

Success Stories - Bumper Harvests...

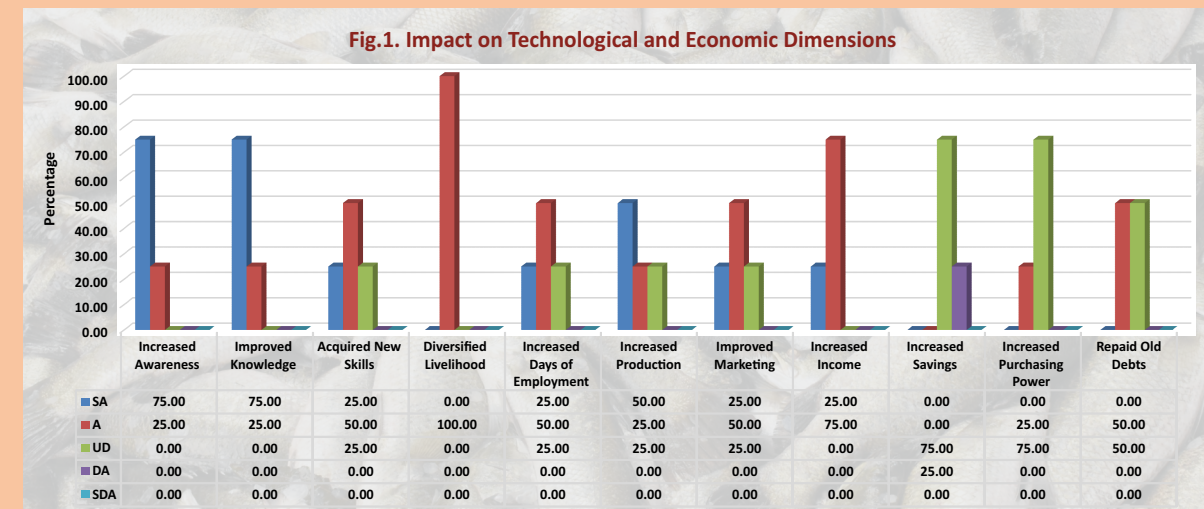
- Under TSP project, 2 circular cages and 4 square cages were installed at Senjiamman Nagar during 2024. Each square cage (4 Nos.) was stocked with nearly 1,000 Asian Seabass live fish fingerlings with an average length of 146 mm and average weight of 72 g on 9 February, 2024.
- Each circular cage (2 Nos.) was stocked on 8 April 2024 with nearly 800 Asian Seabass live fish fingerlings with an average total length of 205.20 mm and average weight of 120 g.
- The total harvest of cage reared Seabass fishes on attaining the marketable size and weight was carried out on 29 October and 8 November 2024.
- Around 2.75 tons of healthy fishes were harvested and immediately marketed to traders arranged by the fishermen. The total revenue generated was Rs.9,80,500/- and the cheque was handed over to the beneficiary group leaders.

This is the first time that such a huge revenue being generated by the TSP cage culture beneficiaries. The ICAR-CMFRI sea cage farming technology was well adopted by the fishermen of tribal communities which in turn helped them to generate high revenue and make them self-sufficient by improving their livelihood.



Socio Economic Impact

The impact on livelihood enhancement due to the technological interventions of cage culture demonstrations and training were documented under two dimensions such as technological and economic dimensions. The perceived responses of the beneficiaries were analysed on a five-point continuum viz., Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree, and the findings were expressed as percentages as given in Fig.1.



From Fig.1, it could be found that all the respondents (100%) have perceived that the cage farming interventions have ensured diversification and sustainability in their livelihood. Nearly three-fourth of them (75% each) either strongly agreed/ agreed upon the parameters such as increased awareness, enhanced knowledge and increased income.



From the focused group discussions, it was envisaged that for improved adoption of cage culture, the following issues are vital viz., policy guidelines on access to water bodies, access to raw materials for cage construction, timely availability of seed and feed, access to market and remunerative price for the harvest, technical know-how/ timely advisories, government support, access to institutional finance, logistics and support from the peer group.

The present technological interventions on cage farming positively impacted the livelihood of traditional fishers under various dimensions viz., technological, social and economic. The cage culture model established is perceived by the community as a role model and this model is expected to be emulated by different groups of landless populations living in coastal districts of Tamil Nadu and Puducherry, for their livelihood improvement in the future.



The TSP project operated by Madras Regional Station of ICAR-CMFRI endeavours to empower the downtrodden and elevate their socio-economic status, fostering their integration and active participation in the nation's development trajectory.



Published by:

Dr. Grinson George

Director, ICAR-CMFRI, Post Box No. 1603, Ernakulam North P.O.
Kochi-682 018, Kerala, India; Tel: +91-484-2394867; Fax: +91-484-2394909
E-mail: director.cmfri@icar.org.in; Web: www.cmfri.org.in

Prepared by:

J. Charles Jeeva, R. Narayana Kumar, A.K. Abdul Nazar, Srinivasa Raghavan, V., K. Madhu, M. Anbarasu, I. Santhosi, A. Margaret Muthu Rathinam, R. Jayabaskaran, K. Diwakar, N. Rudhrumurthy, K. S. Shaik Mohamed Yousuf, M. Baren Mohamed, R. Eswari, P. Prasannakumari, T. Balaraman, R. Raja Sekar, K. Prabhakaran, R. Yuvaraj and A. Niranjana, A.

For further details

The Scientist-in-Charge
Madras Regional Station of ICAR-CMFRI

No. 75, Santhome High Road, R.A. Puram, MRC Nagar, Chennai-600028, Tamil Nadu
Tel: 044-24617264, Fax: 044-24617290; E-mail: cmfrichennai@gmail.com

CMFRI Pamphlet Series No. 159/2025



Half a Decade of TSP PROGRAMMES...

... socio-economic empowerment of Scheduled Tribe fishing communities in the Coromandel Coast



MADRAS REGIONAL STATION
ICAR-CENTRAL MARINE FISHERIES RESEARCH INSTITUTE
75, Santhome High Road, R.A. Puram
MRC Nagar, Chennai-600028, Tamil Nadu, India



Tribal Sub Plan (TSP) Programmes

The TSP program is being implemented among the *Irular* tribes living in Senjiamman Nagar, Pazhaverkadu coastal village, Tiruvallur district, Tamil Nadu. A total of 60 *Irular* families with 200 members residing in the Senjiamman Nagar are involved in marine fishing activities, who are well below the poverty line and totally downtrodden socio-economically. The TSP project envisages in filling their livelihood gap and empowering the community towards sustenance and growth. Cage farming of fishes is the major activity identified for popularization among this community with a detailed on-site training and demonstration programmes.



Demographic Profile of the Beneficiaries

- The demographic profile of the tribal sub plan beneficiaries, assessed from a sample of 25 respondents from Senjiamman Nagar revealed that the mean age of the beneficiaries was 43.08 years (standard deviation: 12.95).
- The literacy status was found to be very low, as more than 95 percent of them had education only up to primary school level. The primary occupation of all the beneficiaries was artisanal fishing, with the mean professional experience of 19.68 years (standard deviation: 10.15). Their livelihood also depends on crab farming and crab fattening.
- The mean annual days of engagement in fishing was found to be 226.60 days (standard deviation: 19.30). The average annual family income from fishing was reported to be Rs. 49,760/- (standard deviation of 14,709/-).

Technologies Transferred

The technology transfer was facilitated through stakeholder consultations, training and on- site demonstrations. Regular field visits for onsite advisories, handholding support and distribution of critical inputs were also facilitated for enhanced adoption. The technical parameters of the technological interventions under the TSP programme are given in Table 1.



Table 1. Technical Specifications of Technological Interventions

Technology Transferred	Coastal Sea Cage Farming
Location	Senjiamman Nagar, Thiruvallur Dist., Tamil Nadu
Number of Cages	4 square and 3 circular cages (6-meter diameter-2 Nos.; 15-meter diameter-1 No.)
Number of Beneficiaries	36 (ST)
Type of the Cage	2 Nos.- GI Circular; 1 No.-HDPE Circular, and 4 Nos.- GI square cage
Size of the Cage	<u>Circular</u> 6 m diameter: Inner- 6 m, Outer - 7 m 15 m diameter: Inner-15 m, Outer - 16 m <u>Square</u> Inner (4x4 m) and outer (5.5x5.5 m)
Depth of Water (m)	4-5 m
Species Farmed	Asian Seabass (<i>Lates calcarifer</i>)
Average Stocking Density (Number/ m³)	<u>Circular</u> 9 (Number/ m³) <u>Square</u> 16 (Number/ m³)
Average Stocking Size (Total length in cm)	13-19 cm
Type of Seed (Wild/ Hatchery)	Wild and hatchery produced
Crop Duration (months)	9-10 months
Feed Type	Low value fish
Number of Harvests/ Crop	One time
Average Size at Harvest (kg)	0.5-2.1 kg
Survival (%)	40-45%
Feed Conversion Ratio	1:5.2
Average Production (in tonnes)/ Cage/ Crop	0.22-0.40 tonnes/cage/crop
Average Yield (kg/ m³)	3.5-6.4 (kg/ m³)
Farm-gate Price (₹/ kg)	₹ 350-420

For the assessment of water quality and other environmental parameters in and around the cage culture site, the following samples were also collected on monthly basis, viz., water, phytoplankton, zooplankton and sediment. Assessment of health and growth of fishes was made during every visit.

Training Programmes and Outreach Activities

Realizing the importance of skill development and technology dissemination for achieving the true potential of mariculture, multiple training programmes and demonstrations were carried out on different culture methodologies. Different aspects of cage culture including cage fabrication, installation and maintenance, assessment of environmental parameters, feeding and disease management, harvest and sources of financial support available for cage culture were apprised to trainees.



Publications for Knowledge Building on Latest Technologies



Two training manuals were brought out in local language for the information dissemination and knowledge enrichment among the beneficiaries. The technical aspects covered in the manuals include design and construction of cages, mooring, suitable marine finfish species for cage farming, feeding, disease management, good management practices, harvesting techniques, government schemes for the promotion of cage farming and related parameters.

