



Cage Farming and Harvesting of Spiny Lobster

A success story of CMFRI

Vizhinjam Bay, Kerala: 2 June 2009

The Central Marine Fisheries Research Institute (CMFRI) successfully harvested on 2nd June 2009 farmed spiny lobsters from the floating cage moored in the Vizhinjam bay, Tiruvananthapuram district, Kerala located on the Southwest coast of India. The Kerala Revenue Minister, Mr. K.P. Rajendran, inaugurated the harvest in the presence of Mr. George Mercier, MLA, Kovalam, District, Grama

Panchayat President, Government officials, Scientists and fishermen. While this was the first harvest from Vizhinjam, the harvests in Veraval and Chennai were carried out a couple of weeks earlier. The cage culture project sponsored by the Union Department of Dairying, Animal Husbandry and Fisheries under the Ministry of Agriculture, Government of India was implemented by the Vizhinjam Research Centre of CMFRI.

The on-growing production of farmed fishes in a cage set up in open sea was initiated at Visakhapatnam, Andhra Pradesh, India, during 2007 with the objective of testing the feasibility of open sea cage farming of marine finfishes and shellfishes. Successful harvesting of the cultured Asian seabass *Lates calcarifer* from the cage opened up a new era in



Fig.1: Dignitaries on the dais at the harvesting function



Fig.2: Dr.A.P.Lipton, PS, CMFRI delivering the welcome address

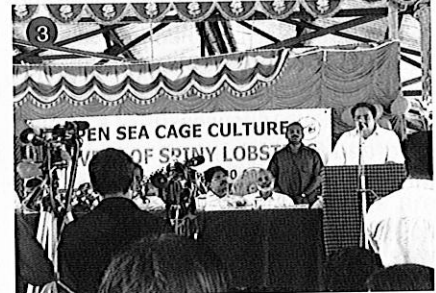


Fig.3: Hon. revenue minister of Kerala Mr.K.P Rajendran addressing the audience



Fig.4,4a: Harvest inaugural function being flagged off by Hon.Revenue minister of Kerala on 2nd June 2009.



Fig.4b: Observation of a harvested lobster by the minister



Fig.5: A view of open sea floating cages in the sea off Vizhinjam Bay



Fig.6: A view of harvesting of spiny lobsters from cages



Fig.7: Bulk harvest of lobsters from a cage



Fig.8,9,10 : Hauling of the spiny lobster stock from the open sea floating cage at Vizhinjam Bay



seafarming in the country. Encouraged by the success, floating marine cages were launched at Veraval in Gujarat, at Chennai, in Tamilnadu and at Vizhinjam in Kerala. CMFRI chose to farm lobsters in the cages in all the three places, as spiny lobsters are a high value seafood in the global market.

Live lobsters are in great demand in Southeast Asian countries and in China and, depending on demand the live spiny lobsters fetch a price ranging from Rs.1,000 Rs. 2,000/kg in the export market. At present, an average of 2,000 t of lobsters are exploited annually from Indian seas and indiscriminate exploitation over the years has resulted in the decline of the resource. Open sea cage farming of lobsters is a new venture, in the background of CMFRI developing and demonstrating the feasibility of farming spiny lobsters in onshore facilities. Large scale farming of spiny lobsters, however, may not be possible, as hatchery production of seed is not a feasible option now, as larval phase of spiny lobsters is prolonged (takes more than 6 months) and is complex. Large numbers of juveniles and sub-adults incidentally entangled while operating Bottom-Set-Gillnets (BSGN) are neither released back into the sea nor could they be exported, as Government of India has banned export of lobsters below the Minimum Legal Size (MLS).

Contd. from.. p 28

Farmers who actively participated in the session also requested authorities that the Swaminathan Committee's recommendations should be implemented. They were expressed the view that when a new technology was introduced by the Research Institutes concerned, the economic viability of introduction should also be considered and proved, in addition to the technical viability. Otherwise the implementation of the technology would be difficult for the farmers.

Mr.S. Nagireddy, a progressive fish farmer, while talking on *Pangasius* said that the breeding habits of the fish should be studied and made available to the farmers, as they were in the dark in this aspect. He also asked the government to study the biological aspects of Kolleru lake and find out

Though six species of shallow water lobsters are known to be distributed along the Indian coast, only three species, *Panulirus homarus*, *P. ornatus* and *P. polyphagus* are commercially exploited. *P. homarus* is the dominant species along the southwest and southeast coast of India and is mostly exploited by BSGN and in trammel nets in which nearly 50% of the catch is constituted by undersized lobsters. The minimum legal size for live export of *P. homarus* is 200 g and therefore these undersized lobsters incidentally caught could be fattened to 200 g and then exported to fetch higher returns.

At Vizhinjam, 1,200 juvenile lobsters (*P. homarus*) weighing between 70 and 95 g were stocked on 15 July 2008 in a 5 m diameter floating cage with a 6m cylindrical HDPE netting protected outside by another net. The cage was moored at a depth of 8 m in Vizhinjam bay. Lobsters were fed daily *ad libitum* with live mussels collected from nearby rocks. Growth of lobsters and environmental parameters around the cage were regularly monitored to ensure good growing conditions. Lobsters at harvest weighed an average 250 g each after four and half months of on growing and 85% of lobsters stocked were retrieved. The harvested lobsters were as healthy as wild caught lobsters and had good colouration. With a price tag of Rs.1,000/kg, the farming operation has

turned out to be an economically successful venture with a net profit of Rs.1.5 lakhs. A cage of this size can be stocked with 1,500 young lobsters and therefore depending on the market price, the value of the harvest could be Rs.3 lakhs or more. The southwest coast of Kerala and Tamilnadu is suited for lobster culture as the area has a rich supply of mussels, which could be used as feed. Gujarat (Veraval) and Mumbai coasts are also areas where small scale lobster culture based on incidental catch of undersized lobsters could be taken up. The cage culture, also gives opportunity for the cultured lobsters to breed (*P. homarus*). They attain sexual maturity and start breeding at a weight of around 175 g and this augments the local lobster population thereby promoting conservation of the resource.

The Director of CMFRI, Dr. G. Syda Rao is of the view that small scale lobster culture in cages by fishermen will yield better profit as the total expenditure on seed cost, labour and feed will be lesser. CMFRI would extend technical support to farmers venturing into cage farming. There is no organised collection system supported by holding centres for supplying undersized lobsters to the lobster farmers. The introduction of this system is to be given high priority to make lobster farming a successful venture that would contribute to exportable production and contribute to economic benefits.

Dr. Srinivasa Gopal explained to the gathering the importance of implementing the latest technologies in food processing to get ahead of the competition in the world market. He showed to the participants the usefulness of technologies like Active Packaging and Modified Atmosphere Packaging.

Presentations were also made by several companies in the aquaculture sector during this event. Dr. Farshad of Novvus on Quality aquafeeds, Mr Sudarshan Swamy of Moana Technologies made a presentation on SPF seed production. Dr. Ramraj explained the pros and cons of culturing *Vannamei* in India and the challenges that lay ahead.

Note: This report endeavours to be a write-up, further to the report on the event published in July 2009 issue of *Fishing Chimes* Page 44.