### Crab Farmers' and Exporters' Meet



# Enhancing Climate Resilience of India's Coastal Communities ECRICC

12 December 2024

Venue: SPRC, SIRD Campus, Unit-8, Bhubaneswar



Organised by: SPMU, ECRICC Project, Government of Odisha Technical Support by: MPEDA, MoC&I, Government of India











#### Introduction

Enhancing Climate Resilience of India's Coastal Communities (ECRICC) project, aims to enhance the resilience of the lives and livelihoods of the most vulnerable populations particularly women, in the coastal areas of India, to climate change and extreme events, using an ecosystem-centred and community-based approach. This project was approved by the Green Climate Fund (GCF) Board in 2018. The project is being implemented at the national level across India's 13 coastal states and UTs, with field implementation in 24 landscapes covering 12 districts in three coastal states of India. The target three coastal project states are Odisha, Maharashtra and Andhra Pradesh, whose coastal populations are vulnerable to extreme weather events and slow onset of climate change impacts.

#### **Project Outputs**

#### Output-1

 Enhanced resilience of coastal and marine ecosystem and their services.

#### Output-2

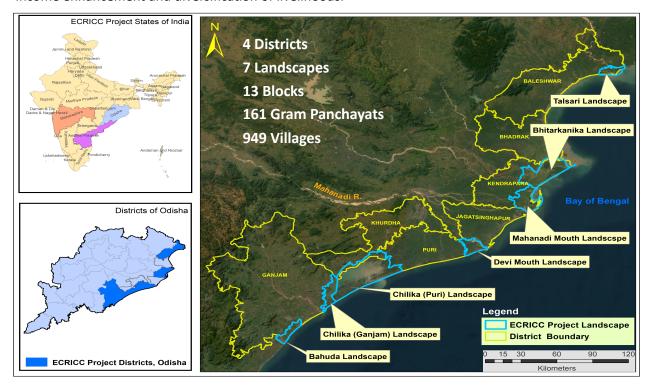
•Climate adaptive livelihoods for enhanced resilience of the vulnerable coastal communities.

#### **Output-3**

•Strengthened coastal governance and institutional framework.

#### **ECRICC** in Odisha

In Odisha, Forest, Environment & Climate Change Department, Government of Odisha under the overall supervision of Ministry of Environment, Forest & Climate Change (MoEFCC), Government of India is implementing this project in 7 landscapes of 4 coastal districts (Balasore, Puri, Kendrapada & Ganjam). Under this project, promotion of climate adaptive livelihoods in the fisheries and agriculture sector is an important component for enhancing climate resilience capacity of the coastal communities through income enhancement and diversification of livelihoods.



#### Mud Crab Culture: An Effort from Mud to Money...

Aquaculture has become essential in fulfilling the growing global demand for fish. With expanding population, increase in income and change in consumer preferences towards healthier and more nutritious food, there is significant demand on the industry to boost the production of quality fish. Aquaculture is the culture of fish, crustaceans, mollusks, and aquatic vegetation across diverse aquatic environments, representing one of the most rapidly expanding sectors in global food production. Brackish water aquaculture contributes to the economic development of our country by generating essential foreign exchange, creating a range of direct and indirect employment opportunities, providing livelihoods, and enhancing nutritional security. The brackish water fin fishes & shell fishes have high consumer preference and market demand. Among the brackish water shell fishes, mangrove crab(Scylla serrata) also known as mud crab is one of the important cultured hardy species.

Mud Crab is highly popular due to its high demand in the domestic as well as in external market. It has the potential of export also. The commercial scale mud crab farming is developing fast along the coastal states like Andhra Pradesh, Tamil Nadu, Kerala, Odisha, West Bengal and Karnataka. Being a coastal district, Puri comprises ample scope in Mud crab culture, especially due to the culture friendly climate and ecosystem conditions as well as availability of crablets in natural sources. Mud crab culture is effectively initiated in the year 2024 under both

#### **Key Stakeholders**

- •Existing and potential crab farmers from the four project districts.
- •Fisheries & Animal Resource Development Department, Government of Odisha.
- •Marine Products Export Development Authority (MPEDA).
- Exporters and technical experts.

Devi mouth and Chilika landscapes which are part of the ECRICC Project intervention. Though the number of farmers under mud crab culture is still not very high, but the scope and interest among farmers is very high. With availability of local knowledge and market, the condition is favourable for scale up. Non-availability of certified inputs like crablets is a challenge as there is no Government or Private hatchery in Odisha and supply chain for crablets from trusted agencies is weak.



#### **Initiatives of ECRICC Project on Crab Culture interventions**

As part of its fisheries sector interventions, the ECRICC Project introduced mud crab culture (Scylla serrata) in 2024 to enhance sustainable aquaculture practices and improve livelihoods. This initiative targeted 18 farmers across four districts—Puri, Kendrapada, Ganjam, and Balasore—utilizing a combined water spread area of approximately 6 hectares. The project received comprehensive technical support from the Marine Products Export Development Authority (MPEDA) under the Ministry of Commerce and Industry, Government of India. To support this intervention, the Rajiv Gandhi Centre for Aquaculture (RGCA), a unit under MPEDA based in Tamil Nadu, supplied 38,000 matchbox-sized crablets to the farmers. This marked a significant step in ensuring the availability of quality seed stock for the culture operations. Throughout the crab culture cycle, District Project Management Unit (DPMU) teams and fisheries experts from the ECRICC Project worked closely with the farmers, providing technical guidance and hands-on support to optimize production and address challenges.

A key outcome of the initiative was the enrolment of all participating farmers under MPEDA, thereby linking them to export markets. This strategic move ensures that the farmers' produce meets international quality standards, paving the way for higher income opportunities through global market access. Through

these efforts, the ECRICC Project has significantly contributed to the development of mud crab aquaculture, promoting sustainable practices and economic empowerment for small-scale fish farmers in the region.

#### **Process followed for Crab Culture**

Culture and fattening of Crab are two different operations though it appears to be the same. Culture is a grow-out operation that involves raising of young seed to marketable sizes of 500g or above over an extended culture period whereas fattening refers to the holding of growers or water crabs (freshly moulted soft crabs) for short duration to acquire maximum biological attributes to realize better economic returns. The SoPs followed for Crab culture are narrated below at a glimpse.

#### **Pre Implementation Stage**

Identified suitable location for crab culture, considering factors like water quality, salinity and accessibility in coordination with the FNGO Team and DPMU Team.

Secured necessary permits and licenses from relevant authorities to establish a crab culture operation. Facilitated the farmers for getting the CAA license.

Five days capsule training on Better Management Practices of Crab Culture was imparted by MPEDA, Regional Office, Bhubaneswar.

Baseline surveys were conducted by FNGOs members, by employing structured questionaries for data collection and Free Prior Informed Consent (FPIC) was conducted.

A technical training and field demonstration was organized by SPMU, Bhubaneswar and MPEDA-RGCA team on better management practices & practical demonstration at pond site.

Climate Champions were trained to facilitate all the processes and provide hand holding support to the farmers.

#### **SoPs followed for Crab Culture**

#### **Pond Preparation**

- Fill pond to 50–55 cm; fertilize with Urea & SSP (3:1 ratio).
- Develop plankton bloom (30–40 cm transparency)



#### **Water Maintenance**

- Regular water exchange (10% every 15 days).
- Maintain optimal parameters (DO >4 ppm, pH 7–8.5, salinity 20–32 ppt).



#### **Organic Juice Application**

- Organic juice is applied to increase naturel food content.
- Maintain phytoplankton and zooplankton in water bodies.



#### **Feeding**

- Feed twice daily with chopped fish (adjust size to crabs).
- Avoid overfeeding; use check trays for monitoring.



#### **Stocking**

- Density: 1 crablet per 2 m<sup>2</sup> (5000/ha).
- Stock in deeper water; acclimatize before release.



#### **Crablet Transport**

- Pack in ventilated onion baskets with mangrove leaves for moisture.
- Sprinkle saline water regularly; transport in cool conditions.



#### **Check Tray and Catwalk**

- Check Tray is used to estimate the feed consumption.
- Catwalk is preparation to provide feed in the middle area.



#### Sampling

- Regular sampling to calculate Average Body Weight (ABW).
- Adjust feed based on monthly growth and survival rates.



#### Harvesting

- Drain water overnight; capture crabs with nets in the morning.
- Keep harvested crabs moist with saline water.













#### **Objectives of Crab Farmers' and Exporters' Meet**

- To sensitize and encourage the crab farmers (existing and potential) on the export value of crab in international market.
- To create a network between crab farmers and exporters & facilitation for market linkage of crab harvest with the exporters for incremental income.
- To understand the quality check parameters, requirement of mandatory documents and process followed by the exporters during procurement as per international laws and rules related to it.

#### **Expected Outcomes**

- **Capacity Building**: Enhanced knowledge of sustainable and climate-adaptive crab farming practices among participants, ensuring better resilience against climate impacts.
- **Streamlined Market Linkages**: Establishment of clear procurement channels between farmers and exporters, reducing intermediaries and ensuring better profit margins for farmers.
- Awareness of Quality Standards: Improved understanding of export-grade quality requirements, helping farmers align their practices with international market expectations.
- **Scaling Opportunities**: Identification of opportunities for scaling up crab farming interventions to include more potential farmers and water bodies in future project phases.
- **Export Orientation**: Farmers gaining awareness of export documentation, certifications, and compliance processes, making them prepared for global market participation.
- **Stakeholder Collaboration**: Strengthened partnerships between government departments, MPEDA, NGOs, and exporters to support the sustainable development of Odisha's fisheries sector.
- **Economic Impact**: Potential increase in household incomes for crab farmers through direct access to higher-value international markets.
- Community Empowerment: Enhanced participation of vulnerable groups, including women and marginalized communities, in sustainable aquaculture practices, contributing to inclusive development.

#### **Conclusion**

Crab Farmers' and Exporters' Meet serves as a pivotal initiative under the ECRICC project, fostering knowledge exchange, capacity building, and stronger market linkages for sustainable and climate-resilient aquaculture. With mud crab culture demonstrating significant potential to enhance livelihoods and bolster the fisheries sector, the project is well-positioned to scale up its interventions.

The identification of 93 potential farmers and ponds for crab culture in 2025 underscores the commitment to expand sustainable aquaculture practices. The planned establishment of a crab hatchery in Odisha, under the guidance of the Fisheries & Animal Resource Development Department (F&ARD), Government of Odisha, and technical support from MPEDA, will address critical challenges such as the availability of quality seed stock while mitigating pressure on natural ecosystems. These efforts are set to transform Odisha's fisheries landscape, empowering vulnerable coastal communities, enhancing income opportunities, and strengthening the state's position in the international crab market.





## **Enhancing Climate Resilience of India's Coastal Communities**

Shri Prem Kumar Jha, IFS State Project Director Dr. Spandita Kar, UNDP State Project Manager

#### **Contact**

**State Project Management Unit Gol - GCF - UNDP - GoO Project** 

Enhancing Climate Resilience of India's Coastal Communities Administrative Building, 1st Floor, RPRC Campus, Bubaneswar-15 Website: www.ecricc.org Email- ecriccodisha@gmail.com