

THE OIL SARDINE FISHERY ALONG NORTHERN TAMIL NADU COAST WITH A NOTE ON UNUSUALLY HEAVY LANDINGS AT CUDDALORE, PAZHAYAR AND KAVERIPATTINAM*

The Indian Oil sardine, *Sardinella longiceps* has become one of the important exploited fishery resources along the Tamil Nadu coast in recent years. With considerable annual fluctuations, the oil sardine production of Tamil Nadu including Pondicherry has increased from 4,270 t in 1985 to a record catch of 37,751 t in 1990 contributing 11.8% of the total marine fish production (Fig. 1). The trend of oil sardine catches indicates that maximum production was in the northern region of Tamil Nadu comprising Chengelpet to South Arcot districts including Pondicherry (Fig. 2) accounting for an average of 72.7% of the fishery during the period 1985-'89. In the oil sardine production during the period, South Arcot district predominated with a maximum of 43.4% of catches followed by 30.7% obtained along Pondicherry coast (Table 1). Earlier observations indicate that the occurrence of oil sardine along areas south of Madras especially between Pondicherry and Parangipettai was a regular phenomenon than incidental (*Mar. Fish. Infor. Serv., T & E Ser., 96, 1989*).

The oil sardine landings along Chengelpet, Madras and South Arcot districts of Tamil Nadu together contributed an average of 60% to the total oil sardine production of the state during the period 1985-'89 (Fig. 3). The study reveals that the best catches obtained along the districts were during the third and fourth quarters of the period and sizable quantities were also landed in the second quarter during some years.

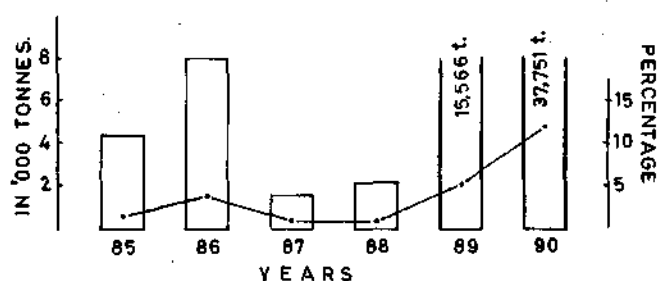


Fig. 1. Oil sardine landings along Tamil Nadu coast during 1985-'90 and its percentage composition in total marine fish production of the state.

TABLE 1. Oil sardine landings (in tonnes) along the districts of Chengelpet, Madras and South Arcot of Tamil Nadu and Pondicherry during 1985-'89 (Percentages of total oil sardine catch obtained along the region in brackets)

| Years | Chengelpet | Madras | South Arcot | Pondicherry | Total | Percentage in total oil sardine catch of Tamil Nadu |
|-------|------------------|----------------|------------------|------------------|--------|---|
| 1985 | 749 (21.50) | 93 (2.67) | 1,267 (36.38) | 1,374 (9.45) | 3,483 | 81.57 |
| 1986 | 2,010 (28.09) | 12 (0.18) | 3,316 (46.34) | 1,817 (25.39) | 7,155 | 90.46 |
| 1987 | 96 (10.28) | 103 (11.03) | — | 735 (78.69) | 934 | 57.98 |
| 1988 | 51 (3.09) | 12 (0.73) | 1,395 (84.60) | 191 (11.58) | 1,649 | 73.06 |
| 1989 | 2,258 (24.00) | 479 (5.08) | 3,834 (40.74) | 2,840 (30.18) | 9,411 | 60.46 |
| Total | 5,164 (22.82) | 699 (3.09) | 9,812 (43.35) | 6,957 (30.74) | 22,642 | 71.59 |

* Prepared by P. K. Mahadevan Pillai, Madras Research Centre of C.M.F.R.I. Madras; M. Radhakrishnan and M. Mantvasagam, Field Centre of C.M.F.R.I., Cuddalore.

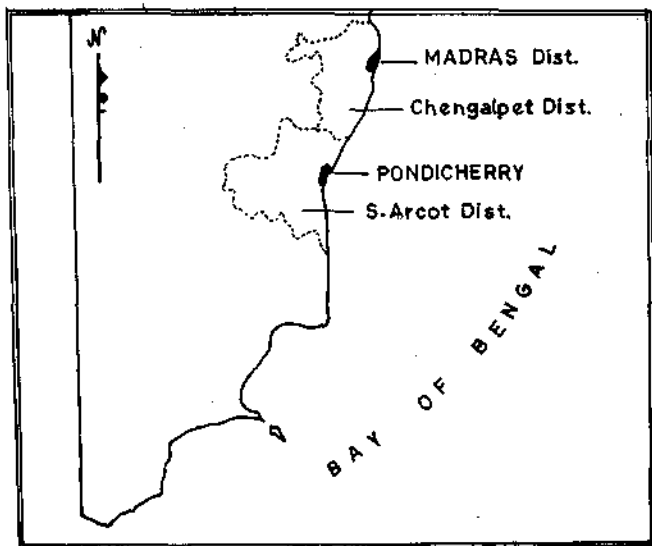


Fig. 2. Northern districts of Tamil Nadu including Pondicherry which recorded maximum oil sardine catch during 1985-'90.

The bulk of oil sardine were landed along the coast by the bag-net, *Eda valai* while lesser quantities were caught by the gill nets, *Kavala valai* and *Thattakavala valai*. The *Eda valai* is operated with the help of four catamaran units.

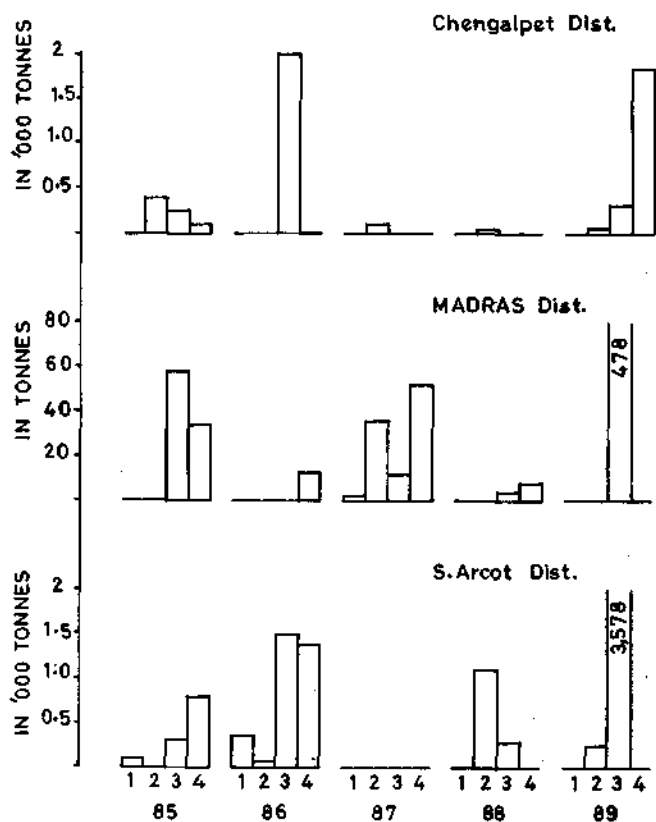


Fig. 3. Quarterwise landings of oil sardine along Chengalpet-South Arcot districts, Tamil Nadu during 1985-'89.

On sighting a shoal, the catamarans are towed to the fishing area by a mechanised vessel for timely approach near to shoal. The mechanised vessels are also used as carrier boats for fast transportation of the catch to the shore. At the time of heavy catches, more number of carrier boats are engaged.

Unusually heavy landings of oil sardine by the *Eda valai* units have been recorded at Cuddalore and Pazhayar fisheries harbours and Kaveripattinam during certain months of the period, 1989-'90 (Table 2). Large quantities were landed at Cuddalore Fisheries Harbour in 1990 while the landings were comparatively much less at Pazhayar and Kaveripattinam. Abundance of juvenile oil sardines of the size group 110 - 114

TABLE 2. Incidental heavy landings of oil sardine (in tonnes) by the carrier boats of *Eda valai* at Cuddalore and Pazhayar fisheries harbours and at Kaveripattinam during 1989-'90 showing dominant size groups in the catches

| Year & Months | No of obser- vation days | No. of carrier boats landed | Total catch (tonnes) | Dominant size groups (mm) |
|-----------------------------|-----------------------------|--------------------------------|-------------------------|---------------------------------|
| Cuddalore Fisheries Harbour | | | | |
| 1990 | | | | |
| February | 6 | 698 | 1,186 | 140-144 |
| March | 6 | 518 | 727 | 155-164 |
| April | 6 | 412 | 561 | 160-169 |
| May | 2 | 208 | 150 | 145-149 |
| Pazhayar Fisheries Harbour | | | | |
| 1989 | | | | |
| April | 4 | 17 | 42 | 155-159 |
| May | 4 | 18 | 36 | 155-164 |
| 1990 | | | | |
| April | 2 | 10 | 22 | 150-159 |
| May | 2 | 5 | 4 | 100-109 |
| June | 2 | 8 | 13 | 110-119 |
| July | 4 | 10 | 17 | 135-139, 165-169 |
| Kaveripattinam | | | | |
| 1989 | | | | |
| June | 4 | 20 | 43 | 140-159 |
| August | 4 | 27 | 44 | 140-159 |
| September | 1 | 4 | 4 | 175-179 |
| 1990 | | | | |
| March | 2 | 5 | 8 | 155-164 |
| April | 1 | 20 | 38 | 160-169 |
| June | 2 | 45 | 70 | 150-159 |
| July | 2 | 9 | 6 | 95-104 |
| August | 4 | 36 | 51 | 110-114, 155-159 |
| September | 2 | 15 | 18 | 165-169 |

mm was noticed during May - June, '90 at Pazhayar and in July at Kaveripattinam. Larger size groups of 175 - 179 mm predominated in September, '89 whereas in the same period of the succeeding year, 165 - 169 mm length groups supported the fishery. In most of the remaining months, the commercial size groups were of the length range 140 - 159 mm.

It was observed that the unprecedented heavy landings of the oil sardine in most of the centres did not benefit the fishermen monetarily to any significant extent. Larger size oil sardine were marketed at some centres outside Tamil Nadu and later that too was restricted. As local consumption of oil sardine along the coast was not much, almost the entire catch was sun dried on the beach and later sold to agents who supplied the same to some companies for the manufacture of poultry feed (Fig. 4).



Fig. 4. Dried oil sardine in gunny bags ready for despatch to fish meal plants.

Remarks

The oil sardine has come to support an important fishery along the Tamil Nadu coast since 1985 and an all time record catch of 37,751

t was obtained in 1990. The study has shown that the bag-net, *Eda valai* is the effective gear to tap the resource as indicated by its extensive use and the unusually heavy catches it made especially along the northern region of Tamil Nadu. Nearly 73% of the total oil sardine production of the state during the period, 1985-'89 were obtained along the northern coastal districts viz., Chengelpet, Madras and South Arcot including Pondicherry. The third and fourth quarters have been most productive except in 1988 during which the fishery was poor with maximum catches in the second quarter. The commercial catches of oil sardine from *Eda valai* along the coast consisted of fish of the size range 110 - 179 mm and the most common size groups were 140 - 159 mm.

Due to lack of demand for fresh fish, the bulk of catches was sun dried. While other sardines find a good market, oil sardine is not being relished to that extent by the people in coastal Tamil Nadu. This attitude has to change and the consumption of oil sardine may be resorted to by the local people so that their protein intake is increased. This will also help to fetch good returns from the fishery.

It has been stated (*Mar. Fish. Infor. Serv., T & E Ser., 88, 1988*) that oil sardine catches are obtained along the east coast of India in areas close to harbours, backwaters and river mouths and this discontinuous distribution of fish appears to indicate its affinity, particularly juvenile phase, to areas where there is admixture of fresh and brackish water. In the present work also maximum quantities of oil sardine have been recorded along the northern Tamil Nadu coast where many rivers open into the Bay of Bengal and cause fluctuations in salinity in coastal waters.

