

Report on  
**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**  
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## Executive Summary

The State-Level Workshop on the theme **“Crab Farmer and Exporter Meet”** was successfully conducted on **12th December 2024** at the SPRC, SIRD Campus, Bhubaneswar. The workshop was organized by the State Project Management Unit (SPMU) under the ECRICC Project, Odisha. The primary objective of the workshop was to bring together key stakeholders, including government agencies, aquaculture experts, crab farmers, and exporters, to deliberate on the challenges, opportunities, and strategies to strengthen the crab farming sector in Odisha.

The event began with an inaugural session, where dignitaries highlighted the importance of crab farming as a sustainable livelihood option, particularly for coastal communities. Crab farming has emerged as a significant contributor to the local economy, offering immense potential for both domestic consumption and export markets. However, the sector faces challenges such as lack of technical knowledge, inadequate infrastructure, limited access to quality seeds, and weak linkages between farmers and exporters. During the technical sessions, aquaculture experts provided insights into improved farming techniques, seed availability, disease management, and climate-resilient practices. Exporters emphasized the growing global demand for crabs and shared strategies for meeting export standards and enhancing product quality. The workshop also facilitated open discussions where crab farmers voiced their concerns, including the need for financial support, market access, and capacity-building programs.

Key outcomes of the workshop included identifying measures to improve farmer-exporter linkages, recommendations for policy support, and the development of training modules to empower crab farmers with modern aquaculture practices. The workshop underscored the need for collaborative efforts among stakeholders to ensure sustainable crab farming practices, strengthen the value chain, and boost the sector's contribution to both livelihoods and the economy.

In conclusion, the workshop served as a critical platform for fostering partnerships, addressing challenges, and exploring pathways for enhancing the crab farming and export sector in Odisha. It highlighted the role of ecosystem-based approaches in ensuring climate resilience and inclusivity, aligning with the broader objectives of the ECRICC Project. The outcomes are expected to pave the way for a more robust and sustainable crab farming industry in the state.

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## 1. Introduction

Climate change poses significant challenges to coastal ecosystems, impacting livelihoods and biodiversity. Aquaculture plays a vital role in meeting the growing global demand for fish. As the global population expands, rising incomes and shifting consumer preferences toward healthier and more nutritious food have significantly increased the demand for high-quality fish. Aquaculture, the cultivation of fish, crustaceans, mollusks, and aquatic vegetation across various aquatic environments, is one of the fastest-growing sectors in global food production. Rising sea levels, increasing temperatures, coastal erosion, and changes in salinity regimes are disrupting traditional aquaculture practices and threatening the sustainability of coastal communities. In this context, marine crab farming, particularly of species like mangrove crabs *Scylla serrata* (mud crab), *Scylla olivacea* (red crab), and *Scylla tranquebarica* (true green crab) offers a climate-resilient alternative that supports both economic growth and ecological balance.

Marine crab farming, particularly the cultivation of mangrove crabs (*Scylla serrata*), plays a pivotal role in advancing sustainable aquaculture practices and supporting coastal livelihoods. As a high-value species in both domestic and international markets, mangrove crabs offer significant economic opportunities while promoting environmental sustainability. Their resilience and adaptability to brackish water conditions make them an ideal candidate for aquaculture, particularly in areas where traditional shrimp farming is declining. Integrating crab farming with mangrove restoration initiatives enhances biodiversity, improves coastal ecosystem services, and aligns with the United Nations Sustainable Development Goals (SDGs), specifically targeting zero hunger, economic growth, climate action, and life below water.

The ECRICC project is a transformative initiative designed to address the dual challenges of climate resilience and sustainable development in coastal regions. The project's primary objective is to restore degraded coastal ecosystems, such as mangroves and watersheds, while fostering community-based sustainable livelihood options like marine crab farming. By integrating ecological restoration with sustainable aquaculture practices, the ECRICC project aims to mitigate climate change impacts, enhance biodiversity and support socio-economic development in vulnerable coastal communities. This approach not only ensures the conservation of critical habitats but also empowers local populations by creating resilient and inclusive economic opportunities.

## 2. About ECRICC Project

The Enhancing Climate Resilience of India's Coastal Communities (ECRICC) project is a six-year initiative (2019–2025) now extended up to 2028, designed to strengthen the resilience of the most vulnerable populations, particularly women, in India's coastal states of Maharashtra,

Odisha and Andhra Pradesh against the impacts of climate change and extreme weather events. It utilizes an ecosystem-centered and community-based approach to protect and restore ecosystems, support sustainable livelihoods, and enhance governance frameworks. Approved by the Green Climate Fund (GCF) in 2018, the project is led by the Ministry of Environment, Forest and Climate Change (MoEFCC) with the UNDP providing overall coordination and technical support. The implementation of the project in Odisha is overseen by the Department of Forest, Environment and Climate Change, Government of Odisha, while the UNDP, as the Accredited Entity, ensures overall project assurance, coordination, and the provision of resources and technical support.

In Odisha, the project covers seven key landscapes identified for their ecological significance and vulnerability. These include Talasari (Balasore district), Chilika & Bahuda (Ganjam district), Bhitarkanika (Kendrapada district), Chilika & Mahanadi Mouth (Puri district), and Devi Mouth (Jagatsinghpur district). These areas encompass critical habitats such as mangroves, estuaries, seagrass beds, and coastal wetlands.

Output-1	Output-2	Output-3
<ul style="list-style-type: none"> <li>•Enhanced resilience of coastal and marine ecosystem and their services.</li> </ul>	<ul style="list-style-type: none"> <li>•Climate adaptive livelihoods for enhanced resilience of the vulnerable coastal communities.</li> </ul>	<ul style="list-style-type: none"> <li>•Strengthened coastal governance and institutional framework.</li> </ul>

By addressing immediate climate change challenges and establishing long-term resilience models, ECRICC working towards inclusive growth through partnerships with national, state, and local governments, as well as international organizations like the UNDP.

### 3. Crab Farmer and Exporter Meet Workshop

A State-Level Workshop on the theme "Crab Farmer and Exporter" was successfully held on 12th December 2024 at the SPRC, SIRD Campus, Bhubaneswar, organized by the State Project Management Unit (SPMU) under the ECRICC Project, Odisha. The workshop brought together key stakeholders from government agencies, aquaculture experts, crab farmers, and exporters to discuss the challenges and opportunities in crab farming, as well as to strengthen the linkages between farmers and exporters.

The workshop was chaired by Shri Prem Kumar Jha, IFS, State Project Director (SPD), ECRICC Project, Odisha. In his inaugural address, Shri Jha emphasized the importance of promoting sustainable aquaculture practices, such as crab farming, to enhance coastal livelihoods and achieve climate resilience. He also highlighted the ECRICC project's commitment to addressing

the socio-economic challenges faced by coastal communities through innovative and sustainable approaches.

The keynote address by Dr. Archiman Lahiri, Deputy Director of MPEDA, highlighted global market demand for mangrove crabs and the need for capacity-building programs to support farmers in efficient and sustainable farming practices. Other notable guests included Miss/Mrs. Ratnamanjari Sahoo, Assistant Fisheries Officer (AFO) from the Department of Fisheries and Animal Resources Development (F & ARD), Odisha, and experienced crab exporters from Kolkata and Chennai. These experts shared their perspectives on the market dynamics and the growing potential for crab exports, especially from Odisha's coastal regions. Before the event began, video clips were recorded featuring farmers who shared their experiences and insights. In these videos, the farmers spoke about the training and support they received from the ECRICC and IMPEDA teams. They highlighted how the guidance provided by these teams helped them transition from shrimp farming to crab farming in a sustainable manner, resulting in improved economic benefits. The farmers also expressed their gratitude for the knowledge and resources that enabled them to adopt more effective and environmentally-friendly farming practices, ultimately contributing to their success in crab culture. Figure-2 and Figure-3 gives the picture of farmer interview from Ganjam and Baleswar DPMU respectively.



Figure-1 Crab Farmer (Talsari landscape)      Figure-2 Crab Farmer (Bahuda landscape)

The workshop commenced with a welcome address and an outline of its purpose by Dr. Spandita Kar, State Project Manager (SPM), ECRICC Project. Dr. Kar set the tone for the event by highlighting the critical role of crab farming in enhancing coastal livelihoods and addressing climate challenges. Mr. Dillip Kumar Mahapatra, a key member of the project team, provided a brief overview of the ECRICC Project initiatives. He highlighted the project's efforts in promoting mangrove restoration, sustainable aquaculture practices, and community-based climate resilience strategies. Mr. Mahapatra also discussed the challenges faced in crab culture, such as

inadequate market access, technical knowledge gaps, and vulnerability to climate change impacts.



Figure-3 Venue of the Crab Farmer and Exporter Meet (SIRD campus, Bhubaneswar)



Figure-4 Welcome Addressed to the Guest and Participant by SPM, ECRICC, Odisha

## 4. The Important Season of the Events

The primary objective of the workshop was to establish a direct linkage between crab farmers and exporters, addressing issues faced by farmers in crab farming with guidance from MPEDA and F & ARD officials. The entire four-hour event (10 am to 2 pm) was categorised in to four main section i.e. (i) Challenges and Opportunity in Crab Culture(ii) Experience sharing on crab farming and marketing(iii) Technical guidelines on Crab culture and upscaling and upcoming plan (iv ) Action plan developement. The details of each section are outlined below

### 4.1 Challenges and Opportunities in Crab Culture

The workshop, brought together key stakeholders to strengthen market linkages and promote sustainable crab farming practices. The Deputy Director of the Marine Products Export Development Authority (MPEDA), Bhubaneswar, underscored the high demand for crabs from Odisha in international markets, particularly due to the state's favourable ecosystem that supports mud crab cultivation. He highlighted that countries such as Singapore, Hong Kong, China, Thailand, and Malaysia have a growing appetite for mud crabs, with major sourcing hubs being Odisha, West Bengal, and Tamil Nadu. This demand creates an immense opportunity for crab farmers to tap into lucrative export markets.

However, the session also addressed challenges faced by crab farmers, particularly in securing fair prices. The Deputy Director recommended that farmers sell their crabs directly to exporters, bypassing intermediaries to achieve better prices and a more transparent supply chain. He also assured support from the MPEDA team in linking farmers to exporters and providing price details. To enhance crab farming practices, the Deputy Director proposed a pilot project introducing alternative crab feed, in collaboration with feeder companies, to reduce reliance on traditional feed sources and improve productivity.

The discussions during the workshop emphasized that while challenges such as market access, price fluctuations, and feed availability persist, the opportunities for crab farmers in Odisha are significant. By strengthening export linkages, introducing innovative practices, and fostering government support, crab culture can emerge as a sustainable and profitable livelihood option for coastal communities. The workshop served as a crucial step in building a resilient and inclusive ecosystem for crab farmers, exporters, and stakeholders.



Figure-5 Deputy Director , IMPEDA Discussed with Crab Exporter



Figure-6 Deputy Director , IMPEDA , AFO, F&ARD, and SPMU team interaction with Farmer Crab Exporter

## 4.2 Experience Sharing and Marketing

This session brought together 18 crab culture farmers from the ECRICC project sites across four districts, alongside several potential crab farmers. The farmers actively shared their experiences, emphasizing the practical aspects of crab farming while acknowledging the invaluable support provided by the ECRICC team, Marine Products Export Development Authority (MPEDA), and the Fisheries & Animal Resources Development (F & ARD) department. Participants expressed their gratitude for the assistance they received in areas such as training programs, crablet supply, monitoring support, and facilitation of the Coastal Aquaculture Authority (CAA) licensing process, which has streamlined operations for many farmers.

Presentations from the District Coordinator Officers (DCOs) of Ganjam and Puri districts provided a comprehensive overview of the achievements, challenges, and technical intricacies associated with crab farming. The discussions highlighted the successes of crab farming initiatives while also identifying key areas for improvement. A major challenge discussed was salinity fluctuations, which affect crab growth and survival. To address this, the DCO of Ganjam proposed forward-thinking initiatives to enhance crab farming practices.

The proposed initiatives included the establishment of crab field schools to provide hands-on learning opportunities for farmers and the development of master trainers who can impart technical expertise within their communities. Additionally, the DCO emphasized the need for nursery ponds dedicated to crablet production, which would ensure a consistent and reliable



supply of quality crablets. Another key suggestion was to reduce the harvesting duration from the existing nine months to six months. This adjustment is aimed at optimizing production cycles, enabling farmers to achieve increased yields within a shorter time frame while ensuring the economic viability of their farming activities.

Overall, the session highlighted the importance of knowledge sharing and technical innovation in addressing challenges and improving crab farming practices. By fostering stronger collaboration between farmers, experts, and relevant government bodies, the workshop emphasized the need for continued support, market linkage development, and the adoption of innovative techniques to make crab farming a sustainable and profitable livelihood option.



Figure:7 Interaction of Crab Farmer and Crab Exporter



Figure:8 Crab Exporter Solving the Queries of farmer



Figure:9 Crab Exporter Speaking about Crab pricing



Figure:10 DCO, DPMU, Puri discussed about Mud crab culture

### 4.3 Technical Guidelines on Crab Culture

This session featured a dedicated session on the technical aspects of crab culture. This session was led by Dr. Archiman Lahiri, Deputy Director of the Marine Products Export Development Authority (MPEDA), along with representatives from the Aquaculture Fisheries Organization (AFO). The experts provided comprehensive technical guidelines to support crab farmers in adopting sustainable and economically viable practices. The session began with an overview of the spatial requirements for marine crab culture. It was emphasized that crab farming could be conducted up to 2 kilometers from the shoreline, provided the farmers obtained the necessary licensing from the Coastal Aquaculture Authority (CAA). This guidance ensured that farming activities adhered to regulatory norms while minimizing ecological impact.

Key takeaways from the session included:

- **Spatial Requirements:** Crab farming can be conducted up to 2 kilometers from the shoreline, provided farmers obtain the necessary licensing from the Coastal Aquaculture Authority (CAA). This ensures that farming activities comply with environmental standards.
- **Pond Preparation and Feeding:** Proper pond preparation is crucial to creating an optimal environment for crab growth. Farmers were educated on the importance of feeding schedules to ensure crabs receive adequate nutrition, critical for their health and size.

- **Harvesting Standards:** Crabs weighing over 100 grams are eligible for harvesting and export. To meet export standards, farmers need a minimum of 100 kilograms of harvested crabs per shipment. Small-scale farmers were encouraged to collaborate to pool their harvests and meet export volume requirements.
- **Pricing Dynamics and Market Trends:** Experts explained how factors such as size, harvest timing, and international demand influence crab pricing. Exporters committed to sharing daily price updates, promoting transparency and enabling farmers to plan their harvests strategically.
- **Crab Species:** The session highlighted three main crab species:
  - *Scylla serrata* (Mud Crab): The most economically viable species, favoured for its rapid growth and high demand in international markets.
  - *Scylla olivacea* (Red Crab): Moderately demanded with good adaptability.
  - *Scylla tranquebarica* (True Green Crab): Suitable for niche markets.

Among these, *Scylla serrata* was identified as the most promising species for commercial farming due to its robust growth and significant demand. The session offered a clear roadmap for farmers to improve their production practices, meet export standards, and tap into market opportunities, contributing to the sustainability and profitability of crab farming.



Figure:11 Action plan development by crab farmers

#### 4.4 Action Plan Development

The **Action Plan Development** session was a key highlight of the workshop, focusing on creating a strategic and actionable plan to address challenges in crab farming and strengthen coordination among stakeholders.

## Key outcomes included

- **WhatsApp Group for Real-time Communication:** A dedicated WhatsApp group was established to facilitate communication between farmers, government officials, and exporters. This platform would enable the sharing of critical information such as crab pricing, monitoring updates, and farmer queries, bridging communication gaps and ensuring timely interventions.
- **Site Identification for Expansion:** Participants recognized the need to identify potential sites for crab culture expansion to optimize farming practices. The process of site identification was prioritized to ensure the availability of suitable areas for the next farming season.
- **Expediting CAA Licensing:** There was an agreement to prioritize and expedite the Coastal Aquaculture Authority (CAA) licensing process, which is crucial for regulating and formalizing crab farming. Faster licensing will allow farmers to initiate operations smoothly and within the required regulatory framework.
- **Addressing Technical Challenges:** Key challenges, such as salinity fluctuations in aquaculture ponds, were discussed. Government officials committed to conducting direct field visits to monitor and provide on-site solutions. Additionally, concerns about the use of bio-juicing materials to enhance productivity were addressed, with experts offering guidance to ensure environmental sustainability.

The action plan developed during the session reflects a collaborative approach to enhancing crab farming practices in Odisha. By focusing on strengthened communication, site identification, regulatory streamlining, and technical problem-solving, the stakeholders demonstrated a shared commitment to promoting sustainable crab farming. The proactive involvement of government departments, aquaculture experts, and exporters in supporting farmers is expected to create a resilient and inclusive system, benefiting both livelihoods and the coastal economy.

The event concluded with a summary by Mr. Dillip Mahapatra, SELA, SPMU, who emphasized the need for follow-up meetings to implement the decisions made. Finally, a vote of thanks was delivered by Mr. Ankit Jain, F&A, SPMU, acknowledging the contributions of the guests, participants, farmers, and the ECRICC team, officially concluding the workshop.

The workshop successfully addressed critical themes such as the challenges faced by crab farmers, the need for capacity building, technological interventions, and the importance of strengthening market linkages with exporters. Aquaculture experts highlighted best practices in crab farming and innovative solutions to address existing gaps, while exporters emphasized the growing demand for crabs in both domestic and international markets. Participants actively

engaged in discussions and deliberations, showcasing their interest and commitment to advancing the crab farming industry.

#### 4.5 Concluding Session

The session concluded with a comprehensive summary delivered by Mr. Dillip Mahapatra, SELA, SPMU, who highlighted the key takeaways from the workshop. He stressed the importance of organizing follow-up meetings to ensure that the decisions and suggestions discussed during the event are effectively implemented. Mr. Mahapatra also underscored the need for continuous engagement with stakeholders to build a robust framework for crab farming and export in Odisha.

The workshop officially came to a close with a heartfelt vote of thanks presented by Mr. Ankit Jain, F&A, SPMU. He expressed gratitude to the distinguished guests, resource persons, crab farmers, exporters, and participants for their active involvement and valuable contributions. Special acknowledgment was extended to the ECRICC team for their efforts in organizing the event and facilitating a seamless exchange of ideas.

In conclusion, the workshop successfully achieved its objectives of fostering collaboration, knowledge sharing, and strategic planning to uplift the crab farming sector in Odisha. The discussions paved the way for actionable steps, including capacity-building initiatives, improved technology adoption, and stronger market linkages. Moving forward, the outcomes of this workshop are expected to drive positive change, benefiting crab farmers, exporters, and the coastal communities at large. With a strong foundation laid, the participants left the workshop with renewed enthusiasm and a shared vision for a sustainable and resilient crab farming ecosystem. The event marked not just an end, but the beginning of a collaborative journey toward strengthening livelihoods and coastal conservation in Odisha.

### 5. Expected Outcomes of the Crab Farmer and Exporter Meet

The Crab Farmer and Exporter Meet held under the ECRICC Project is expected to yield the following key outcomes, contributing to the sustainable development of crab farming and its integration into the global market:

- **Strengthened Farmer-Exporter Linkages:** Establish direct communication channels between crab farmers and exporters to reduce the involvement of intermediaries. Foster trust and transparency in pricing, quality standards, and supply chain processes, ensuring fair remuneration for farmers.
- **Enhanced Technical Knowledge:** Equip farmers with advanced knowledge on crab farming techniques, including pond preparation, feed management, disease prevention, and post-harvest handling. Disseminate best practices for improving productivity and minimizing environmental impacts, as shared by experts from MPEDA and F & ARD.

- **Market Access and Expansion:** Provide farmers with insights into domestic and international market trends, quality requirements, and export potential for mangrove crabs (*Scylla serrata*). Promote Odisha as a hub for high-quality mangrove crab production, increasing its visibility in the global seafood market.
- **Actionable Roadmap for Crab Farming Development:** Develop a strategic action plan addressing key challenges such as access to quality seeds, financial resources, and infrastructure. Identify and prioritize regions for upscaling crab farming under the ECRICC Project framework, with a focus on sustainability and community participation.
- **Increased Adoption of Sustainable Practices:** Encourage integration of crab farming with mangrove restoration and other ecosystem-based approaches to enhance biodiversity and climate resilience. Align farming practices with Sustainable Development Goals (SDGs), particularly those targeting responsible production, economic growth, and climate action.
- **Empowered Coastal Communities:** Provide capacity-building opportunities to local farmers, ensuring they have the skills and knowledge to transition into profitable crab farming enterprises. Generate new livelihood opportunities, reducing dependency on traditional and less sustainable forms of aquaculture.
- **Policy and Institutional Support:** Facilitate dialogue between farmers, exporters, and government agencies to identify policy gaps and areas requiring institutional support. Advocate for incentives and schemes to support crab farming and export activities, ensuring long-term sustainability.
- **Monitoring and Evaluation Framework:** Establish mechanisms to monitor the progress of crab farming initiatives and measure their impact on livelihoods, market growth, and ecosystem restoration. Ensure regular feedback loops to address challenges and refine strategies for continuous improvement.

These outcomes will not only strengthen the crab farming sector in Odisha but also contribute to the broader objectives of climate-resilient development, sustainable aquaculture, and economic empowerment of coastal communities.





# Enhancing Climate Resilience of India's Coastal Communities

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