

Successful harvest of sea cage farmed spiny lobsters and ornamental fishes at Kanyakumari and Mandapam



Reaching the cage culture site at Kanyakumari coast

'Conservation mariculture' of lobsters in floating sea cages off Kanyakumari coast by CMFRI

demonstrates the sustenance of lobster fishery and lucrative income for fisher folks

In the recent past, owing to the high unit value, lobster has turned out to be a potential candidate for mariculture. India earned more than Rs. 72 crores through export of lobster, mostly to Southeast Asian countries and Japan. Considering the rich lobster grounds off Kanyakumari, Muttom, Kadiapatinam and Enayam along the Kanyakumari coast, experiences in lobster growth rate in cages reared earlier in Kerala coast as well as the unit value of lobster meat, lobster culture was initiated as the maiden attempt in Kanyakumari in floating cages. In this coastal stretch, lobster young ones are available as by catch in considerable numbers almost throughout the year. These under-sized lobsters are not taken by the exporters and they fetch very little price or discarded. Such under sized lobsters obtained as by – catch in fish nets and as well as in specific nets such as '*chingi valai*' and traps were used as stocking material in the cages installed in Kanyakumari. This has ensured their survival as well as growth without affecting the natural resource.

The HDPE floating cage was moored off Leepuram - Kanyakumari as per the 'single mooring method' standardized by CMFRI. The cage was installed on 27-10-2009 at N: 08°06.19 and E: 077°33.918 in 8.5 meters depth. A total of 2400 lobsters were stocked in the 6 m diameter cage with a depth of 4.5 m. The inner bottom of the inner net of the

cage was lined with silpolin to provide the required substrata for lobsters. Hiding gadgets for lobsters were provided. The size of baby lobsters at the time of stocking was ranging from 45 to 90 g, (mean = 68.5 g). The stocked lobsters were fed regularly with live mussels and chopped trash fish by the cage culture team members as per the guidance of



Dr. Madan Mohan, ADG, (M.Fy) delivering the inaugural address



Dr. Madan Mohan, ADG, (M.Fy) and Dr. G. Syda Rao, Director, CMFRI presenting NFDB marine floating cages to the sea farming members at Kanyakumari

CMFRI officials. The periodical monitoring of the growth of lobsters in cages indicated the growth rate as 1.0 g per day.

From the open sea floating cage, a total of 175 kg of lobsters were harvested after 94 days of rearing. The weight ranged from 110 to 245 g and the length ranged from 160 to 210mm. A gross revenue of Rs. 2,10,000/- with a net income of Rs. 89,725/- was obtained. The capital productivity ratio was 0.4. Thus it is demonstrated that lobsters are one of the important candidate species for the 'Capture - Based Mariculture' in marine floating cages in Kanyakumari coast. The same cage was stocked again with the lobster young ones immediately for the next crop.

In the cages, female lobsters with full egg mass were noted after two to three months of rearing from the size range of 135 gram onwards. Thus the cage farming of lobsters in this coast assumes high significance due to its "Conservation Mariculture" potential. Hence, in this coast, it is proposed to maintain the brood stock of lobsters as a 'community level activity', in separate cage in the cage farming site for breeding in their natural habitat as an important step towards conservation.

The following observations/inferences were made:

1. The fish (including ornamental fish) and lobster population around the cage had increased, enhancing the

marine biodiversity in the region.

2. The cage and mooring system have withstood the impact of severe rough sea conditions characteristic of the Kanyakumari coast signifying the technological achievements of the CMFRI in the novel open sea cage mooring and open sea cage farming.
3. The cage-reared female lobsters matured at a smaller size indicating a higher 'Index of Reproductive Potential' (IRP) compared to the lobsters collected from the natural habitats.
4. Considering the setbacks to the land - based farming of lobsters due to lack of suitable technologies and production methods, open sea cage farming of lobsters could be regarded



Harvested lobsters

as the only best profitable alternative for lobster mariculture.

The harvesting was witnessed by Dr. Madan Mohan, ADG (M.Fy); Dr. G. Syda Rao, Director, CMFRI; Dr. R. Sathiadhas, Head, SEETTD; Dr. Rani Mary George, SIC, Vizhinjam RC of CMFRI; Dr. A. P. Lipton, Principal Scientist; Mrs. Ajitha Mano Thangaraj, Panchayat Union Chairperson; Mr. A. Chidambaranathan, DSP, Kanyakumari; several NGO representatives and entrepreneurs. A Tamil pamphlet on Cage culture was released on this occasion.

(A. P. Lipton, Principal Scientist)



Dignitaries showing the harvested lobsters