



National Workshop on

Operationalising the National Framework on Traceability in Fisheries and Aquaculture:

Strengthening India's Marine Seafood and Marine Ingredients Value Chains through National Digital Traceability System under PM-MKSSY

Our Partners / Collaborators



05 March 2026

MPEDA Conference Hall, Cochin, Kerala



Introduction

India has set a target of USD 10 billion of export revenue from marine products by 2030. As of FY 2023–24, marine product exports stood at USD 7.66 billion—comprising USD 6.99 billion in seafood and USD 0.63 billion in marine ingredients—leaving a gap of USD 2.34 billion to be bridged over seven years. Analysis of the HS 2022 trade data (2010 - 2023) confirms that achieving the target requires only a 3.9% compound annual growth rate (CAGR), well below the sector's historical CAGR of 8.8%, making the goal financially credible provided the right structural enablers are in place.

Fisheries and aquaculture serve as a cornerstone for India's seafood export sector. A substantial share of India's seafood exports – valued at USD 7.38 billion in FY 2023 - 24 – is sourced from key species such as shrimp (USD 5.5 - 6 billion), tuna, cuttlefish, squid, grouper, snapper, and other finfish constituting the majority of export volumes. Yet an important and rapidly growing second track has emerged: marine ingredients – comprising fish meal, fish oil and omega-3 concentrates, and seaweed-derived extract – which, though currently representing only 8.3% of total exports (USD 0.63 billion in 2023), have grown 21-fold since 2010 at a CAGR of 26.4%. Figure 1 below illustrates the scale and trajectory of these two export tracks.



This dual-track structure – Seafood Dominance and Marine Ingredients Acceleration – has direct implications for how India should prioritise its traceability architecture. The pathways to USD 10 billion are shown in Figure 2.

However, India's continued access to rewarding export markets is becoming increasingly contingent on its ability to demonstrate verifiable end-to-end traceability across seafood supply chains. The European Union's IUU Regulation (with the digital CATCH system mandatory from 10 January 2026), the United States' Seafood Import Monitoring Program (SIMP) and FDA FSMA Rule 204, and evolving requirements in Japan, the Republic of Korea, and ASEAN markets now mandate comprehensive chain-of-custody documentation—from point of harvest through processing to final consignment—as a non-negotiable condition of market entry. Non-compliance exposes exporters to consignment rejections, border alerts, and trade restrictions that erode not only margins of individual firm/company but also India's collective reputation as a reliable sourcing origin. In this regulatory environment, traceability has shifted from a voluntary quality signal to a binding trade infrastructure requirement.

¹ <https://www.newindianexpress.com/thesundaystandard/2026/Feb/22/seafood-export-revenue-falls-rs-11-crore-target-shifted>

Figure 2: India Marine Exports — Pathways to USD 10 Billion by 2030



Scenario A (2% CAGR, BAU) reaches only USD 8.8 billion and misses the target. Scenario B (3.9% CAGR, Moderate Reform) exactly meets the USD 10 billion target. Scenario C (8.8% CAGR, Accelerated Growth matching historical average) would reach USD 13.8 billion—consistent with ITC's Export Potential Map ceiling estimate of USD 14 billion for India's sea animal products.

Therefore, despite being a modest target, achieving the USD 10 billion trade revenue by 2030 presents a structural challenge of considerable complexity. Production is dispersed across thousands of small-scale and artisanal vessels operating diverse gear types, landing mixed-species at over 1,363 centres with minimal digital infrastructure, fragmented first-sale documentation, and limited cold-chain integration. **Rather than attempting system-wide coverage from the outset, the most viable approach is to prioritise traceability for species that dominate export portfolios and face the most stringent compliance scrutiny, notably shrimp, tuna, cuttlefish, and squid.**

The marine ingredients sub-sector has some unique structural complexities. A dimension often overlooked is the domestic aquaculture role of marine ingredients. Fishmeal and fish oil sourced from small pelagic fisheries, low-value post-harvest resources, and fish processing waste are critical raw materials for aquafeed—and therefore directly underpin the competitiveness and compliance of India's shrimp aquaculture sector. **Traceability gaps in marine ingredients do not merely threaten ingredient exports; they also jeopardise the compliance credentials of shrimp exports whose feed inputs cannot be verified. This feed-linkage makes marine ingredient traceability a prerequisite for the integrity of seafood as much as marine ingredients.**

Multiple digital traceability platforms, ranging from QR-code-based systems and mobile-first applications to cloud platforms and blockchain solutions, demonstrate how real-time visibility of origin, handling, cold-chain integrity, and compliance data can be achieved across seafood supply chains. However, the choice of technology architecture must be guided by India-specific requirements: cost-effectiveness for small-scale operators, offline functionality in areas with limited connectivity, integration with MPEDA's and EIC's existing certification platforms, and scalability from priority export species to the broader catch basket.

The Government of India's National Traceability Framework, operationalised through PM-MKSSY, provides the policy framework for developing national digital traceability system and financing window to deploy traceability at scale. Traceability should be positioned not only as a compliance tool but as an enterprise and investment enabler – supporting value addition, export market access, job creation, and income growth across aquatic food value chains.

The critical gap lies in converting PM-MKSSY's policy provisions into bankable, investment-ready project proposals.

This workshop proposes a national multi-stakeholder platform to operationalise traceability framework into practical, inclusive, and market-linked implementation models, with an initial focus on dominant export species. The workshop will assess traceability readiness across the marine export value chain, co-design pilot traceability models for high-value species connecting small-scale fishers, cooperatives, women SHGs, exporters, and domestic buyers through SEAI, IMIA and MPEDA, and develop a full-fledged bankable project proposal for PM-MKSSY financing based on the workshop's technical outputs.

Objective

The overarching objective of the workshop is to “operationalise India's National Framework on Traceability in Fisheries and Aquaculture under PM-MKSSY by developing practical, phased, and finance-ready implementation pathways for both marine seafood and marine ingredients value chains, with particular attention to export compliance, small-scale supply integration, and interoperability with existing national certification and regulatory systems.”

Specific Objectives

- 1. Assess traceability readiness and compliance gaps across priority marine seafood and marine ingredients chains:** Undertake a structured readiness assessment of traceability practices, data capture systems, chain-of-custody documentation, and verification gaps across selected marine seafood export chains (e.g., shrimp, tuna, cuttlefish, squid) and marine ingredients chains (e.g., fishmeal, fish oil, ingredient inputs from reduction fisheries and processing by-products), benchmarked against major importing-country and buyer requirements.
- 2. Identify phased operational pathways for integrating dispersed and informal supply systems into the National Digital Traceability System under PM-MKSSY:** Define practical entry points for onboarding small-scale fishers, landing centres, first-sale points, aggregators, processors, and ingredient manufacturers into interoperable traceability workflows, including offline-capable and low-cost data capture models suited to India's marine fisheries conditions.
- 3. Design inclusive institutional and enterprise models for traceability adoption:** Co-develop implementation models that enable participation by cooperatives, FPOs, women SHGs, small processors, and local enterprises in traceability-linked services (data capture, aggregation, handling, cold-chain compliance, documentation support), while maintaining alignment with regulatory and market requirements.
- 4. Develop bankable pilot proposals and an implementation roadmap for PM-MKSSY-supported deployment:** Translate workshop outputs into pilot-ready, finance-ready project proposals (for seafood and/or marine ingredients chains) with defined scope, institutional responsibilities, financing pathways, implementation timelines, risk mitigation measures, and scale-up logic under PM-MKSSY and related financing instruments.

Strategic Alignment with GoI Initiatives

The workshop would directly contribute to the PM-MKSSY and the National Traceability Framework of Department of Fisheries by:

- Supporting digital traceability platform deployment
- Strengthening value-chain transparency and compliance
- Enhancing export-readiness infrastructure
- Integrating small-scale fisheries into formal traceability systems
- Promoting real-time data capture and verification mechanisms
- Supporting development of investment-ready traceability initiatives aligned with national fisheries development priorities.

Expected Outputs

The workshop is designed as a one-day, action-oriented platform and will generate a set of **immediate outputs** to support operationalisation of the National Traceability Framework under PM-MKSSY across **India's marine seafood and marine ingredients value chains**.

1. **National Digital Traceability Priority Action Brief:** A concise, policy-aligned action brief capturing agreed priorities, sequencing, and institutional actions for phased adoption of digital traceability under PM-MKSSY across marine seafood and marine ingredients value chains.
2. **Preliminary Digital Infrastructure and Enablement Investment Matrix:** A preliminary matrix identifying priority digital and enabling infrastructure needs for traceability deployment, including data capture systems, documentation tools, cold-chain monitoring requirements, and traceability software/platform needs across selected value-chain segments.
3. **Multi-Stakeholder Coordination Framework for Traceability Pilots:** A role-based coordination framework outlining proposed functions and coordination arrangements among government agencies, industry bodies, exporters, cooperatives/FPOs, community institutions, research organisations, and technology providers for seafood and marine ingredients traceability pilots.
4. **Marine Ingredients Traceability Integration Roadmap:** A roadmap identifying priority entry points for integrating the marine ingredients sector into the national traceability architecture, including reduction plant gate-level documentation, raw material category recording, and phased linkages with feed mill and aquaculture traceability systems, where feasible.
5. **PM-MKSSY Traceability Project Concept Package (for Post-Workshop Proposal Development):** A structured project concept package consolidating workshop outputs into a draft investment concept for PM-MKSSY-supported traceability deployment, including indicative scope, pilot pathways, institutional roles, sequencing, and financing approach to support preparation of a subsequent finance-ready proposal.

Key Deliverables

Based on the immediate workshop outputs and subsequent technical consolidation, the following **post-workshop deliverables** will be developed to support phased traceability deployment and sectoral integration

1. **Traceability Gap and Readiness Assessment Report for Priority Marine Seafood and Marine Ingredients Chains:** A structured diagnostic report mapping current traceability practices, data capture systems, documentation gaps, and compliance constraints across selected marine seafood and marine ingredients value chains—from harvest/input sourcing, landing/collection, first sale/aggregation, processing, and export/dispatch—against applicable national systems and key international regulatory and market traceability requirements (e.g., EU IUU/CATCH, US SIMP, and other relevant import-market requirements). The assessment will identify sector-specific constraints, shared bottlenecks, and phased readiness for digital traceability deployment, and will provide the evidence base for targeted pilot and investment design.
2. A workshop-informed and technically consolidated pilot design framework comprising one or more coordinated pilot tracks across selected seafood and marine ingredients value chains. The framework will specify target geography, value-chain segment, traceability scope, technology approach suited to dispersed and multi-gear production systems, community onboarding strategy, institutional coordination mechanism, monitoring indicators, and alignment with the National Traceability Framework under PM-MKSSY. Where feasible, the framework may include an optional feed-linkage module connecting marine ingredient traceability with aquaculture input traceability.



- 3. Full-Fledged Bankable Project Proposal for PM-MKSSY Financing:** Developed from the pilot design framework, this is a complete, investment-ready proposal containing a contextual analysis, quantified value proposition, financial model, blended financing structure drawing on PM-MKSSY allocations, NABARD and SIDBI instruments, and private capital, and a risk analysis with mitigation strategies. This deliverable converts the workshop's technical outputs into a fundable project for submission to the Department of Fisheries and financing institutions.

Key Stakeholders

- **Government Agencies:** Dept. of Fisheries, GoI; MPEDA, NFDB, State Fisheries Depts.
- **Industry:** SEAI members, IMIA members, logistics providers, Software firms, etc.
- **Civil Society / Communities:** Fisher Cooperatives, National Fish workers' Forum (NFF), NFSF, FIOFO, etc.
- **Financial Institutions:** NABARD, SIDBI
- **Technology Tools/ Partners:** Blockchain traceability platforms (QR-code systems, Barcodes, RFID tags, GPS recorders, IoT sensors), cold-chain monitoring providers, Traceability domain experts
- **Academia & Research:** ICAR-CIFT, ICAR-CMFRI, TNJFU, KUFOS, CUSAT, etc.

PROVISIONAL PROGRAMME

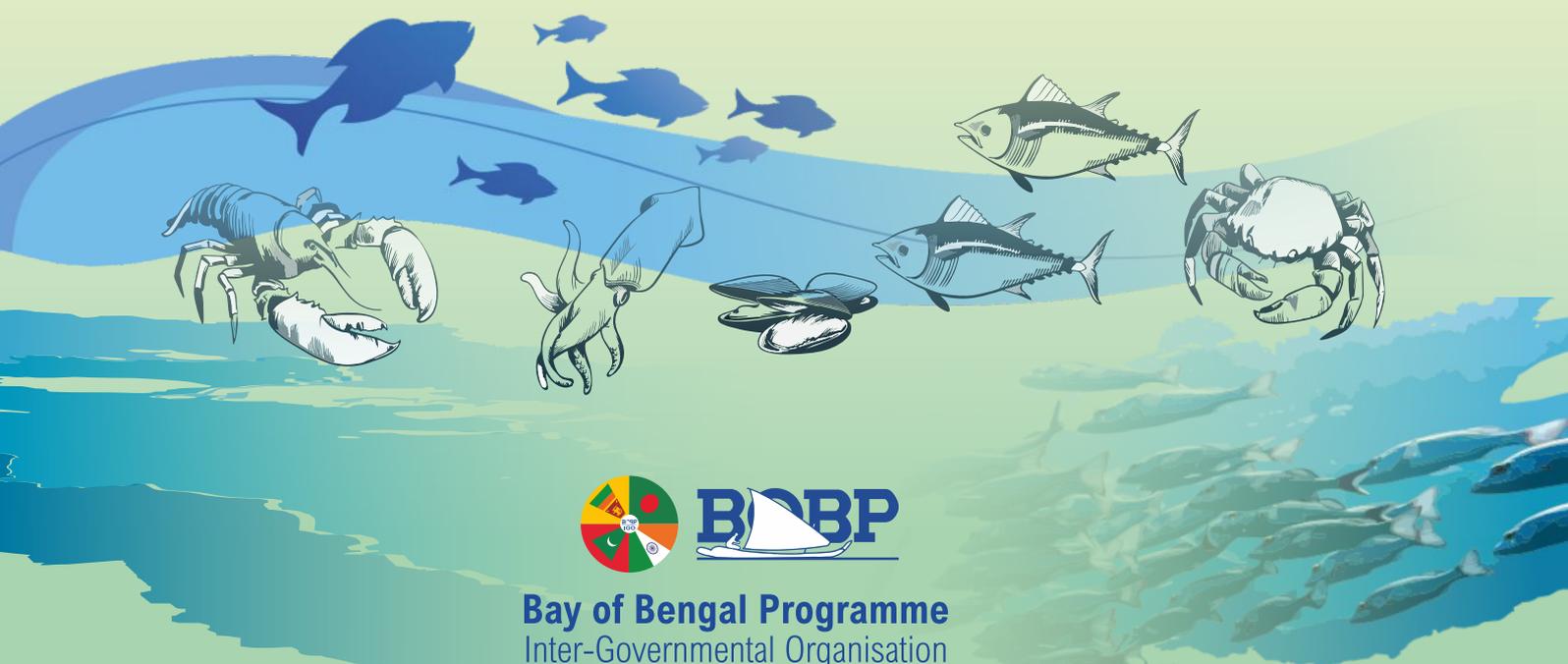
Thursday 05 March 2026

Time	Session Content	Speakers / Facilitators
09:15 - 09:45	Registration	
09:45 - 11:00	Opening Session <i>Facilitator: Dr. D. Vijai, Senior Manager, Climate Resilient Fisheries, EDIF</i>	
09:45 - 09:50	Welcome Address	Dr. M.K. Ram Mohan <i>Director, MPEDA</i>
09:50 - 10:00	Context Setting	Dr. P. Krishnan <i>Director, BOBP-IGO</i>
10:00 - 10:10	Guest of Honour Remarks	Dr. George Ninan <i>Director, ICAR-CIFT</i>
10:10 - 10:25	Presidential Address	Shri. D.V. Swamy, IAS <i>Chairman, MPEDA</i>
10:25 - 10:40	Chief Guest Address	Shri. Sagar Mehra, IAS <i>Joint Secretary, DoF, GoI</i>
10:40 - 11:00	Group Photo / Tea Break	
11:00- 12:15	Session 2: Global Traceability Mechanisms and Experiences <i>Facilitator: Dr. M.K. Ram Mohan, Director, MPEDA</i>	
11:00 - 11:15	Fisheries traceability in Kerala	Shri. B. Abdul Nasar, IAS <i>Special Secretary (Fisheries), Govt. of Kerala</i>
11:15 - 11:30	Traceability in the context of small-scale fisheries	Dr. Nada Bougouss <i>Sr. Fishery Officer (Traceability), FAO, Rome (Virtual)</i>
11:30 - 11:45	Opportunities for advancing digital traceability for India's seafood sector through adoption of Global Dialogue on Seafoods Traceability (GDST)	Mr. Huw Thomas <i>Executive Director, Global Dialogue on Seafood Traceability</i>

Time	Session Content	Speakers / Facilitators
11:45 - 12:00	From data to plate: Traceability in small-scale fisheries in Mexico (Demonstration of a successful integration of a blockchain-enabled traceability platform, QR-based consumer transparency tools and cold-chain monitoring)	Dr. Pedro Zapata <i>Associate Vice President, Global Ocean Strategies, EDF, Washington</i>
12:00 - 12:15	Summing up: Lessons for India and what has been already achieved	Dr. M.K. Ram Mohan <i>Director, MPEDA</i>
12:15- 13:00	Session 3: Marine Fisheries in India's Export Economy — The Traceability Imperative Facilitator: Shri. P. Anil Kumar, Joint Director, MPEDA	
12:15 - 12:30	Introduction to national Framework on traceability in fisheries and aquaculture	Dr. Tarun Kumar Singh <i>Asst. Commissioner, DoF, MoFAHD, GoI</i>
12:30 - 12:45	Seafood sector: Traceability requirements – Key issues	Mr. Manoj Varghese Mr. Sheraz Anwar <i>Seafood Exporters Assn. of India (SEAI), Kochi</i>
12:45 - 13:00	Fish meal and fish oil sector: Traceability requirements – Key issues	Dr. Md. Dawood Sait <i>President, Indian Marine Ingredients Association (IMIA), Bangalore</i>
13:00 - 14:00	Lunch Break	
14:00 - 15:20	Session 4: Initiatives towards Addressing Seafood Traceability & Stakeholders Perspectives Moderator: Dr. P. Krishnan, Director, BOBP-IGO	
14:00 - 14:30	Initiatives from Public Sector Dr. P. Shinoj <i>Pr. Scientist, ICAR-CMFRI</i> Dr. Niladri Sekhar Chatterjee <i>Senior Scientist, ICAR-CIFT</i>	Dr. Ansar Ali A. <i>Deputy Director, MPEDA</i>
14:30 - 15:00	Initiatives from Private Sector Mr. Bharath Kumar <i>Threshold Software</i> Mr. Xavier Lawrence <i>Odaku Online Service Pvt Ltd</i>	Dr. Jayan Nallacherry Work <i>TRALEXHO</i> Mr. Nasser Iqbal <i>Tayyib Global Solutions</i>
15:00 - 15:20	Fishers & Fish Workers Perspectives	MATSYAFED, NFF, NFSF, SIFFS, FIFO and other representatives
15:20 - 15:30	Tea Break	



Time	Session Content	Speakers / Facilitators
15:30 - 16:45	<p>Session 5: Pilot Design Lab — Breakout Groups</p> <p>Each group produces: target species and value-chain segment; current traceability gap; proposed pilot intervention; technology and institutional requirements; target geography; indicative cost estimate; expected compliance and market access outcome</p> <p>Facilitator: Mr. K.N. Raghavan, IRS, CEO, Seafood Exporters Assn. of India (SEAI), Kochi</p>	
15:30 - 16:15	<p>Parallel breakout groups (45 min)</p> <p>Group 1: Shrimp export value chain — capture → processing → EU/US consignment</p> <p>Group 2: Tuna and cuttlefish/squid export value chain — multi-gear capture → processing → export</p> <p>Group 3: Marine ingredients — Fish meal and fish oil</p>	All participants
16:15 - 16:45	<p>Group presentations: Roadmap for Traceability in Seafood and Marine Ingredients under PM-MKSSY (10 mins each group – reporting & discussion)</p>	Each group representatives
16:45 - 17:00	Session 9: Closing Session	
16:45 - 16:50	Workshop outputs and way forward	Dr. P. Krishnan Director, BOBP-IGO
16:50 - 16:55	End Note: Vision and commitment from EDIF	Dr. Hisham Mundol Chief Adviser, EDF-India & Director, EDIF
16:55 - 17:00	Vote of thanks	Dr. K. Ganesh Dy. Director, MPEDA, Kochi



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