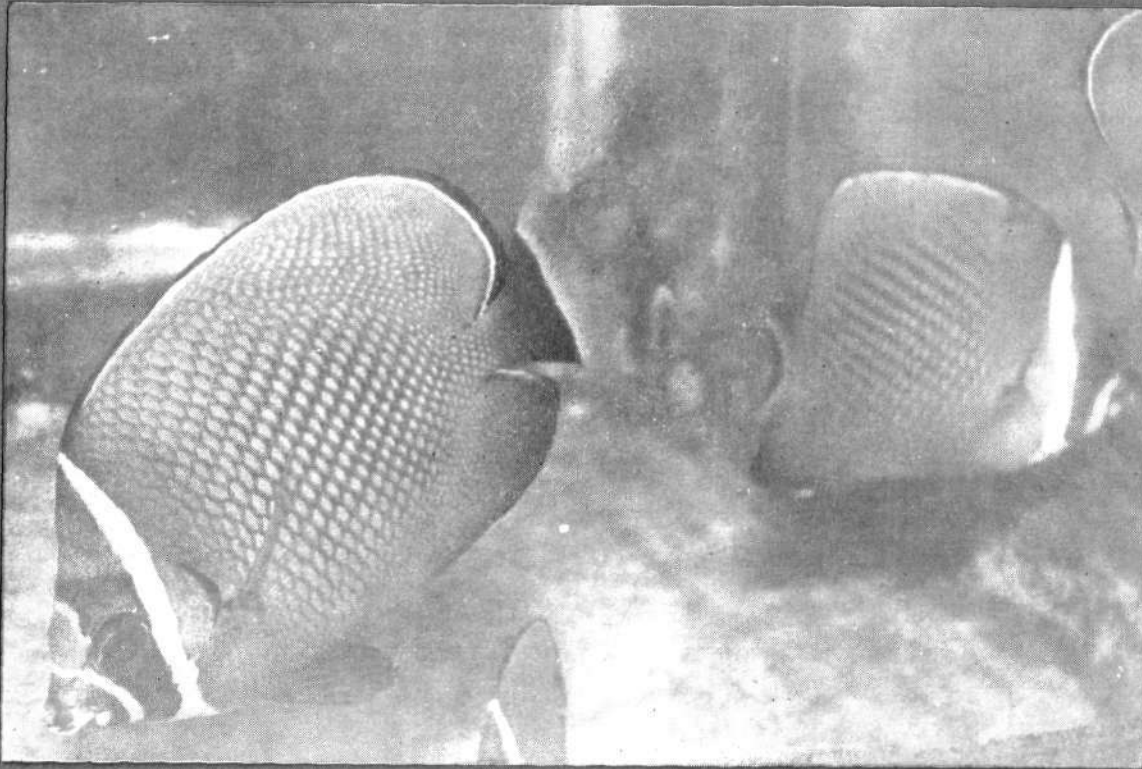




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केन्द्रीय समुद्री मात्स्यकी अनुसंधान संस्थान  
CENTRAL MARINE FISHERIES RESEARCH INSTITUTE  
कोचिन, भारत COCHIN, INDIA

भारतीय कृषि अनुसंधान परिषद  
INDIAN COUNCIL OF AGRICULTURAL RESEARCH

## PRAWN FISHERIES OF MAHARASHTRA COAST AND PROBLEMS OF PRAWN CULTURE IN THE STATE\*

Maharashtra is the leading prawn producing state in India, accounting for 75% of the non-penaeid and 34.3% of the penaeid prawn landings in the country. The marine prawn catch in the state during the five years 1982-'86 is given below (in tonnes).

Year	Penaeid prawns	Non-penaeid prawns	Total
1982	33,914	40,809	74,723
1983	36,027	32,134	68,161
1984	43,934	39,230	83,164
1985	51,793	55,180	1,06,973
1986	46,341	57,387	1,03,728

There has been a steady increase in penaeid prawn landings from 33,914 tonnes in 1982 to 51,793 tonnes in 1985 followed by a decline to 46,341 tonnes in 1986.

\* Presented by M. S. Muthu, Madras Research Centre of CMFRI, Madras.

The non-penaeid landings declined from 40,809 tonnes in 1982 to 32,134 tonnes in 1983 and then showed a steady increase reaching a high value of 57,387 tonnes in 1986.

While almost the entire penaeid landings are made by small mechanised trawlers (9 - 14m OAL) operating in 20-70 m depth the non-penaeid landings are accounted for mainly by the 'dol' nets operated in 20-40m depth. The strong tidal currents in the region enable the fixed 'dol' nets to be used with advantage.

The species composition of prawns in these two methods of fishing are markedly different. The trawlers catch the larger sized exportable penaeids such as *Metapenaeus affinis*, *M. monoceros*, *M. kutchensis*, *Parapenaeopsis stylifera*, *P. hardwickii*, *Solenocera crassicornis* and *Penaeus penicillatus*. After 1982 the trawlers which remain out in the sea for 2-3 days started fishing in deeper waters (40-70 m) and discovered in south of Bombay, new resources of penaeid prawns such as *Trachypenaeus curvirostris*, *Metapenaeopsis stridulans*, *Parapenaeus longipes* and *Penaeus japonicus*.

In the 'dol' net catches the dominating species of small sized non-exportable non-penaeids are *Acetes indicus*, *A. johni*, *Parapenaeopsis sibogae*, *Exhippolysmata ensirostris*, *Exopalaemon stylifera* and *Nemato-palaemon tenipes*. It is immediately apparent that the prawn fishery of Maharashtra is multispecies with different species fluctuating widely in abundance from year to year. However, there has been a general increase in prawn catch during the past five years.

The standing stock of penaeid prawns in the 25,000 km<sup>2</sup> area of Bombay between Lat. 17° and 21° N and Long. 71° and 73° E has been estimated by Dr. Ramamurthy as 13,000 tonnes. Generally 60% of the standing stock is taken as the exploitable yield, which is 7,800 tonnes. The present annual yield from this region is around 9,000 tonnes. Hence there is no scope for increasing the fishing effort.

These areas are well within the fishing range of the existing small mechanised boats and hence there is no need to introduce large trawlers in this region. The existing boats which are staying out at sea for 2-3 days can fish during night time also when larger catches of *M. monoceros* and *P. japonicus* are obtained due to their habit of lying buried in the substratum during day time.

Dr. Ramamurthy's studies have also revealed that there has been no decrease in size of the prawns over the years. In fact, he has found an inverse relationship between size and abundance. In other words during years of good abundance the mean size is small indicating strong recruitment rather than decline in size due to overfishing.

He also found that the prawns breed almost throughout the year and that the prawns caught are well above the size at first maturity which means that the prawns have had a chance to breed before they are caught. The monsoon season, June to August, which

is a lean period for fishing due to inclement weather, affords natural respite from fishing pressure for about three months. All these factors are natural safe-guards against depletion of stocks.

Hence the prawn fishery along the Maharashtra coast appears to be in fairly good shape but has to be closely monitored to see whether the present yield can be maintained without being detrimental to the prawn stocks.

#### *Scope for prawn culture*

Maharashtra coast is endowed with good brackish-water resources which are potentially suitable for establishing prawn culture farms. But no proper survey has been made to assess the extent of these areas. Nor has the land and water use policy been clearly defined by the state till recently. But it is now understood that the state is allotting lands to entrepreneurs to start prawn farms in the state.

The natural seed resources of the state have not been assessed and except for the newly established prawn hatchery of Bada Pokaran, no commercial hatcheries are there in the state.

Prawn farm and prawn hatcheries should be developed simultaneously if prawn culture is to develop in a profitable manner. The areas bordering brackish-water creeks and the salt pan areas are prospective sites for establishment of prawn farms. But care should be taken to see whether these creeks are free of industrial or domestic sewage pollution.

There is good scope for developing pump fed farms in the elevated areas on either side of the creeks. However, microlevel surveys are urgently needed for this purpose. The MPEDA could be of help in conducting these surveys as they have recently recruited qualified engineers for such work.

