

## HATCHERY PRODUCED CLAM SEED RANCHED IN THE COASTAL WATERS OF KERALA

It is well known that ranching of the hatchery produced seed of commercially important finfish and shellfish in their natural habitat or other suitable areas would enhance their population. Ranching of salmon, prawns and abalones is practised in U.S.A., Europe and Japan. Certain aspects in ecology and biology of the clams such as their occurrence in shallow coastal waters, restricted movements and feeding by filtering the naturally available plank-

ton in the water make the clams highly suitable for ranching. Also, as clam seed are ranched in shallow waters, very close to the shore, monitoring of the ranched stock is easy.

### Importance of clams

Among the exploited bivalve resources of the country clams occupy top position with an estimated annual production of about 50,000 t. Kerala ranks first, accounting for 72% of clam land-

ings. Several species of clams contribute to the fisheries. They are a cheap source of animal protein for coastal people and play an important role in the rural economy. The shell is used in several lime-based industries.

A beginning was made in 1981 in the export of frozen clam meat to Japan. In 1990, 520.7 t of frozen clam meat valued at Rs. 1.01 crores was exported.



*Ranching the seed of clam, *Paphia malabarica* in the Ashtamudi Lake to augment production.*



Harvesting the ranched clams

### Development of hatchery technology

The Central Marine Fisheries Research Institute at its Tuticorin Research Centre has initiated work in 1987 to develop hatchery technology for the production of clam seed. Within a year a breakthrough was achieved and hatchery technology has been developed for the production of the seed of great clam *Meretrix meretrix*, blood clam *Anadara granosa* and venerid clam *Paphia malabarica*. The methods are being standardised by scaling-up the operations.

### Selection of species for ranching

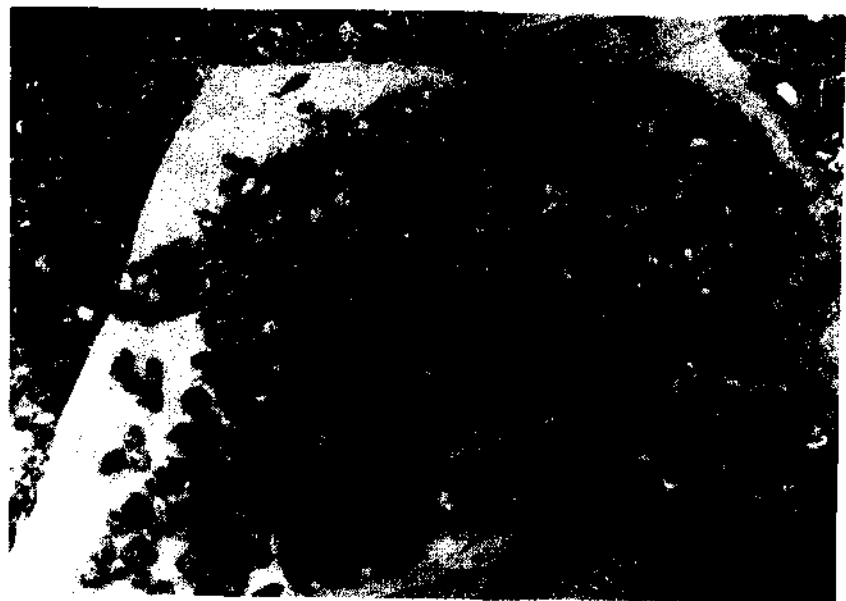
In Japan, clam meat preparations made from the native clam, *Tapes japonicus*, locally known as *Asahi* clam, are very popular and there is insatiable demand. Among the various clam species occurring in India *P. malabarica*

is closely related to *T. japonicus* and the meat of the former species is similar to that of the latter. Our exporters have taken advantage of this situation and *P. malabarica* meat is exported as *Asahi* clam meat to Japan. A 20-hectare *P. malabarica* bed in the Ashtamudi lake is significantly contributing to the export earnings. *P. malabarica* meat is sold

at Rs. 20 to 30 /kg, depending upon size at the production centres to the processing plants. In view of its importance in the overseas market *P. malabarica* was chosen as a candidate species for ranching.

### Ranching of *P. malabarica* at Ashtamudi and Munambam

In Ashtamudi near Dalavapuram, 25m<sup>2</sup> area in 1m depth close to the shore was cleared of dead shells and biota; a pen enclosure was constructed with 30cm high and 1-cm mesh netlon screen. A total of 95,000 seed of *P. malabarica*, measuring 12.4 mm average length were transported from the Tuticorin hatchery and stocked in the pen on 17 February. They were covered with 1-cm mesh synthetic net

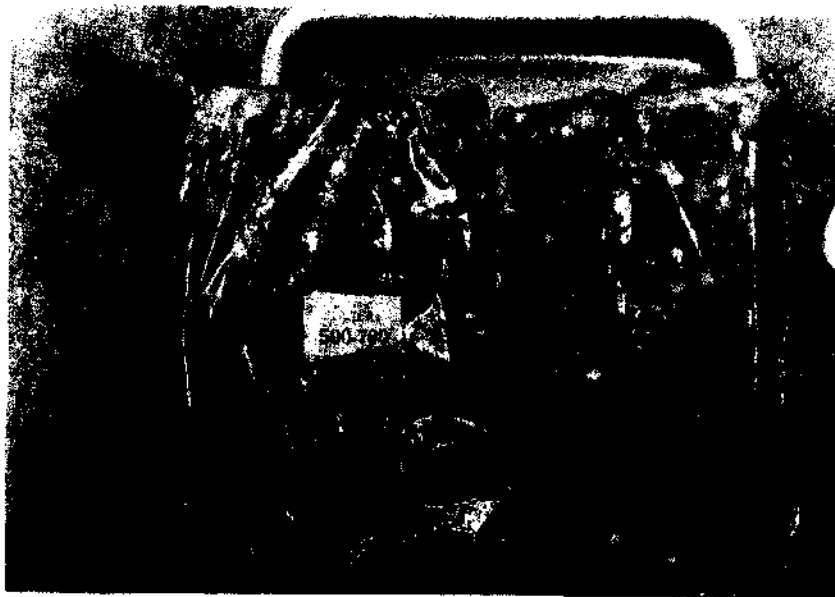


A portion of the harvested clams.

to protect from benthic predators. The clams attained an average length of 36.6 mm (average shell on wt 12.57 g) by 27 June.

At Munambam *P. malabarica* occurs rarely. A consignment of 8500 clam seeds of 12.4 mm average length were ranched on 18 February in 10 m<sup>2</sup> pen enclosure in the same manner as done at Dalavapuram. The clams have grown to an average length of 32.4 mm (average shell on wt 9.5 g) by 25 May.

In the clam fishery *P. malabarica* is exploited from 30mm length onwards. The ranched clams have already reached the marketable size by June 93 and the growth rate is considered as fast. Harvest is planned in July at both the places.



Frozen slabs of *Paphia Malabarica* meat for export.



Ranched stock of *Paphia malabarica* harvested from Munambam in the Vembanad Lake near Cochin.

#### Future work

A beginning has been made in ranching the hatchery seed of *P. malabarica* at two different places in Kerala. Tangible results are possible when large scale ranching operations are undertaken. To meet the seed requirements the clam hatchery at

Tuticorin is being strengthened. Realising the importance of this line of work which contributes to boost the export of seafoods, the Marine Products Export Development Authority has funded a two year project entitled "Clam seed production and ranching in Coastal waters" to be operated by CMFRI. The above work was undertaken as a part of this R & D project and the following personnel are associated with this project. Dr. K.A. Narasimham, Principal Scientist, Shri D. Sivalingam, Scientist (SG), Shri T.S. Velayudhan, Scientist (SG), Smt. V. Kripa, Scientist, Shri K. Jayabalan, Tech. Assistant and Shri M. Enose, Tech. Assistant.