

Salient achievement in the past five years

1. An international publication on Status of the lobster fisheries in India and management options for sustainable fisheries brought out.
2. Submitted a document on Lobster resources of India and issues in management to Marine Products Export Development Authority. Recommended Minimum Legal Size for export of four species of lobsters, based on which the Ministry of Commerce and Industry, Government of India issued a Notification No. 16 (RE-2003)/2002-2007 dated 17 July 2003.
3. The stakeholders involved in fishing, marketing and exporting of lobsters in maritime states of Tamilnadu, Gujarat and Maharashtra were appraised of negative impact of fishing juvenile lobsters and egg bearing lobsters, through regional workshops in these states. Co-management regimes suggested for lobster fishery management.
4. Species-wise stock assessment of major crustacean groups – Penaeid shrimps, non-penaeid shrimps, lobsters and crabs carried out. Studies on lobster fishery at Mumbai revealed increasing fishing pressure with exploitation rate reaching as high as 78%. Reduced annual average catches and fall in dominant age groups are indicative of overexploitation. Appraisal of crustacean resources of maritime states carried out and management measures suggested. Exploitation of deepsea shrimps and lobsters from Quilon bank by trawlers with GPS and fish finding gadgets started in 1999. Landing to the tune of an average 16,000 tonnes annually. Studies on biology of species carried out. Restriction in exploitation of the resource suggested.
5. The impact of exploitation of juveniles in trawl fisheries in terms of biological and economic loss worked out for important demersal fisheries of Mangalore coast. The economic loss of catching juveniles of *Nemipterus mesoprion* is estimated at Rs.28.6 million. Operation of fishing gears such as *Dol* nets, mini trawls and *thalluvalai* in inshore areas detrimental to long term sustenance of coastal fishery resources.
6. Data on exploitation of juvenile shrimps by minitrawls along the Alleppey coast analysed and the implication on commercial shrimp fishery of Southern Kerala coast brought out.
7. The bycatch landed and discarded by trawlers at major fish landing centres along the Indian coast was quantified. Bycatch is mostly constituted by postlarvae and juveniles of target fishery groups. The value of low-value bycatch landed at Sakthikulangara/Neendakara fishing harbour is to the tune of Rs.10.9 million. Bycatch in trawls may not be completely avoided. Bycatch reduction devices in trawl nets may reduce bycatch.
8. Fish Aggregating Devices (FADs) and artificial reefs installed in coastal areas were observed to increase coastal productivity in terms of fish production. Fishermen benefited by installation of these structures. Congregation of Skipjack tuna around Data-buoys launched off Minicoy by NIOT has benefitted the fishermen.
9. The slipper lobster *Thenus orientalis* and the Hunchback locust lobster *Petrarchus rugosus* reared to settlement. Globally, India is the second country to achieve complete rearing of these two species.
10. Breeding and rearing of the high value ornamental shrimp *Stenopus hispidus* achieved.
11. 5.7 million hatchery produced postlarvae of the Green tiger shrimp *Penaeus semisulcatus* searched in Palk Bay (2002-04).
12. Phyllosoma larvae of the spiny lobster *Panulirus homarus* attained stage VIII in 42 days. Larval life shortened by feeding with PUFA enriched *Artemia*.
13. Technology for lobster farming transferred to Rajiv Gandhi Centre for Aquaculture, Sirkazhi.
14. Large scale production of seeds of Green mud crab *Scylla tranquebarica* achieved. 10-12 % survival from zoea to crablets.



Trawl landing of low value bycatch at Mangalore Fisheries Harbour