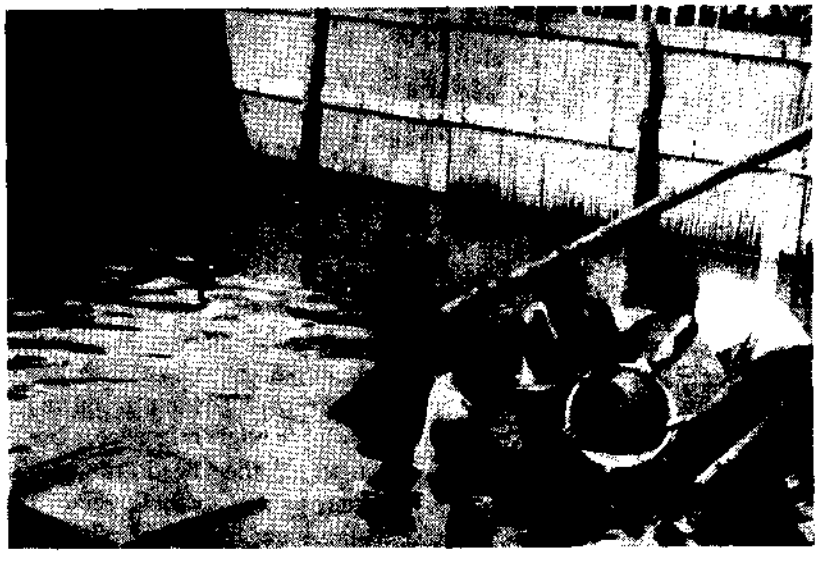
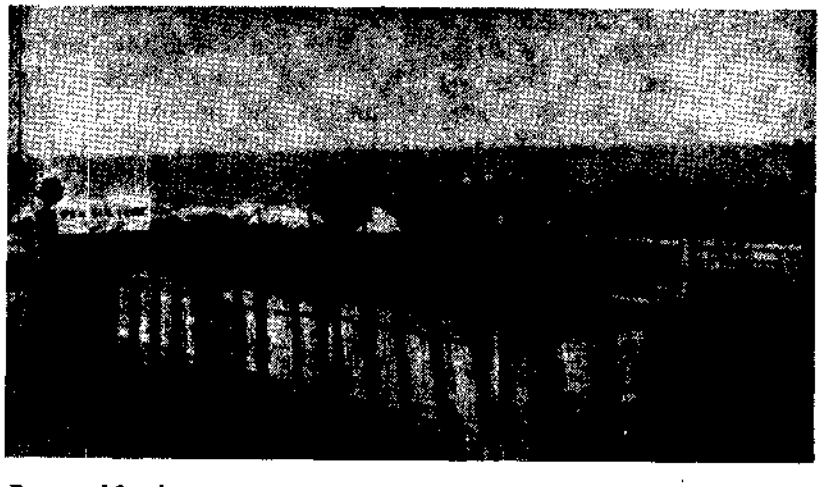
PEN CULTURE

It is now well-known to aquaculture scientists that if suitable farming methods are introduced the extensive stretch of our coastal waters, lagoons, backwaters and marshes is capable of producing equal if not more food than the same area of land itself. It is therefore very appropriate that our scientists today turn much of their attention to this comparatively new field of development. Farming the protected backwaters and lagoons is easier to accomplish. But attempts to farm the more turbulent waters of the bays and open coasts often peter out in failure because of the unpredictable vicissitudes typical of these regions owing to the tidal and monsoon influences. Nevertheless, the need to meet this challenge should not be underrated since these areas can undoubtedly produce large quantities of food annually, which is in ever-growing demand for our protein-hungry population.

Efforts to cultivate the sedentary animals and plants on floating rafts and such structures in the bays and even in the open sea have been remunerative, and encouraged by these results, the Institute is now venturing large-scale farming of such species as mussels and oysters in some of our coastal regions. But farming the actively swimming fishes is entirely another matter, because the problems confronted are generally multifarious. Although we have in India species like milkfish and mullets, which are no less viable to cultivation than the popular yellowtails of Japan, the selection of methods that are suitable for stocking and rearing them in conditions characteristic to our coasts had been time-consuming. To construct suitable impoundments that would endure the numerous fouling organisms and above all the impact of tides and waves was an ardous task, not to mention the high costs involved.



Releasing milkfish fry in pen



Pen at Mandapam

In this context, the evolving of a pen that is suitable for the shallow bays of Mandapam and Tuticorin is a notable achievement. The pen is not only capable of withstanding the monsoon waves, but also economical. It is simple in design. The enclosure is built of double-layered, seasoned

split-bamboo screens which are fastened together with straps. The number of screens going into the making of a pen varies with the size of the pen. The pen is generally square with an enclosed area of up to 200 sq. m. The whole structure is propped well with casurina poles. All the materials are coated with coaltar along their submersible portion and with kriside above. A number of pens are built adjacent to one another in a row, the number depending upon the available area.

Such closed pens naturally necessitate stocking of the fry gathered from elsewhere. Yet, this is an improvement over the other alternative of keeping the pens occasionally open by providing gates and letting the tidal currents bring fry to the pen, which is disadvantageous in that many a few unwanted fishes which are potential competitions for food and harmful predators are brought in along with the desired species.

The pens are designed for culturing primarily the large-growing, white-fleshed milkfish, *Chanos chanos*. Even-though the fish has a very wide distribution along our coasts, this species does not breed in captivity. But they profusely breed in the inshore waters so that the fry are available in abundance close inshore, particularly during certain months. It grows fast and attains a size of over a kg in a year. The fish is tolerant to great changes in salinity and temperature. Being a herbivore it has no cannibalistic tendencies and, therefore, a large number can be stocked in a pen. The fish is an algal feeder. If sufficient care is taken to maintain adequate algal growth, it requires no supplemental feeding and 2 to 3 harvests are possible in a year. As the farming depends upon fry collected from the littoral waters, there is the possibility of developing accessory industries for the collection of fry in which trained women and children can be employed, as is the case in Philippines, Thaiwan and Indonesia where milkfish farming is a very lucrative industry.

The pen is also suitable for culturing other species like mullets and prawns. Further investigations are on the way to assess the economic feasibility of the project, under the leadership of Shri G. Venkataraman and Shri Shanmugham, Scientists of Mandapam Regional Centre, and Tuticorin Research Centre respectively. Shri Ameer Hamsa and Shri P. Nammalwar assist Shri Venkataraman.

Indian Ocean Fishery Commission Meet at Cochin

The Indian Ocean Fishery Commission, a regional commission of the FAO, formed in 1967 and first met in 1968, is having its Vth meeting at Cochin between 19 and 26 October. The Commission was constituted (a) to promote, assist and coordinate national programmes over the entire field of fishery development and conservation; (b) to promote research and development activities in the area through international source, and in particular international aid programmes; (c) to examine management problems with particular reference, because of the need to take urgent action, to those relating to the management of offshore fisheries. IOFC has many Member nations, most of which are Indian Ocean countries, including India. This is the first of its sessions to be held in India.

In connection with the Meeting, a general organising committee and several subcommittees have been constituted by the Government of Kerala. Director, CMFRI, is a Member of the Conference Session subcommittee and is the Convener of the Souvenir subcommittee. A document of high standard, covering three decades' progress of Indian fisheries, is proposed to be brought out on the occasion, of which Director, Dr Silas, is the chief editor. Under agenda 8 of the meeting, on 'National and regional effects of an extended zone of jurisdiction of fisheries', the Director is invited as an Expert, to introduce the subject on the present knowledge of Indian Ocean Resources.

The session will be inaugurated by Shri A. K. Antony, Chief Minister of Kerala at a meeting presided over by Shri G. V. K. Rao, Secretary to the Government of India (Agriculture) at the Kerala Fine Arts Hall, Ernakulam, at 10.00 A.M. on 19-10-77. The rest of the sessions will be held at the CIFT auditorium, Cochin.