1             | 1             | —             | —             | —             | 4             | —             | 100           | 44            | 56            |
|              | c. <i>Trachynotus</i>            | —             | —             | —             | —             | —             | —             | —             | 3             | —             | —             |
|              | d. Other carangids               | —             | —             | —             | —             | —             | —             | —             | —             | —             | —             |
|              | e. <i>Coryphaena</i>             | —             | —             | —             | —             | —             | —             | —             | —             | —             | —             |
|              | f. <i>Elacate</i>                | —             | —             | —             | —             | —             | —             | —             | —             | 23            | 52            |
| 15.          | a. <i>Leiognathus</i>            | 471           | 332           | 156           | 287           | 152           | 1,420         | 604           | 896           | 458           | 704           |
|              | b. <i>Gazza</i>                  | —             | —             | —             | —             | —             | —             | —             | 3             | —             | —             |
| 16.          | <i>Lactarius</i>                 | 7             | 14            | 5             | 113           | 170           | 373           | 189           | 338           | 375           | 443           |
| 17.          | Pomfrets                         | 8             | 15            | 24            | 31            | 24            | 96            | 102           | 100           | 296           | 367           |
| 18.          | Maakrel                          | 23,872        | 14,585        | 35,258        | 19,999        | 7,616         | 7,905         | 6,779         | 6,448         | 7,661         | 3,371         |
| 19.          | Seer fish                        | 34            | 36            | 108           | 67            | 66            | 273           | 222           | 501           | 213           | 691           |
| 20.          | Tunnies                          | —             | 2             | —             | —             | —             | —             | 2             | 23            | 107           | 300           |
| 21.          | <i>Sphyræna</i>                  | 1             | —             | —             | —             | —             | —             | —             | —             | —             | 7             |
| 22.          | <i>Mugil</i>                     | 4             | —             | —             | 18            | —             | 5             | 124           | 4             | 46            | 32            |
| 23.          | <i>Bregmaceros</i>               | —             | —             | —             | —             | —             | —             | —             | —             | —             | —             |
| 24.          | Soles                            | 284           | 119           | 64            | 221           | 95            | 196           | 16            | 137           | 335           | 417           |
| 25.          | a. Penaeid prawns                | 559           | 627           | 279           | 561           | 785           | 1,448         | 1,762         | 4,643         | 1,436         | 1,647         |
|              | b. Non-penaeid prawns            | —             | —             | —             | —             | —             | —             | —             | —             | 24            | 26            |
|              | c. Lobsters                      | —             | —             | —             | —             | —             | —             | 6             | 3             | 7             | 13            |
|              | d. Crabs & other crustaceans     | 5             | 5             | 11            | 7             | 20            | 86            | 227           | 971           | 637           | 531           |
| 26.          | Cephalopods                      | —             | —             | —             | 5             | —             | 14            | 96            | 142           | 164           | 124           |
| 27.          | Miscellaneous                    | 399           | 678           | 1,233         | 1,770         | 1,141         | 1,232         | 166           | 341           | 479           | 757           |
| <b>TOTAL</b> |                                  | <b>27,559</b> | <b>20,736</b> | <b>39,980</b> | <b>30,104</b> | <b>15,740</b> | <b>19,534</b> | <b>29,170</b> | <b>34,968</b> | <b>24,731</b> | <b>27,111</b> |

**Bombay duck**

Bombay duck landings during 1978 registered an increase of about 40,000 t. as compared to 1977. Maharashtra and Gujarat contributed higher landings during the year. During 1969 to 1978 the landings of Bombay duck showed wide fluctuations (Table 4 & Fig. 4). A minimum of 51,570 t. was recorded in 1972, while a maximum of 1,25,481 t. was recorded in 1978 which is the highest recorded in this decade.

**Sciaenids**

The landings of sciaenids during 1978 showed a marginal decline of about 3,500 t. as compared to 1977.

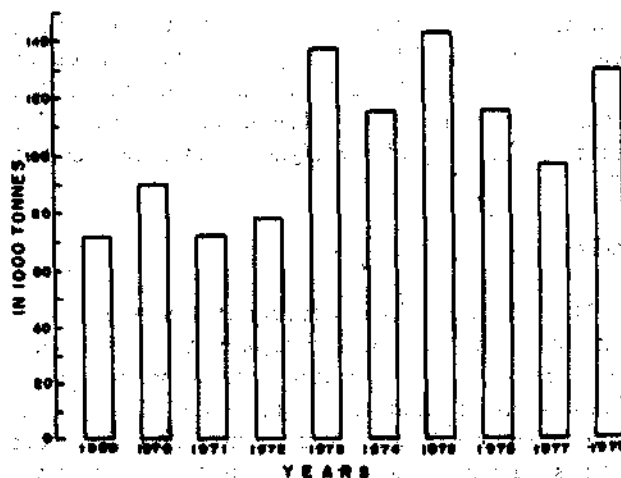


Fig. 3. Landings of penaeid prawns during 1969 to 1978

Table 14. Composition of marine fish landings in Maharashtra during 1969 to 1978 (In tonnes)

| Sl. No. | Name of fish                     | 1969     | 1970     | 1971     | 1972     | 1973     | 1974     | 1975     | 1976     | 1977     | 1978     |
|---------|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1.      | Elasmobranchs                    | 6,835    | 4,374    | 4,470    | 5,937    | 7,624    | 6,538    | 8,167    | 7,089    | 7,746    | 10,072   |
| 2.      | Eels                             | 2,339    | 5,396    | 2,864    | 3,190    | 2,026    | 674      | 1,101    | 4,168    | 3,849    | 5,384    |
| 3.      | Catfishes                        | 6,776    | 10,817   | 18,052   | 12,821   | 9,226    | 7,240    | 8,236    | 9,522    | 8,318    | 11,081   |
| 4.      | <i>Chirocentrus</i>              | 1,655    | 720      | 1,207    | 1,268    | 2,152    | 1,135    | 2,936    | 2,409    | 2,634    | 3,059    |
| 5.      | a. Oil sardine                   | 399      | 300      | 407      | 3,593    | 2,483    | 1,083    | 1,699    | 2,377    | 108      | —        |
|         | b. Lesser sardines               | 1,223    | 3,404    | 1,864    | 2,877    | 3,077    | 1,238    | 3,103    | 1,963    | 1,024    | 868      |
|         | c. <i>Hilsa ilisha</i>           | 34       | —        | 22       | 13       | 89       | 4        | 16       | 154      | 352      | 1,558    |
|         | d. Other <i>Hilsa</i>            | 1,012    | 1,542    | 1,121    | 1,399    | 849      | 800      | 1,152    | 661      | 978      | 466      |
|         | e. <i>Anchoviella</i>            | 68       | 484      | 990      | 209      | 573      | 272      | 533      | 209      | 269      | 340      |
|         | f. <i>Thrissocles</i>            | 699      | 745      | 1,574    | 1,236    | 3,008    | 869      | 927      | 1,276    | 1,679    | 1,821    |
|         | g. Other clupeids                | 8,342    | 6,493    | 8,781    | 9,484    | 15,018   | 13,892   | 21,172   | 16,944   | 22,782   | 13,608   |
| 6.      | a. <i>Harpodon nehereus</i>      | 25,171   | 33,730   | 33,993   | 21,246   | 34,179   | 29,989   | 51,645   | 49,470   | 50,803   | 68,781   |
|         | b. <i>Saurida &amp; Saurus</i>   | 283      | 165      | 148      | 577      | 987      | 637      | 218      | 1,089    | 1,135    | 1,815    |
| 7.      | <i>Hemirhamphus &amp; Belone</i> | 251      | 432      | 127      | 108      | 117      | 33       | 52       | 30       | 32       | 51       |
| 8.      | Flying fish                      | —        | 1        | 49       | 13       | 1        | 2        | 2        | —        | —        | 5        |
| 9.      | Perches                          | 1,694    | 2,084    | 853      | 1,379    | 3,195    | 2,111    | 2,484    | 1,460    | 2,973    | 6,951    |
| 10.     | Red mullets                      | 675      | 268      | 514      | 1,133    | 987      | 701      | 103      | 497      | 171      | 344      |
| 11.     | Polynemids                       | 611      | 3,287    | 987      | 2,174    | 2,333    | 1,797    | 1,628    | 4,125    | 862      | 1,909    |
| 12.     | Sciaenids                        | 10,733   | 12,906   | 13,339   | 11,299   | 14,319   | 17,453   | 20,576   | 19,781   | 17,086   | 17,202   |
| 13.     | Ribbon fish                      | 4,794    | 4,968    | 6,562    | 8,544    | 13,363   | 9,585    | 9,435    | 10,052   | 6,338    | 10,400   |
| 14.     | a. <i>Caranx</i>                 | 3,899    | 4,383    | 2,280    | 1,371    | 804      | 2,535    | 2,240    | 1,179    | 1,167    | 1,899    |
|         | b. <i>Chorinemus</i>             | 876      | 276      | 87       | 171      | 445      | 179      | 145      | 121      | 230      | 300      |
|         | c. <i>Trachinotus</i>            | —        | —        | —        | —        | 189      | 5        | 3        | —        | —        | —        |
|         | d. Other carangids               | —        | 868      | 134      | 29       | 84       | 4        | —        | 654      | —        | 50       |
|         | e. <i>Coryphaena</i>             | —        | —        | —        | —        | 4        | 9        | 11       | 2        | —        | —        |
|         | f. <i>Elacate</i>                | 1        | 199      | —        | 6        | 126      | 21       | 15       | —        | —        | —        |
| 15.     | a. <i>Lelognathus</i>            | 906      | 242      | 231      | 268      | 955      | 473      | 200      | —        | 358      | 323      |
|         | b. <i>Gazza</i>                  | —        | 74       | 126      | —        | —        | 293      | 293      | —        | —        | —        |
| 16.     | <i>Lactarius</i>                 | 529      | 585      | 288      | 322      | 760      | 431      | 431      | 643      | 247      | 836      |
| 17.     | Pomfrets                         | 12,776   | 4,210    | 5,787    | 6,858    | 8,209    | 6,683    | 8,351    | 17,979   | 17,295   | 13,050   |
| 18.     | Mackerel                         | 20,685   | 17,198   | 4,650    | 5,507    | 2,368    | 2,587    | 1,860    | 1,944    | 875      | 787      |
| 19.     | Seer fish                        | 2,570    | 1,496    | 1,509    | 2,089    | 1,769    | 1,434    | 1,850    | 2,116    | 3,220    | 2,915    |
| 20.     | Tunnies                          | 123      | 278      | 292      | 294      | 743      | 286      | 274      | 463      | 312      | 1,939    |
| 21.     | <i>Sphyraena</i>                 | 27       | —        | —        | 54       | 21       | 21       | 17       | 50       | —        | 388      |
| 22.     | <i>Mugil</i>                     | 286      | 74       | 72       | 55       | 65       | 22       | 30       | 191      | 48       | 102      |
| 23.     | <i>Bregmaceros</i>               | 1,684    | 2,196    | 4,345    | 5,488    | 4,213    | 1,806    | 1,043    | 380      | 30       | 21       |
| 24.     | Soles                            | 410      | 1,440    | 904      | 553      | 2,737    | 502      | 487      | 1,553    | 1,245    | 1,676    |
| 25.     | a. Penaeid prawns                | 14,545   | 28,920   | 18,974   | 20,173   | 16,894   | 14,712   | 24,653   | 40,772   | 26,675   | 41,091   |
|         | b. Non-penaeid prawns            | 31,235   | 28,425   | 74,637   | 83,952   | 63,455   | 50,025   | 69,012   | 63,702   | 66,978   | 44,255   |
|         | c. Lobsters                      | —        | —        | —        | —        | —        | —        | 245      | 419      | 434      | 607      |
|         | d. Crabs & other crustaceans     | 144      | 5,625    | 979      | 487      | 687      | 973      | 550      | 51       | 93       | 148      |
| 26.     | Cephalopods                      | 147      | 326      | 368      | 282      | 501      | 298      | 482      | 2,488    | 596      | 4,557    |
| 27.     | Miscellaneous                    | 4,283    | 3,430    | 1,718    | 3,543    | 6,061    | 5,609    | 9,242    | 25,615   | 15,510   | 13,585   |
| TOTAL   |                                  | 1,68,720 | 1,92,361 | 2,15,305 | 2,20,002 | 2,26,696 | 1,84,961 | 2,56,619 | 2,93,601 | 2,64,452 | 2,84,244 |

An analysis of catch trends during 1969 to 1978 shows a wide fluctuation (Table 4 & Fig. 5). While a minimum of 36,903 t. was recorded in 1971, a maximum of 1,14,535 t. was recorded in 1975. The landings during 1978 accounted for 84% of the highest catch recorded in 1975.

#### Mackerel

The mackerel landings during 1978 showed an increase of about 23,000 t. as compared to 1977. While Kerala, Karnataka and Andhra Pradesh recorded comparatively higher landings of mackerel, Goa, Tamil Nadu, Pondicherry and Maharashtra recorded poor landings. From Table 4 and Fig. 6 it is seen that the landings during 1969 to 1978 showed wide fluctuations.

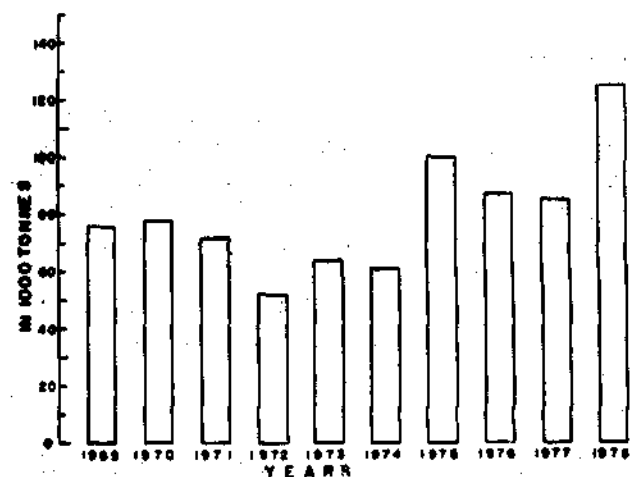


Fig. 4. Landings of Bombay duck during 1969 to 1978

Table 15. Composition of marine fish landings in Gujarat during 1969 to 1978 (In tonnes)

| Sl. No. | Name of fish                     | 1969   | 1970   | 1971   | 1972   | 1973     | 1974     | 1975     | 1976     | 1977     | 1978     |
|---------|----------------------------------|--------|--------|--------|--------|----------|----------|----------|----------|----------|----------|
| 1.      | Elasmobranchs                    | 3,657  | 5,755  | 6,249  | 6,572  | 3,995    | 10,227   | 11,930   | 7,896    | 17,565   | 11,511   |
| 2.      | Eels                             | 152    | 963    | 796    | 1,124  | 1,396    | 2,446    | 2,497    | 3,283    | 8,463    | 1,886    |
| 3.      | Catfishes                        | 2,453  | 4,021  | 3,570  | 3,905  | 2,071    | 5,548    | 2,514    | 2,140    | 8,958    | 4,159    |
| 4.      | <i>Chirocentrus</i>              | 592    | 905    | 2,363  | 2,435  | 1,295    | 1,722    | 2,325    | 2,155    | 3,327    | 1,869    |
| 5.      | a. Oil sardine                   | 23     | —      | —      | —      | —        | —        | —        | —        | —        | —        |
|         | b. Lesser sardines               | 21     | 33     | 43     | 368    | —        | —        | —        | 8        | —        | —        |
|         | c. <i>Hilsa ilisha</i>           | 461    | 658    | 624    | 165    | 48       | 258      | 3,394    | 1,098    | 329      | 49       |
|         | d. Other <i>Hilsa</i>            | 3,150  | 4,540  | 5,405  | 5,536  | 6,500    | 3,292    | 3,846    | 3,367    | 5,547    | 5,703    |
|         | e. <i>Anchoviella</i>            | —      | —      | —      | 9      | —        | —        | 130      | —        | —        | —        |
|         | f. <i>Thrissocles</i>            | 135    | 619    | 217    | 113    | 174      | 239      | 117      | 269      | 105      | 608      |
|         | g. Other clupeids                | 5,111  | 4,751  | 3,372  | 3,983  | 1,995    | 11,557   | 13,192   | 11,098   | 9,458    | 13,282   |
| 6.      | a. <i>Harpodon nehereus</i>      | 49,484 | 43,618 | 35,680 | 29,011 | 27,664   | 29,675   | 44,554   | 34,998   | 32,289   | 53,870   |
|         | b. <i>Saurida &amp; Saurus</i>   | —      | —      | —      | 1,169  | 563      | 1,546    | 1,267    | 2,797    | 42       | 82       |
| 7.      | <i>Hemirhamphus &amp; Belone</i> | —      | —      | —      | 5      | 2        | —        | 3        | 101      | 104      | 1        |
| 8.      | Flying fish                      | —      | —      | —      | —      | —        | 127      | —        | —        | —        | —        |
| 9.      | Perches                          | 265    | 498    | 383    | 1,394  | 2,403    | 2,462    | 3,261    | 4,641    | 1,213    | 4,174    |
| 10.     | Red mullets                      | 8      | —      | —      | —      | 1        | 1        | —        | 680      | 779      | 2        |
| 11.     | Polynemids                       | 159    | 1,015  | 2,391  | 1,626  | 2,969    | 5,331    | 8,832    | 6,230    | 268      | 339      |
| 12.     | Sciaenids                        | 2,211  | 3,989  | 3,433  | 3,806  | 40,324   | 24,275   | 45,781   | 28,698   | 39,968   | 33,968   |
| 13.     | Ribbon fish                      | 1,455  | 1,656  | 1,145  | 1,447  | 938      | 1,849    | 1,097    | 12,341   | 14,180   | 6,944    |
| 14.     | a. <i>Caranx</i>                 | 736    | 371    | 771    | 229    | 242      | 1,068    | 1,012    | 1,642    | 1,002    | 270      |
|         | b. <i>Chorinemus</i>             | 9      | 252    | —      | 7      | 251      | 95       | —        | 14       | 401      | 320      |
|         | c. <i>Trachynotus</i>            | —      | —      | —      | —      | —        | —        | —        | —        | —        | —        |
|         | d. Other carangids               | —      | —      | 128    | 214    | —        | —        | 14       | —        | —        | —        |
|         | e. <i>Coryphaena</i>             | —      | —      | —      | —      | —        | —        | —        | —        | —        | —        |
|         | f. <i>Elacate</i>                | —      | —      | —      | —      | —        | —        | —        | 14       | —        | —        |
| 15.     | a. <i>Lelognathus</i>            | 8      | 8      | 82     | —      | —        | 2        | 1        | 908      | —        | —        |
|         | b. <i>Gazza</i>                  | —      | —      | —      | —      | —        | —        | —        | —        | —        | —        |
| 16.     | <i>Lactarius</i>                 | —      | —      | —      | 421    | 765      | 987      | 5,379    | 7,765    | 7,349    | 3,360    |
| 17.     | Pomfrets                         | 5,468  | 7,978  | 6,781  | 4,234  | 4,249    | 8,029    | 5,612    | 2,116    | 9,174    | 15,141   |
| 18.     | Mackerel                         | 15     | —      | 1      | —      | —        | —        | —        | —        | —        | —        |
| 19.     | Seer fish                        | 1,030  | 1,043  | 2,524  | 2,850  | 4,110    | 686      | 1,879    | 1,634    | 2,022    | 3,734    |
| 20.     | Tunnies                          | —      | —      | 1      | 1      | 268      | 579      | 546      | 734      | 332      | 451      |
| 21.     | <i>Sphyraena</i>                 | —      | —      | —      | 36     | 29       | 54       | 26       | 9        | 154      | —        |
| 22.     | <i>Mugil</i>                     | 1,006  | 1,116  | 1,674  | 847    | 1,116    | 1,291    | 600      | 1,097    | 900      | 1,264    |
| 23.     | <i>Bregmaceros</i>               | —      | —      | —      | —      | —        | 66       | —        | —        | —        | 163      |
| 24.     | Soles                            | 86     | 82     | 54     | 392    | 1,525    | 1,456    | 2,991    | 2,969    | 729      | 268      |
| 25.     | a. Penaeid prawns                | 2,622  | 2,653  | 2,873  | 2,013  | 10,550   | 5,970    | 13,395   | 11,497   | 8,861    | 7,938    |
|         | b. Non-penaeid prawns            | 651    | 946    | 141    | 218    | 70       | 149      | 2,386    | 7,778    | 1,260    | 3,096    |
|         | c. Lobsters                      | —      | —      | —      | —      | —        | 39       | 2,105    | 1,491    | 424      | 339      |
|         | d. Crabs & other crustaceans     | 1      | —      | 3      | 393    | 749      | 5        | 10       | 224      | 2,471    | 584      |
| 26.     | Cephalopods                      | 1      | —      | —      | 3      | 1        | 7        | 611      | 2,286    | 1,439    | 1,959    |
| 27.     | Miscellaneous                    | 1,277  | 1,555  | 1,454  | 1,320  | 5,700    | 24,266   | 12,468   | 7,316    | 10,525   | 24,595   |
| TOTAL   |                                  | 82,248 | 89,027 | 82,159 | 75,846 | 1,21,963 | 1,45,309 | 1,93,775 | 1,71,294 | 1,89,638 | 2,01,929 |

A minimum of 37,462 t. was recorded in 1974 and a maximum of 2,04,575 t. recorded during 1971. The landings in 1978 formed only 42% of the highest catch recorded in 1971.

**Ribbon fish**

During 1978, the landings of ribbon fish showed an increase of about 35,000 t. Except Andhra Pradesh and Gujarat all the maritime states of India recorded higher landings during the year. The landings during 1969 to 1978 (Table 4 & Fig. 7) showed wide fluctuations, the minimum being in 1970 (26,984 t.) and the maximum in 1978 (77,785 t.) which is the highest recorded in this decade.

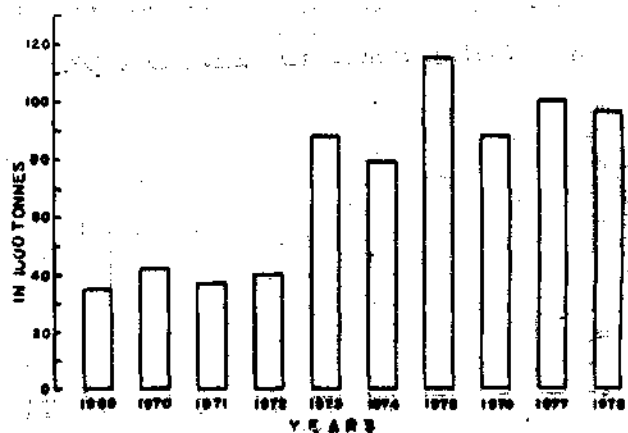


Fig. 5. Landings of sciaenids during 1969 to 1978

## Non-penaeid prawns

The catch of non-penaeid prawns during the year declined by about 23,000 t. This was due to reduced landings in the states of Maharashtra and Andhra Pradesh. Some increase was, however, seen in the landings in the states of Gujarat, West Bengal, Tamil Nadu and Pondicherry. From Table 4 and Fig. 8 it is seen that the landings of non-penaeid prawns during 1969 to 1978 showed year to year fluctuations. While a minimum of 31,834 t. was recorded in 1970, the

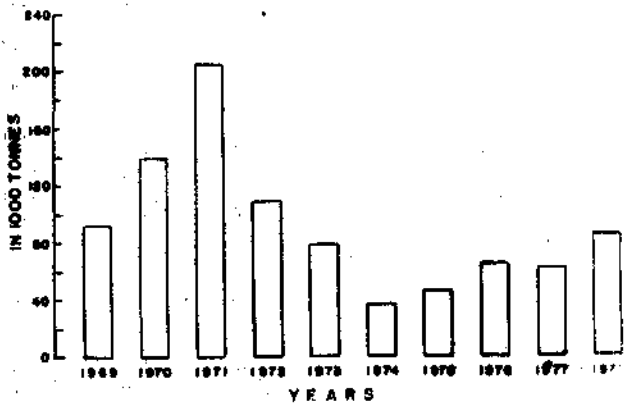


Fig. 6. Landings of mackerel during 1969 to 1978.

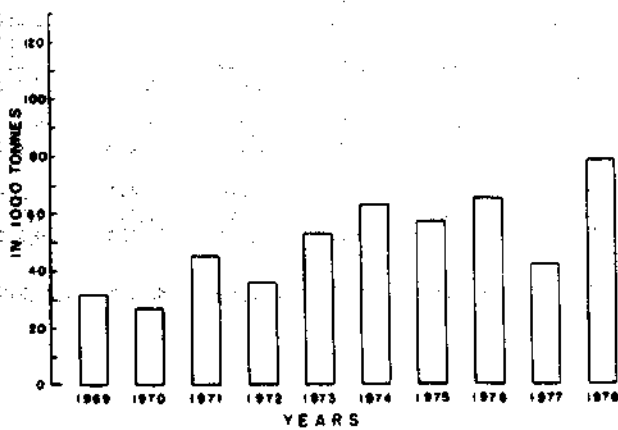


Fig. 7. Landings of ribbon fish during 1969 to 1978.

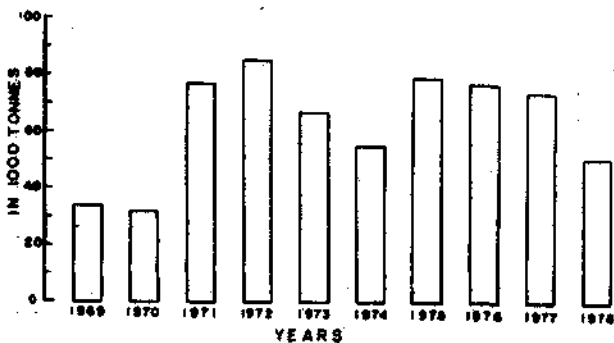


Fig. 8. Landings of non-penaeid prawns during 1969 to 1978.

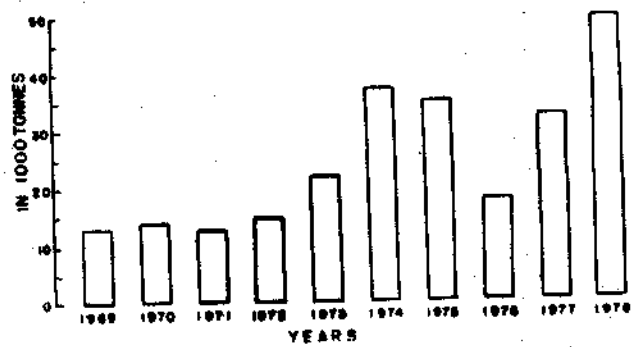


Fig. 9. Landings of perches during 1969 to 1978.

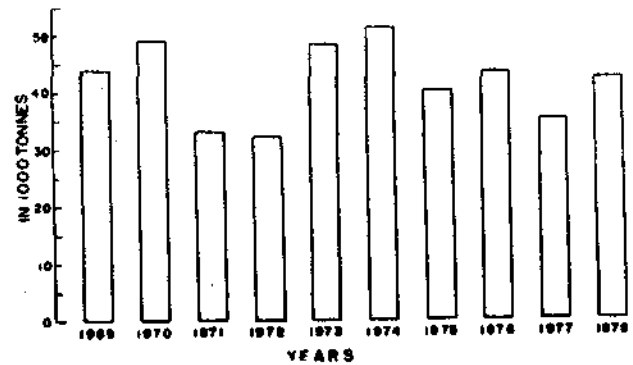


Fig. 10. Landings of silver bellies during 1969 to 1978.

maximum was noticed in 1972 (85,488 t.) The landings during 1978 represented 59% of the highest catch recorded in 1972.

## Perches

The landings of perches during 1978 recorded an increase of about 17,500 t. as compared to 1977. Except Andhra Pradesh and Karnataka, all the maritime states of India recorded higher landings during the year. The landings during 1969 to 1978 showed fluctuations as seen in Table 4 and Fig. 9. A minimum of 12,865 t. was recorded in 1969 and a maximum of 49,312 t. was registered in 1978.

## Silver bellies

During 1978, the landings of silver bellies showed an increase of about 7,000 t. Barring Andhra Pradesh, Kerala and Maharashtra all the maritime states of India registered increased landings during 1978. From Table 4 and Fig. 10 it is seen that the landings showed minor fluctuations from year to year during 1969 to 1978. While a minimum of 32,392 t. was recorded during 1972, a maximum of 51,240 t. was obtained in 1974. The landings during 1978 formed about 82% of the highest recorded in 1974.

Table 16. Composition of marine fish landings in Andamans during 1969 to 1978 (In tonnes)

| Sl. No. | Name of fish                     | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975  | 1976  | 1977  | 1978  |
|---------|----------------------------------|------|------|------|------|------|------|-------|-------|-------|-------|
| 1.      | Elasmobranchs                    | 18   | 21   | 22   | 18   | 33   | 27   | 48    | 72    | 90    | 89    |
| 2.      | Eels                             | —    | —    | —    | —    | —    | —    | —     | 1     | —     | —     |
| 3.      | Catfishes                        | 13   | 10   | 14   | 15   | 8    | 14   | 15    | 19    | 28    | 33    |
| 4.      | <i>Chirocentrus</i>              | 8    | 12   | 11   | 13   | 5    | 18   | 35    | 33    | 38    | 40    |
| 5.      | a. Oil sardine                   | —    | —    | —    | —    | —    | —    | —     | —     | —     | —     |
|         | b. Lesser sardines               | 42   | 46   | 48   | 62   | 67   | 55   | 66    | 86    | 86    | 97    |
|         | c. <i>Hilsa ilisha</i>           | —    | —    | —    | —    | —    | —    | —     | —     | —     | —     |
|         | d. Other <i>Hilsa</i>            | 1    | 1    | 6    | 11   | 5    | 7    | 13    | 28    | 25    | 31    |
|         | e. <i>Anchoviella</i>            | 38   | 41   | 36   | 67   | 67   | 53   | 79    | 118   | 103   | 92    |
|         | f. <i>Thrissoles</i>             | —    | —    | —    | —    | —    | —    | —     | —     | —     | —     |
|         | g. Other clupeids                | 16   | 6    | 9    | 12   | 5    | 18   | 9     | —     | 11    | 18    |
| 6.      | a. <i>Harpodon nehereus</i>      | —    | —    | —    | —    | —    | —    | —     | —     | —     | —     |
|         | b. <i>Saurida &amp; Saurus</i>   | —    | —    | —    | —    | —    | —    | —     | —     | —     | —     |
| 7.      | <i>Hemirhamphus &amp; Belone</i> | 6    | 9    | 17   | 13   | 10   | 9    | 16    | 35    | 33    | 61    |
| 8.      | Flying fish                      | —    | —    | —    | —    | —    | —    | —     | —     | —     | —     |
| 9.      | Perches                          | 75   | 74   | 79   | 87   | 103  | 114  | 157   | 142   | 196   | 234   |
| 10.     | Red mullets                      | —    | —    | —    | —    | —    | —    | —     | 2     | 4     | —     |
| 11.     | Polynemids                       | —    | —    | —    | —    | —    | —    | —     | —     | —     | —     |
| 12.     | Sciaenids                        | —    | —    | —    | —    | —    | —    | —     | 5     | —     | —     |
| 13.     | Ribbon fish                      | —    | —    | —    | —    | —    | —    | —     | —     | —     | 1     |
| 14.     | a. <i>Caranx</i>                 | 44   | 56   | 64   | 87   | 106  | 81   | 108   | 125   | 134   | 133   |
|         | b. <i>Chorinemus</i>             | —    | —    | —    | —    | —    | —    | —     | —     | —     | —     |
|         | c. <i>Trachynotus</i>            | —    | —    | —    | —    | —    | —    | —     | —     | —     | —     |
|         | d. Other carangids               | —    | —    | —    | —    | —    | —    | —     | —     | —     | —     |
|         | e. <i>Coryphaena</i>             | —    | —    | —    | —    | —    | —    | —     | —     | —     | —     |
|         | f. <i>Elacate</i>                | —    | —    | —    | —    | —    | —    | —     | —     | —     | —     |
| 15.     | a. <i>Lefognathus</i>            | 23   | 28   | 41   | 54   | 50   | 47   | 80    | 117   | 97    | 89    |
|         | b. <i>Gazza</i>                  | —    | —    | —    | —    | —    | —    | —     | —     | —     | —     |
| 16.     | <i>Lactarius</i>                 | —    | —    | —    | —    | —    | —    | —     | —     | —     | —     |
| 17.     | Pomfrets                         | 4    | 5    | 10   | 7    | 6    | 11   | 14    | 30    | 30    | 25    |
| 18.     | Mackerel                         | 22   | 23   | 22   | 47   | 100  | 38   | 115   | 77    | 111   | 106   |
| 19.     | Seer fish                        | 32   | 51   | 46   | 75   | 91   | 63   | 85    | 93    | 119   | 127   |
| 20.     | Tunnies                          | 7    | 9    | 12   | 9    | 13   | 7    | 9     | 13    | 37    | 57    |
| 21.     | <i>Sphyraena</i>                 | 8    | 13   | 18   | 18   | 13   | 26   | 25    | 49    | 76    | 80    |
| 22.     | <i>Mugil</i>                     | 28   | 53   | 52   | 69   | 80   | 74   | 84    | 101   | 130   | 131   |
| 23.     | <i>Bregmaceros</i>               | —    | —    | —    | —    | —    | —    | —     | —     | —     | —     |
| 24.     | Soles                            | —    | —    | —    | —    | —    | —    | —     | —     | —     | —     |
| 25.     | a. Penaeid prawns                | 8    | 10   | 12   | 12   | 8    | 28   | 28    | 39    | 45    | 265   |
|         | b. Non-penaeid prawns            | —    | —    | —    | —    | —    | —    | —     | —     | —     | —     |
|         | c. Other crustaceans             | —    | —    | —    | —    | —    | —    | —     | —     | —     | —     |
| 26.     | Cephalopods                      | —    | —    | —    | —    | —    | —    | —     | —     | —     | —     |
| 27.     | Miscellaneous                    | 19   | 32   | 50   | 104  | 84   | 230  | 118   | 149   | 119   | 5,368 |
|         | TOTAL                            | 412  | 500  | 569  | 780  | 854  | 920  | 1,104 | 1,334 | 1,532 | 7,077 |

Table 17. Composition of marine fish landings in Lakshadweep during 1969 to 1978 (In tonnes)

| Sl. No. | Name of fish                   | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 |
|---------|--------------------------------|------|------|------|------|------|------|------|------|------|------|
| 1.      | Elasmobranchs                  | 137  | 214  | 120  | 157  | 171  | 253  | 329  | 354  | 296  | 198  |
| 2.      | Eels                           | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    |
| 3.      | Catfishes                      | —    | —    | —    | —    | —    | —    | 1    | —    | —    | —    |
| 4.      | <i>Chirocentrus</i>            | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    |
| 5.      | a. Oil sardine                 | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    |
|         | b. Lesser sardines             | 4    | —    | —    | —    | —    | —    | —    | —    | —    | —    |
|         | c. <i>Hilsa ilisha</i>         | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    |
|         | d. Other <i>Hilsa</i>          | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    |
|         | e. <i>Anchoviella</i>          | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    |
|         | f. <i>Thrissoles</i>           | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    |
|         | g. Other clupeids              | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    |
| 6.      | a. <i>Harpodon nehereus</i>    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    |
|         | b. <i>Saurida &amp; Saurus</i> | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    |

(Contd.)



Table 17 (Contd.)

|       |                                  |       |       |       |       |       |       |       |       |       |       |
|-------|----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 7.    | <i>Hemirhamphus &amp; Belone</i> | 15    | 16    | 9     | 19    | 99    | 27    | 29    | 33    | 58    | 144   |
| 8.    | Flying fish                      | 24    | 20    | 14    | 17    | 42    | 43    | 30    | 41    | 30    | 33    |
| 9.    | Perches                          | 69    | 72    | 43    | 83    | 130   | 159   | 186   | 193   | 211   | 163   |
| 10.   | Red mullets                      | 34    | 33    | 8     | 12    | 36    | 32    | 34    | 58    | 29    | 27    |
| 11.   | Polynemids                       | —     | —     | —     | —     | —     | —     | —     | —     | —     | —     |
| 12.   | Sciaenids                        | —     | —     | —     | —     | —     | —     | 2     | —     | —     | —     |
| 13.   | Ribbon fish                      | —     | —     | —     | —     | —     | —     | —     | —     | —     | —     |
| 14.   | a. <i>Caranx</i>                 | 46    | 32    | 20    | 30    | 63    | 61    | 61    | 94    | 65    | 60    |
|       | b. <i>Chorinemus</i>             | —     | —     | —     | —     | —     | —     | —     | —     | —     | —     |
|       | c. <i>Trachinotus</i>            | —     | —     | —     | —     | —     | —     | —     | —     | —     | —     |
|       | d. Other carangids               | —     | —     | —     | —     | —     | —     | —     | —     | —     | —     |
|       | e. <i>Coryphaena</i>             | —     | —     | —     | —     | —     | —     | —     | —     | —     | —     |
|       | f. <i>Elacate</i>                | —     | —     | —     | —     | —     | —     | —     | —     | —     | —     |
| 15.   | a. <i>Leiognathus</i>            | —     | —     | —     | —     | —     | —     | 5     | —     | —     | —     |
|       | b. <i>Gazza</i>                  | —     | —     | —     | —     | —     | —     | —     | —     | —     | —     |
| 16.   | <i>Lactarius</i>                 | —     | —     | —     | —     | —     | —     | —     | —     | —     | —     |
| 17.   | Pomfrets                         | —     | —     | —     | —     | —     | —     | —     | —     | —     | —     |
| 18.   | Mackerel                         | —     | —     | —     | —     | —     | —     | —     | —     | —     | —     |
| 19.   | Seer fish                        | 63    | 58    | 48    | 51    | 29    | 91    | 66    | 87    | 41    | 41    |
| 20.   | Tunnies                          | 665   | 571   | 774   | 514   | 1,020 | 1,254 | 1,932 | 1,291 | 1,166 | 1,875 |
| 21.   | <i>Sphyraena</i>                 | 7     | 6     | 7     | 8     | 11    | 18    | 17    | 20    | 15    | 18    |
| 22.   | <i>Mugil</i>                     | —     | —     | —     | —     | —     | —     | —     | —     | —     | —     |
| 23.   | <i>Bregmaceros</i>               | —     | —     | —     | —     | —     | —     | —     | —     | —     | —     |
| 24.   | Soles                            | —     | —     | —     | —     | —     | —     | —     | —     | —     | —     |
| 25.   | a. Penaeid prawns                | —     | —     | —     | —     | —     | —     | —     | —     | —     | —     |
|       | b. Non-penaeid prawns            | —     | —     | —     | —     | —     | —     | —     | —     | —     | —     |
|       | c. Other crustaceans             | —     | —     | —     | —     | —     | —     | —     | —     | —     | —     |
| 26.   | Cephalopods                      | 10    | 9     | 13    | 17    | 20    | 15    | 19    | 40    | 23    | 20    |
| 27.   | Miscellaneous                    | 119   | 134   | 134   | 172   | 232   | 279   | 224   | 361   | 281   | 201   |
| TOTAL |                                  | 1,193 | 1,165 | 1,190 | 1,080 | 1,853 | 2,232 | 2,931 | 2,572 | 2,215 | 2,780 |