

Open sea cage: First step towards sustainable aquaculture for the livelihood support of coastal communities

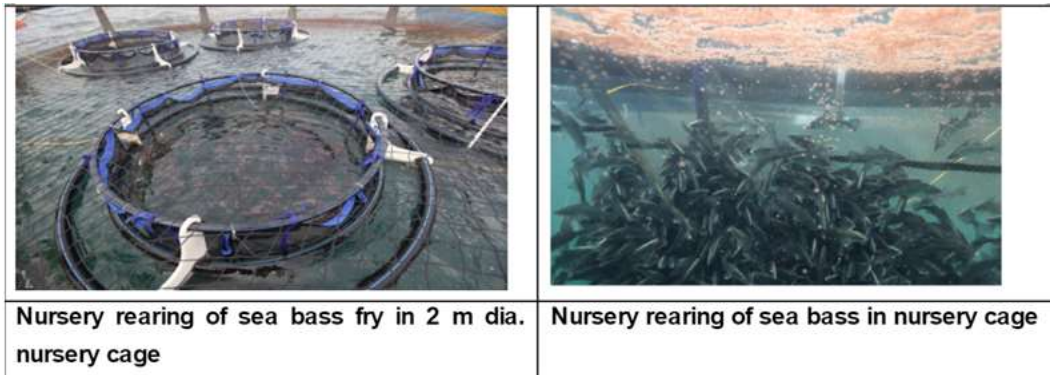
To meet the technical challenges for open-sea farming, the National Institute of Ocean Technology (NIOT) under the Ministry of Earth Sciences has successfully developed an open sea cage with multipoint mooring suitable for the Indian marine conditions. Open sea cages, an innovative concept of India's long coastline, provide immense opportunities to increase marine fish production, while at the same time reducing fishing pressure on natural stocks and providing livelihoods to coastal communities.



On an average, land-based culture produces 0.5 kg/m³ of fish, while cage farming produces an output of 35 kg/m³, which is 70 times higher than land-based production. With the increasing demand for fish protein and conflicting interests of water and land use, open sea fish cage culture marks the first step towards sustainable aquaculture.

NIOT has successfully demonstrated culturing commercially important fishes such as Cobia (*Rachycentron canadum*); seabass (*Lates calcarifer*); milk fish (*Chanos chanos*); Parrot fish (*Scarus ghobban*) and Rabbit fish (*Siganus spp*) in open sea cage. Among cultured fishes, cobia showed the best results, with a growth rate of 15.4g/day

and an average survival rate of 74%, with the fish gaining an average of 4 kg of weight in 325 days.



As part of social developmental initiatives, NIOT provided technical knowledge of open sea cage culture to the self-help group of Olikuda fishermen, resulting in the production of 6.25 tonnes of cobia by them with their own financial support. This fetched Rs. 325/kg farm price against the Rs. 197/kg production cost.



NIOT has conducted training programmes on construction, deployment and culture of marine finishes to meet the challenges of offshore farming ventures.

Dr. Mohammad Faiyaz Anwar
Project Scientist, Vigyan Prasar