SEAFOOD EXPO BHARAT (SEB) 2026

A BRIEF REPORT ON THE TECHNICAL SESSIONS OF SEB 2026

INTRODUCTION :

The second edition of Seafood Expo Bharat (SEB) 2026 was organised by the Marine Products Export Development Authority (MPEDA) at the Chennai Trade Centre from 1st to 3rd July 2026. The exposition brought together stakeholders from the seafood production, processing, and export sectors, with 112 stalls showcasing industry products and services. The three-days technical programme featured experts from India and abroad discussing the trends in seafood value chain, from production and processing to global trade. MPEDA also organised a Reverse Buyer-Seller Meet, enabling Indian seafood sellers to engage with 77 overseas buyers. A Skill Olympiad organised in the sidelines showcased culinary abilities of chefs from leading processing plants across the maritime States, focusing on preparation of attractive value-added seafood products. Delegates also attended a seafood-tasting session featuring SHAPHARI-certified shrimp and other Indian seafood varieties. To satiate the human resource requirements in the seafood sector, a *Job Mela* was organised at SEB 2026 to provide a platform to connect the emerging skilled fisheries professionals with the leading seafood-industry companies.

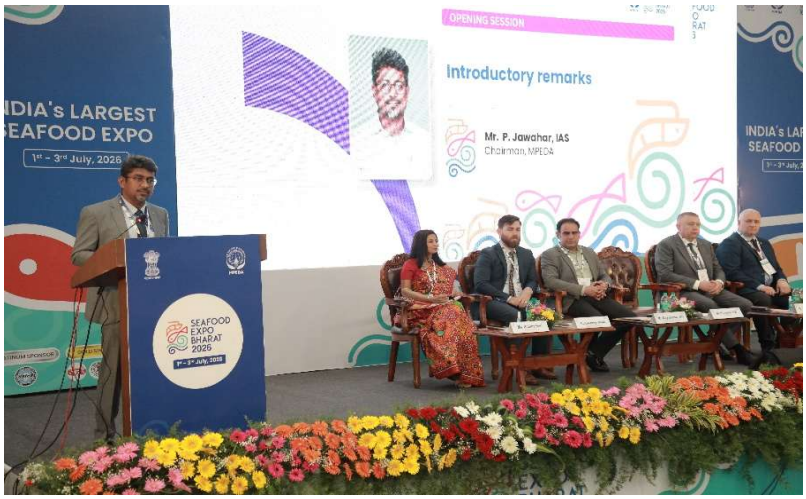
A brief report the Technical Sessions of SEB 2026 is summarised below.

TECHNICAL SESSIONS - OPENING:

The technical sessions of Seafood Expo Bharat 2026 commenced with the ceremonial lighting of the lamp by Shri Ajay Bhadoo, IAS, Additional Secretary, Department of Commerce, Government of India, in the presence of Shri P. Jawahar, IAS, Chairman, MPEDA. The other dignitaries who joined the occasion include Ms. Smitha Hari, Managing Director, Harvard University Dining Services and Chief of Hospitality, USA; Dr. Gregory Smith, Director, USFDA India; Mr. Sergey Shevyrev, Deputy Head, State Program "National Fish", FSVPS, Russia; and Mr. Vladimir Melnikov, Head, Laboratory for Aquaculture Diseases (ARRIAH), FSVPS, Russia.



The inaugural technical session brought together various stakeholders consisting of policymakers, international experts, hatchery operators, aqua farmers, processors, and other industry leaders to deliberate on the future of India's seafood sector.



Welcoming the dignitaries, Shri P. Jawahar, IAS, Chairman, MPEDA, highlighted the resilience of India's seafood export sector, which has continued to register strong growth despite geopolitical uncertainties and global supply chain disruptions. He emphasized that sustained market access initiatives, strategic investments, and a robust quality assurance framework have been instrumental in driving this growth.



The lead address was delivered by Shri Ajay Bhadoo, IAS who emphasized the need to strengthen market access, ensure traceability, diversify export markets, promote value addition, and enhance the resilience of India's seafood export sector. He described aquaculture as the backbone of the sector and stressed the importance of species diversification. He also outlined the five key pillars guiding the Government's and MPEDA's efforts—**Produce More, Produce Better, Produce Smarter, Produce Higher Value, and Produce for the World**—while reaffirming the Government's commitment to promoting sustainable aquaculture and creating an ecosystem that enables fishers, fish farmers, and seafood processors to thrive.



Following his lead address Shri Ajay Bhadoo, IAS formally released the Seafood Expo Bharat (SEB) Souvenir. The souvenir showcased technical articles, expert insights, and information on key developments and initiatives in the seafood sector.

The inaugural session was then resumed with a presentation by **Ms. Smitha Hari, Managing Director, Harvard University Dining Services and Chief of Hospitality, USA**. She highlighted the importance of sustainable seafood through responsible regional sourcing, innovative food service practices, and collaboration to build healthier and more resilient food systems. She also emphasized the role of traceability in ensuring transparency, food safety, consumer confidence, and supply chain integrity.



Ms. Hari presented Harvard University's approach to integrating the Planetary Health Diet into institutional food services by promoting locally sourced seafood, sustainable procurement, and flexible menu planning. She showcased the "Fresh Catch" programme, which connects local fisheries with educational and healthcare institutions, demonstrating how innovative purchasing practices and community partnerships can strengthen local fishing communities while advancing healthy and sustainable food systems.





Dr. Gregory Smith, Director, USFDA India, outlined the USFDA's regulatory initiatives to strengthen food safety and seafood trade between India and the United States. He highlighted the Regulatory Partnership programme, which promotes government-to-government collaboration through technical assistance, capacity building, leadership exchanges, and field visits covering shrimp farms, processing facilities, laboratories, and feed mills.

Dr. Smith also presented the application of Whole Genome Sequencing (WGS) as a scientific tool for pathogen detection, outbreak investigation, and surveillance, including its use in water sampling from shrimp farms. Further, he elaborated on the Food Traceability Rule under the Food Safety Modernization Act (FSMA), which requires end-to-end traceability records across the food supply chain to facilitate rapid response to food safety incidents and enhance transparency, with compliance scheduled by July 2028.





Mr. Sergey Shevyrev, Deputy Head, State Program "National Fish", FSVPS, Russia, and Mr. Vladimir Melnikov, Head, Laboratory for Aquaculture Diseases (ARRIAH), FSVPS, Russia, jointly presented the veterinary control and regulatory framework governing seafood imports into the Russian Federation, highlighting the Federal State Information System for Veterinary Medicine (FGIS VetIS), which enables end-to-end monitoring of imported seafood through digital traceability, veterinary certification, laboratory testing, and movement tracking. They also outlined the inspection and testing procedures at border checkpoints to ensure compliance with microbiological, chemical, toxicological, and residue standards before products are approved for distribution.

The speakers further highlighted the role of ARRIAH in aquatic animal health through disease surveillance, diagnostic research, vaccine development, and laboratory accreditation for the detection of fish and crustacean diseases. Emphasizing that

infectious diseases remain a major challenge to global aquaculture, they showcased Russia's recent advancements in fish vaccine development and invited collaboration with Indian institutions in areas such as fish vaccine development, aquatic disease diagnosis, disease data sharing, migratory fish disease research, and inter-laboratory comparison testing to strengthen aquatic animal health and facilitate safe and sustainable seafood trade.



The opening session concluded with the productive interaction in the panel discussion that further explored the opportunities and challenges shaping the future of the global seafood sector. The question-and-answer session was streamlined through a web-based application provided in the SEB Portal. This helped the Panellists to consider the queries based on their merits and prepare their replies in a comprehensive manner.

DAY 01: 01.07.2026

SESSION I: MARINE PRODUCTS TRADE AND MARKET ANALYSIS: Navigating Global Trends, Compliance, and Competitiveness

The first technical session on seafood trade and market analysis was chaired by Dr Ram Mohan, Director, MPEDA. The chairman of the session introduced the topics and speakers to the participants and requested for active participation from the delegates to discuss the challenges faced by the seafood industry in the global front.



The technical session I commenced with a presentation by **Shri Anil Kumar P., Joint Director (Marketing), MPEDA**, on "India's Marine Products Export Performance and Emerging Opportunities."

Shri Anil Kumar P. presented a comprehensive overview of India's marine products export sector, highlighting the country's record export performance during 2025–26, with exports reaching 19.72 lakh metric tonnes, valued at USD 8.46 billion. He noted that India accounts for approximately 4% of the global seafood trade, with the United States, China, Vietnam and Japan emerging as the major export destinations.

The presentation provided an analysis of India's export performance across major products and markets, with particular emphasis on frozen shrimp, which continued to be the leading export commodity, contributing 66.52% of the total export value and 40.19% of the export quantity. Product-wise and market-wise trends were discussed,

highlighting the growing demand for value-added seafood products and India's increasing competitiveness in international markets.

Shri Anil Kumar further elaborated on emerging market opportunities by presenting detailed analyses of specific products in key destinations, including Belgium, France, Australia, Spain, and Italy. He highlighted the growing potential for value-added shrimp products, particularly cooked peeled and deveined shrimp, as well as processed cuttlefish and squid products. The presentation also compared India's performance with major competitor countries and outlined projected export growth based on prevailing market trends.



The presentation highlighted the importance of market diversification, value addition, and enhancing India's competitiveness through innovation and product development. He also emphasised the opportunities arising from recently concluded FTAs, which are expected to improve market access and strengthen India's position in the global seafood trade.

The presentation concluded with recommendations to focus on innovation, processing capacity utilisation, branding, and the development of high-value seafood products to achieve sustainable export growth.

The next presentation was delivered by **Dr. K.N. Raghavan, CEO, Seafood Exporters Association of India (SEAI)**, who spoke on the key challenges facing India's seafood export sector and the measures required to improve its global competitiveness.



Dr. Raghavan highlighted that 60-65 % of India's seafood exports come from aquaculture and stressed the need to further develop both brackish water and inland aquaculture to enhance exports. He appreciated the Government's initiatives for the fisheries sector, including the development of smart integrated fishing harbours, onboard processing facilities in fishing vessels, processing facilities at fishing harbours, the National Tuna Initiative, and the development of indigenous Specific Pathogen Free (SPF) broodstock for shrimp species. He also welcomed the Union Budget 2026–27 announcements on the Exclusive Economic Zone (EEZ) policy and the increase in the duty-free import limit for raw materials used for value-added products and re-export from 1% to 3% of the previous year's FOB value.

He emphasised that traceability and sustainability are the two key pillars for achieving long-term growth in seafood exports. He also stressed the importance of value addition, making use of opportunities created by recently concluded Free Trade Agreements (FTAs), speeding up the implementation of Turtle Excluder Devices (TEDs) to improve market access for Indian wild-caught shrimp in the United States, and addressing market access issues such as SPS and TBT measures.

Dr. Raghavan also highlighted the need for a risk-based regulatory assessment system, where testing is focused on high-risk consignments instead of every export consignment. He noted that this would reduce compliance costs while maintaining food safety and quality standards.

Referring to the recent US tariff measures, he observed that India's seafood exports continued to grow through market diversification. He concluded by stating that achieving the national seafood export target of USD 20 billion would require close

coordination among the Government, regulatory agencies, exporters, processors, fishers, and farmers.



Mr. Joash Mathew, Analyst, Kontali, Netherlands, presented an overview of the global seafood market, covering recent trends in the trade of other marine fish, cephalopods, and shrimp. He analysed the performance of major exporting and importing countries, highlighting changes in demand, supplier shares, and emerging market opportunities.

The presentation highlighted India's position in the global seafood trade, noting that India remained the second-largest exporter of other marine fish and recorded steady growth in cephalopod exports, while maintaining a strong presence in the global shrimp market. Major export destinations for Indian seafood, including China, Thailand, Japan, Spain, Italy, the United States, and the European Union, were discussed, along with changing market dynamics and competition from other exporting countries.

Mr. Mathew also outlined key trends in global shrimp imports, highlighting increasing demand in the European Union, the United States, Japan, and the United Kingdom, and emphasised the need for India to strengthen its competitiveness by responding to evolving market requirements and emerging trade opportunities. The session provided participants with valuable insights into global seafood trade trends and India's prospects in the international market.



Ms. Michiko Miyamoto, Director, ILO India, delivered a presentation on "Decent Work in the Seafood Sector: Global Best Practices and Pathways for India." She highlighted the global importance of aquaculture and noted that India, as the world's second-largest aquaculture producer and exporter, has significant opportunities for employment generation, women's participation, and export-led growth. She emphasised that addressing decent work deficits is essential for ensuring sustainable and inclusive growth of the sector.

Ms. Miyamoto discussed key challenges in the seafood sector, including occupational safety and health, women's empowerment, elimination of child and forced labour, freedom of association, social dialogue, and reducing informality. Drawing on experiences from the Philippines, Thailand, Sri Lanka, and India, she highlighted initiatives to improve labour standards, strengthen responsible business conduct, enhance worker skills, and promote social dialogue across the seafood value chain.

As the way forward, she emphasised the need to address decent work deficits by improving working conditions, strengthening labour inspection, expanding social and labour protection, building enterprise capacity to comply with labour standards, promoting safe and inclusive workplaces for women, and enhancing collaboration among governments, employers, workers, buyers, and international partners to support a sustainable and competitive seafood sector in India.



Dr. P. Krishnan, Director, Bay of Bengal Programme Inter-Governmental Organisation (BOBP-IGO), India, delivered a presentation on the significance of the Port State Measures Agreement (PSMA) and its role in strengthening India's seafood sector. He explained that PSMA, the first legally binding international agreement to combat Illegal, Unreported and Unregulated (IUU) fishing, can help establish a seafood legality corridor by ensuring that only legally caught and traceable seafood enters the supply chain.

Dr. Krishnan highlighted that implementation of PSMA would enable India to attract legally verified raw materials for processing and re-export, improve utilisation of the country's seafood processing capacity, and enhance access to premium international markets. He cited the examples of Thailand and Seychelles, where effective implementation of port state measures has strengthened seafood trade and supported the growth of re-export activities.

He further emphasised the need for India to align its legal framework with PSMA requirements, designate suitable ports, strengthen inspection and traceability systems, build institutional capacity, and create awareness among stakeholders for effective implementation. He concluded that PSMA is not only a tool to combat IUU fishing but also an opportunity to enhance India's competitiveness as a regional seafood processing and re-export hub.



Mr. **Vikram Mulmule, Vice President, M/s. JBT Marel India**, delivered a presentation on **"**Modern Seafood Processing: Turning Technology into Yield, Value, and Growth**."** The session focused on the role of advanced processing technologies in enhancing yield, product quality, value addition, and competitiveness in the global seafood industry. He also presented an overview of global seafood export trends and future projections, highlighting the increasing emphasis on sustainability, food safety, and efficient resource utilisation in response to evolving consumer preferences.

The presentation emphasised the importance of maximising yield at every stage of seafood processing, from pre-processing to packaging, underlining the principle that "every gram counts." Mr. Mulmule discussed the challenges encountered throughout the processing chain and showcased advanced technological solutions, including intelligent batching and weighing systems, automated processing technologies, advanced freezing techniques, and the importance of glazing and hardening in protecting product yield and quality.

Mr. Mulmule further highlighted the growing market for breaded, coated, ready-to-cook, and ready-to-eat seafood products, discussing changing consumer demographics, taste preferences, and the evolving value chain for convenience seafood products. The session provided participants with valuable insights into modern seafood processing technologies and strategies for improving operational efficiency, increasing value addition, and strengthening the global competitiveness of the seafood processing industry.


SEAFOOD EXPO BHARAT 2026
MPEDA
SESSION I: MARINE PRODUCTS TRADE AND MARKET ANALYSIS:
INDIA's LARGEST SEAFOOD EXPO
1st – 3rd July, 2026

DAY 02: 02.07.2026

SESSION II: SEAFOOD VALUE ADDITION: Innovation, Sustainability, and Emerging Market Opportunities

The second session on Seafood Value Addition was co-chaired by Dr. George Ninan, Director, ICAR-CIFT and Mr. Smruti Ranjan Sethy, IRSME, Director, EIC.



Dr. Shine Kumar C. S., Director, NIFPHATT, India, delivered a presentation on the requirements for advancing value addition in the Indian seafood sector. He highlighted that India's value-added seafood industry is largely shrimp-centric and emphasised the need to diversify into other commercially important species such as tilapia, pangasius, seaweed, tuna, and cephalopods through optimum utilisation and product innovation.

Dr. Shine Kumar discussed the key challenges affecting value addition, including dependence on imported processing machinery, limited availability of high-quality functional ingredients, inadequate cold chain and hygienic infrastructure, shortage of skilled manpower, and underutilisation of fish processing by-products. He stressed the need to convert processing waste into value-added products such as collagen, gelatin, chitosan, and bioactive compounds, thereby improving resource utilisation and sustainability.

He also highlighted NIFPHATT's initiatives in developing innovative value-added products from tilapia, pangasius, seaweed, and fish–millet combinations to diversify

India's seafood product portfolio. He emphasised the need for strategic collaboration among IITs, government institutions, research organisations, and private industry to develop indigenous processing machinery, strengthen ingredient manufacturing, improve infrastructure and skills, and promote innovation for enhancing the competitiveness of India's value-added seafood sector.



Mr. Angelo Thomas, General Manager, M/s Sandhya Marine Exports Ltd., India, delivered a presentation on the future trends and innovations in value-added breaded seafood products. He highlighted the growing global demand for healthy, convenient, and premium seafood products, and discussed emerging trends such as air fryer-compatible products, low oil absorption coatings, gluten-free breading solutions, high-protein seafood products, clean-label ingredients, natural antioxidants, and advanced coating technologies to enhance product quality and consumer acceptance.

He emphasised that value addition is essential for achieving higher export realisation through improved product differentiation, stronger brand value, and reduced dependence on commodity exports. He also highlighted the need for India-specific product innovations, stronger local partnerships, shorter lead times, reliable supply chains, and increased domestic availability of coating systems and functional ingredients to enhance the competitiveness of India's value-added seafood exports.

Concluding his presentation, Mr. Thomas stressed that India's future growth in seafood exports depends on continuous innovation, quality consistency, and consumer-focused product development, remarking that "India should not only export seafood; India should export seafood innovation."



Dr. Soottawat Benjakul, Director, International Center of Excellence in Seafood Science and Innovation (ICE-SSI), Thailand, delivered a presentation on maximising the utilisation of fish and shellfish processing by-products to produce high-value functional ingredients and nutraceuticals. He highlighted that by-products such as fish skin, fish bones, shrimp shells, and shrimp hepatopancreas can be converted into value-added products including hydrolysed collagen, bio-calcium, chito-oligosaccharides, and shrimp oil, thereby transforming seafood waste into wealth.

Dr. Benjakul showcased the production of hydrolysed collagen from fish skin, highlighting its applications in functional foods, cosmetics, wound healing, and ready-to-drink beverages. He also discussed the extraction of shrimp oil from the hepatopancreas, which is rich in omega-3 fatty acids and astaxanthin and has potential applications as a functional food ingredient.

Emphasising the importance of complete utilisation of seafood processing by-products, he stressed the need to develop bioactive, high-value functional ingredients to enhance value addition, improve sustainability, maximise resource utilisation, and increase economic returns for the seafood processing industry.



Dr. Giridhar Parvatam, Director, CSIR-CFTRI, India, delivered a presentation on modern preservation technologies for extending the shelf life of fish and fishery products. He highlighted that post-harvest losses in seafood are primarily caused by microbial spoilage, poor handling, and gaps in the cold chain, underscoring the need for improved preservation practices to maintain quality, safety, and export competitiveness.

Dr. Parvatam discussed a range of advanced preservation technologies, including vacuum packaging, modified atmosphere packaging (MAP), active packaging, bio-preservation, edible coatings, high-pressure processing (HPP), ozone decontamination, cold plasma, pulsed light, irradiation, and ultrasound-assisted extraction. He explained that these technologies help reduce microbial contamination, extend shelf life, minimise post-harvest losses, and preserve the nutritional and sensory quality of seafood products.

He also highlighted the importance of converting seafood processing by-products into high-value products such as collagen, fish protein hydrolysates, fish oils, gelatine, and other bioactive compounds, thereby promoting sustainable utilisation of marine resources. He concluded that integrating innovative preservation technologies with value addition and green processing approaches will strengthen the sustainability and global competitiveness of India's seafood sector.



Prof. (Dr.) Tanweer Alam, Additional Director & Regional Officer, Indian Institute of Packaging (IIP), India, delivered a presentation on the role of advanced packaging technologies in preserving the quality, safety, and shelf life of seafood products. He highlighted that effective packaging serves as a protective barrier against moisture, oxygen, and physical damage, facilitates safe transportation, maintains the cold chain, and plays a vital role in reducing post-harvest losses and enhancing the marketability of seafood products.

Prof. Alam discussed modern packaging technologies such as vacuum packaging, modified atmosphere packaging (MAP), intelligent packaging, blockchain-enabled traceability, Internet of Things (IoT)-based cold chain monitoring, and RFID-based product tracking, which help improve product quality, food safety, traceability, and supply chain efficiency. He also highlighted the growing importance of sustainable packaging materials, digital labelling, QR codes, and eco-friendly packaging solutions to meet evolving consumer and international market requirements.

He concluded by emphasising that the adoption of advanced, sustainable, and traceable packaging systems is essential for improving the competitiveness of India's seafood exports and meeting global quality and regulatory standards.



Dr. Giuseppe Palma, General Secretary, Assoittica Italia, Italy, delivered a presentation on market opportunities for value-added seafood products in Europe. He highlighted that Europe and Italy are major net importers of seafood, with Europe importing nearly 70% of its seafood requirements and Italy over 80%, creating significant opportunities for seafood-exporting countries such as India. He noted that changing consumer lifestyles are driving demand for convenient, healthy, safe, and ready-to-cook/ready-to-eat seafood products, while consumers are also seeking greater product variety and sustainability.

Dr. Palma emphasised that value addition is essential for improving profitability and expanding the consumer base. He highlighted the importance of traceability, food safety, sustainability, transparent labelling, and nutritional information as key factors for enhancing consumer confidence and market competitiveness. He also stressed the need for the integrated utilisation of fishery products to develop high-value products, reduce waste, and support a circular economy.

Concluding his presentation, Dr. Palma expressed Assoittica Italia's willingness to collaborate with MPEDA on initiatives related to value addition, traceability, product development, and market promotion to strengthen India's seafood sector and expand its presence in the European market.



Dr. Elavarasan K., Senior Scientist, ICAR-CIFT, India, delivered a presentation on global advancements and technological progress in seafood waste utilisation. He highlighted the vast potential for converting seafood processing by-products into high-value products, thereby promoting resource efficiency, sustainability, and additional income for the seafood industry.

Dr. Elavarasan emphasised the importance of segregating different fish and shellfish by-products during processing to preserve their unique functional properties and maximise their value. He discussed the utilisation of fish heads, skin, scales, shrimp shells, squid pens, squid ink, cuttlefish by-products, and other processing wastes for the production of collagen, gelatine, collagen peptides, chitin, chitosan, glucosamine, omega-3 concentrates, protein hydrolysates, shrimp oil, bioactive compounds, nutraceuticals, cosmetics, biomedical products, and animal feed ingredients. He also highlighted recent technological advancements, including ultrasound-assisted extraction, high-pressure processing, pulsed electric field, microwave-assisted extraction, cold plasma, and green extraction technologies, for efficient recovery of valuable compounds.

As the way forward, he stressed that India should move beyond supplying seafood processing waste as raw material and focus on developing high-value consumer products through efficient resource utilisation and innovative technologies. He also emphasised maximising the utilisation of seafood by-products, identifying the unique value of different raw materials, and promoting function-specific ingredients and nutraceuticals to enhance value addition and strengthen the competitiveness of the Indian seafood sector.



Dr. M. Karthikeyan, Deputy Director, Department of Fisheries and Fishermen Welfare, Government of Tamil Nadu, delivered a presentation on the export potential of chilled fish products and the opportunities for value addition. He highlighted that although Tamil Nadu exported marine products worth ₹7,660 crore during 2025–26, chilled fish accounted for only 3.6% of the State's seafood exports, indicating significant scope for growth. He identified tuna, crab, seer fish, pomfret, grouper, snapper, squid, and cuttlefish as promising species for expanding chilled fish exports, particularly to the Middle East, Southeast Asia, and North America.

Dr. Karthikeyan highlighted key gaps in the existing value chain, including inadequate onboard handling, weak cold chain infrastructure, lack of dedicated chilled fish processing hubs, insufficient airport cargo handling facilities, and reliance on traditional fishing methods. He proposed measures such as establishing chilled fish handling centres at major fishing harbours, developing integrated processing facilities through public-private partnerships, strengthening cold chain and airport cargo infrastructure, promoting traceability and sustainability certification, and encouraging value-added products such as sashimi-grade tuna, ready-to-cook chilled fillets, and vacuum-packed chilled fish.

He concluded that these measures would reduce post-harvest losses, improve product quality, increase export value, and enhance the global competitiveness of India's chilled fish exports.



The panel discussion that followed the session was moderated by the chairs- Dr. George Ninan, Director, ICAR-CIFT, and Mr. Smruti Ranjan Sethy, IRSME, Director, Export Inspection Council (EIC). They steered the technical deliberations and interactive question-and-answer session, highlighting key strategies to achieve the national target of increasing the share of value-added seafood production from the current 10% to 25% by 2030. The session emphasized species diversification, optimal utilization of raw materials through zero-waste approaches, adoption of advanced packaging technologies, innovation, and sustainability as critical drivers for enhancing the competitiveness of India's seafood sector.



DAY 02: 02.07.2026

SESSION III: CAPTURE FISHERIES:
Innovation, Sustainability, and Blue Economy Opportunities

The Session 3 on Capture Fisheries was chaired by Dr. S. Kannappan, Senior Executive Director, National Fisheries Development Board (NFDB).



Dr. Edward Kennedy, Director, JKH International Pvt Ltd., Sri Lanka, delivered a presentation on MPEDA's Tuna Longline Pilot Project – Establishing a Model for Export Quality Tuna. He highlighted the project's objectives of establishing a sustainable tuna longline fishery, producing export-quality sashimi-grade tuna, promoting technology transfer and training, developing value-added products, increasing export volumes, improving fishermen's livelihoods, and creating international recognition for Indian sashimi-grade tuna. He emphasized international best practices in deep-sea longline fishing, onboard fish handling, including spiking, bleeding, gilling and gutting, rapid chilling, icing, and temperature-controlled storage, as well as maintaining an uninterrupted cold chain during unloading and transportation.

The presentation also underscored the importance of proper grading, quality control, and full traceability in ensuring premium-quality exports. Dr. Kennedy shared the encouraging results of the pilot voyage, which achieved 93% exportable-grade yellowfin tuna and 95% exportable-grade swordfish with no undersized fish, demonstrating the potential of the model to enhance value addition, strengthen India's competitiveness in the global premium tuna market, and promote sustainable deep-sea tuna fisheries.



Dr. Joice V. Thomas, Chief Executive, MPEDA-NETFISH, India, shared India's experience in the co-management of fishing harbours, highlighting the model as an effective mechanism for sustainable and participatory harbour governance. He explained that the co-management approach, successfully implemented at the Munambam and Paradeep Fishing Harbours, brings together government agencies, harbour authorities, MPEDA, fisheries institutions, and fishing community representatives to jointly manage harbour operations. He highlighted key features of the model, including stakeholder participation in decision-making, systematic monitoring of vessel movements, documentation of fish catches and crew details, maintenance of hygiene and sanitation, awareness and capacity-building programmes, and efficient harbour administration through dedicated management societies.

Dr. Thomas emphasized that the model has strengthened responsible fisheries management, improved harbour infrastructure and services, enhanced transparency and operational efficiency, generated sustainable revenue for maintenance, reduced dependence on government funding, and created better economic opportunities for fishermen, traders, and exporters. Concluding his presentation, he underscored that autonomous co-management societies provide a practical and scalable framework for developing and maintaining fishing harbours that meet international standards while ensuring long-term sustainability and stakeholder ownership.



Shri S. Ramachandran, Fishery Survey of India (FSI), Department of Fisheries, Government of India, delivered a presentation on the potential for commercial deep-sea fishing and new deep-sea fishing grounds in India's Exclusive Economic Zone (EEZ) and the High Seas. He highlighted India's vast marine resources, noting that despite the country's extensive EEZ and significant resource potential, most fishing operations remain confined to within 60 nautical miles of the coast. He emphasized the untapped potential of high-value oceanic resources, particularly yellowfin tuna, skipjack tuna, bigeye tuna, swordfish, billfishes, pelagic sharks, oceanic squids, and other deep-sea species, which offer substantial opportunities for enhancing marine exports.

He outlined the policy and strategic framework for the sustainable development of deep-sea fisheries, highlighting the Union Budget 2025–26 announcement on creating an enabling framework for the sustainable harnessing of fisheries resources from the EEZ and the High Seas. He stressed the need to strengthen India's deep-sea fishing fleet, improve fishing skills and capacity, and establish an effective regulatory framework to responsibly utilize these resources. The presentation also showcased FSI's resource assessment and exploratory surveys, which identified promising fishing grounds around the Lakshadweep Islands, Andaman & Nicobar Islands, and other offshore areas for tuna, billfishes, pelagic sharks, and oceanic squids.

Concluding his presentation, Shri Ramachandran emphasized that the sustainable development of deep-sea fisheries should be supported by comprehensive resource assessments, species-specific management, precautionary harvest strategies, selective fishing gears, food safety and heavy metal monitoring, protection of vulnerable marine habitats, and adaptive management practices. He underscored that these measures would enable India to responsibly harness its untapped deep-sea resources, strengthen seafood exports, and enhance the country's competitiveness in the global marine fisheries sector.



Dr. Joe K. Kizhakudan, Principal Scientist and Head, Regional Centre, ICAR-Central Marine Fisheries Research Institute (CMFRI), Visakhapatnam, India, delivered a presentation on "Artificial Reefs to the Rescue: Enhancing Resilience and Livelihoods of Coastal Communities in India." He highlighted the role of artificial reefs as an effective ecosystem-based approach for habitat restoration, enhancement of marine biodiversity, sustainable fisheries management, and improvement of the livelihoods of coastal fishing communities. He explained the evolution of artificial reef technologies in India, distinguishing them from Fish Aggregating Devices (FADs), and outlined their multiple applications, including habitat restoration, fish production, conservation, shoreline protection, breeding and nursery grounds, recreation, and ecosystem enhancement.

He presented the extensive research and development undertaken by ICAR-CMFRI over the past four decades in designing, testing, and deploying artificial reef modules across the Indian coastline. He described the development of various generations of reef modules tailored for different fish groups, the scientific approach adopted for site selection, stakeholder consultations, socio-economic assessments, and the establishment of community-based Artificial Reef Sub-Committees to ensure participatory management. He also highlighted the large-scale implementation of artificial reef programmes under the Pradhan Mantri Matsya Sampada Yojana (PMMSY) across several coastal States, supported by continuous monitoring, underwater studies, and performance evaluations.

Sharing the outcomes of these interventions, Dr. Joe demonstrated that artificial reefs have significantly improved fish abundance, reduced fishing distance and fuel

consumption, enhanced catch and fishermen's income, and strengthened community participation in fisheries management. He also highlighted recent innovations, including fish seed release and ranching devices, coral restoration reef modules, and the use of 3D-printed reef structures for habitat restoration.

Concluding his presentation, he emphasized that successful artificial reef programmes require strong stakeholder participation, scientific planning, co-management, continuous monitoring, and supportive policy frameworks to promote sustainable fisheries, restore marine ecosystems, and enhance the resilience of coastal communities.



Mr. Xavier Lawrance, Founder, Odaku Online Services Pvt. Ltd., delivered a presentation on "India's Marine Navigation System: Leveraging Digital Platform to Ensure Fishing Voyage Tracking," highlighting the importance of digital technologies in improving seafood traceability, fisheries governance, and the safety of fishing operations. He pointed out that while fisheries data collection is well established on land, the absence of reliable voyage data at sea remains a major challenge for traceability, conservation, regulatory compliance, and monitoring of illegal, unreported and unregulated (IUU) fishing.

He showcased the Odaku Marine Navigation System, a GPS-enabled, offline navigation platform that automatically records voyage information, including GPS tracks, fishing effort, haul events, vessel stoppages, fuel efficiency, weather conditions, and zone compliance without requiring manual data entry. The system generates digital trip logs that support seafood traceability, fleet monitoring, and sustainable fisheries management while remaining user-friendly and beneficial to fishermen.

Mr. Lawrance also shared real-world case studies demonstrating the use of voyage data for resolving fishing disputes, providing evidence in maritime accident claims, and supporting traceability initiatives. He concluded that a fisherman-centric, self-sustaining digital platform can strengthen traceability, improve compliance with international market requirements, enhance fisheries management, and ultimately improve the livelihoods of fishing communities.

Mr. Santhosh N. K., State Coordinator, MPEDA-NETFISH, India, presented the fishers-led marine plastic recovery initiatives implemented in Kerala, highlighting MPEDA-NETFISH's efforts to combat marine plastic pollution through awareness programmes, coastal clean-up campaigns, and active participation of fishing communities. He elaborated on the DROP (Drive to Recover Ocean Plastic) project, implemented at Munambam Fishing Harbour with support from the HCL Foundation and local stakeholders, under which fishers voluntarily collect plastic waste during fishing voyages and bring it ashore for segregation, recycling, and safe disposal. He noted that the initiative has recovered over 64 tonnes of marine plastic (up to June 2026), while also promoting behavioural change through awareness campaigns, harbour beautification, art installations using recovered plastic, and recognition of top-performing fishers.



Mr. Santhosh also highlighted the Suchithwa Sagaram initiative at Neendakara Fishing Harbour, implemented in collaboration with the Department of Fisheries, Harbour Engineering Department, Suchitwa Mission Kerala, Clean Kerala Company, and the Society for Assistance to Fisherwomen (SAF). The project has enabled the collection, sorting, shredding, and recycling of marine plastic waste, recovering around 230 tonnes of plastic, of which 184 tonnes were processed and sold for recycling. Concluding his presentation, he emphasized that fishers-led marine plastic recovery initiatives not only contribute to cleaner oceans and healthier marine ecosystems but also foster responsible fisheries, community ownership, and sustainable coastal development.

Dr. M. Sathish, Scientist-D, CSIR-Central Leather Research Institute (CSIR-CLRI), India, delivered a presentation on the transformation of fish processing waste into fashionable leather products, demonstrating how discarded fish skins can be converted into premium leather through a circular economy approach. He highlighted fish processing waste, fish market waste, and skins from non-edible invasive fish species as valuable resources that can be transformed into high-value leather, thereby reducing environmental pollution and creating additional income opportunities. He also showcased CSIR-CLRI's successful model involving fish skin preservation, supply chain development, technical training in leather processing and product manufacturing, and technology transfer to startups and entrepreneurs.



Dr. Sathish emphasized that fish leather is a niche product with attractive natural patterns and strong commercial potential for manufacturing a wide range of products, including fashion accessories and lifestyle goods. He noted that fish leather production requires only modest investment, offers significant employment opportunities through self-help groups and startups, and can be scaled through technology licensing and industry partnerships. Concluding his presentation, he highlighted the role of fish leather technology in promoting sustainable value addition, waste utilization, entrepreneurship, and the circular economy within the fisheries sector.

Mr. Ganesh Nakhawa, Technical Consultant, Indian Fishmeal and Fish Oil Exporters Association (IFAFEA), India, delivered a presentation on "Scaling India's Fish Meal and Fish Oil (FMFO) Sector to US$2 Billion," outlining the industry's transformation from a small coastal enterprise to a globally recognized supplier of marine ingredients. He highlighted India's competitive advantages, including its strategic location, year-round marine resource availability, competitive production

costs, and growing reputation for quality and consistency. He emphasized that increasing global demand from aquaculture, pet food, human nutrition, and specialty feed industries presents significant opportunities for expanding the sector.



Mr. Nakhawa stressed the importance of strengthening quality, sustainability, traceability, and responsible sourcing to enhance India's global competitiveness. He discussed key challenges such as raw material availability, climate-related uncertainties, rising fuel costs, certification requirements, market volatility, and regulatory complexities, while highlighting the need for improved efficiency, better resource utilization, technological advancements, and greater stakeholder collaboration. He also showcased emerging opportunities in value-added products, including refined fish oil, Omega-3 products, fish protein hydrolysates, pet food ingredients, marine fertilizers, and leather products. Concluding his presentation, he emphasized that sustained investments in sustainability, value addition, innovation, and strong industry partnerships would be essential to achieving the long-term growth potential of India's FMFO sector while supporting fishermen and coastal communities.

Dr. Mohamed Dawood Sait, President, Indian Marine Ingredients Association (IMIA) highlighted the potential of India's marine ingredients sector to become a major supplier of premium aquafeed ingredients through sustainable resource utilization, value addition, and adoption of circular economy principles. The speaker emphasized the efficient utilization of fishery resources and seafood processing by-products to produce high-value marine ingredients such as fish meal and fish oil.



The presentation underscored the growing global demand for sustainable aquafeed ingredients and the need to strengthen processing infrastructure, quality assurance, traceability, and sustainability standards to enhance India's global competitiveness. The importance of collaboration among government agencies, industry, and research institutions to promote innovation, improve supply chain efficiency, and facilitate market access was also highlighted.

The session concluded that greater value addition and adoption of circular economy practices would improve resource utilization, enhance export earnings, support sustainable aquaculture, and position India as a leading global supplier of premium marine ingredients.

Further, the chair of the session by Dr. S. Kannappan, Senior Executive Director, NAFDB, lead the panel discussions and mediated the discussions and emphasized on the scheme policies to encourage new initiatives and startups in bringing up the co-management society model in other states other than Kerala and also the popularisation of MPEDA-NETFISH initiatives such as DROP which aims at recovering ocean plastic and preventing the plastic reaching ocean.



DAY 03: 03.07.2026

SESSION IV: CULTURE FISHERIES:
Innovations, Sustainability, and Emerging Opportunities
Chair:

The session IV was chaired jointly by Mr K C Devasenapathi, IAS, Secretary, Coastal Aquaculture Authority (CAA) and Mr Saji Chacko, President, Society of Aquaculture Professionals.

The session commenced with a presentation on "Shrimp Aquaculture: An Update**"** by **Mr. Ravi Kumar Yellanki, President, All India Shrimp Hatchery Association (AISHA)**. The speaker provided a comprehensive overview of the status of shrimp aquaculture in India, highlighting trends in production, exports, coastal shrimp farming, hatchery seed production, and state-wise performance.



The presentation examined key challenges confronting the sector, including declining farm profitability due to high input costs, disease pressure, early harvesting, and reduced average harvest size. It also discussed emerging global challenges such as trade uncertainties, increasing traceability requirements, and compliance with international regulations. The speaker emphasized the need for improved broodstock genetics, enhanced biosecurity, lower stocking densities, nursery-based farming, crop rotation, and area-specific crop breaks to improve productivity and farmer returns.

The session concluded that while India has demonstrated resilience and sustained growth in shrimp production and exports, future competitiveness will depend on improving farm profitability through better genetics, healthier crops, sustainable farming practices, and production of larger-sized shrimp to realize higher value in international markets.

Dr. (Mrs.) Lopamudra Sahoo, Principal Scientist, ICAR–Central Institute of Freshwater Aquaculture (ICAR-CIFA), Bhubaneswar delivered a session on "Inland Aquaculture: The Next Export Frontier". The presentation highlighted the significant contribution of inland aquaculture to India's fisheries sector and its immense potential to emerge as the next major driver of seafood exports.



The speaker emphasized that although inland aquaculture contributes substantially to India's fish production, its share in seafood exports remains limited, presenting considerable opportunities for export diversification through species such as pangasius, tilapia, freshwater prawn (scampi), ornamental fish, and value-added carp products. The presentation underscored the importance of strengthening processing infrastructure, cold chain facilities, value addition, digital traceability, quality certification, and adoption of advanced aquaculture technologies to enhance export competitiveness.

The session concluded that, with sustained investments in technology, genetic improvement, processing, and market-oriented production, inland aquaculture has the potential to significantly diversify India's seafood export basket, enhance farmers' incomes, and contribute to achieving the country's long-term fisheries and export growth objectives.

The session on "Potential of Seaweed Aquaculture in India" was delivered by **Dr. Krupa Ratnam, Scientist, National Institute of Ocean Technology (NIOT)**. The presentation highlighted India's vast marine resources and the significant potential for expanding seaweed aquaculture as a sustainable component of the blue economy. The speaker discussed NIOT's initiatives in geospatial mapping of suitable seaweed farming sites, particularly in the Andaman & Nicobar Islands, and the successful demonstration of pilot-scale seaweed cultivation projects in collaboration with the Department of Fisheries.



The presentation also showcased NIOT's technological interventions in offshore mariculture, including the development of open-sea cages, submersible cage systems, and pilot-scale cultivation of commercially important marine finfish species. Emphasis was laid on the role of seaweed farming in enhancing primary production, promoting sustainable livelihoods for coastal communities, supporting climate resilience, and providing raw materials for high-value products such as bioplastics and other bio-based industries.

The session concluded that India possesses extensive marine resources and technological capabilities to scale up seaweed aquaculture and offshore mariculture, thereby contributing to sustainable fisheries development, livelihood generation, and diversification of the country's seafood production and export basket.

Dr. J. Raymond Jani Angel, Senior Scientist, ICAR–Central Institute of Brackishwater Aquaculture (CIBA), delivered a technical session on "Innovative Seed Production Technology for Blue Swimming Crab and Strategies for Export Enhancement." The presentation highlighted recent advancements in seed production technologies for blue swimming crab, with emphasis on strengthening hatchery production, ensuring quality seed availability, and promoting sustainable aquaculture practices for commercial farming.



The speaker also discussed the export potential of blue swimming crab and emphasized the need for technology dissemination, farmer adoption, and value chain development to enhance production and exports. He mentioned that 80 percent of the crab exports from the country is going in the pasteurised form, and there is tremendous scope for improving production and exports. The session concluded that scientific interventions and sustainable culture practices would support diversification of India's aquaculture sector and strengthen exports of high-value crab products.

Dr. Feroskhan S., Scientist, NOFIMA, Norway, delivered a technical session on **"Recirculating Aquaculture Systems (RAS) in Global Aquaculture."** The presentation reviewed the global status of Recirculating Aquaculture Systems (RAS) and highlighted their increasing contribution to sustainable aquaculture production. The speaker explained that RAS technology enables intensive fish farming under controlled environmental conditions by continuously treating and reusing water, thereby minimizing water consumption, improving biosecurity, reducing disease risks, and ensuring consistent production throughout the year.



The presentation showcased global advancements in RAS technology, particularly for the culture of high-value species such as salmon, trout, seabass, and shrimp. It emphasized the importance of efficient water quality management, automation, energy optimization, and advanced filtration systems in improving production efficiency and environmental sustainability. The speaker also discussed the opportunities and challenges associated with adopting RAS technology, including high capital investment, operational expertise, and energy requirements.

The session concluded that RAS is emerging as a key technology for the future of aquaculture, offering significant potential to enhance productivity, promote sustainable resource utilization, and support the expansion of aquaculture production while minimizing environmental impacts.

Dr. B. Santhosh, Principal Scientist, ICAR–Central Marine Fisheries Research Institute (CMFRI), delivered a talk on "Marine Ornamental Fish: Conservation, Captive Breeding and Business Opportunities in the Blue Economy." The presentation highlighted the ecological and economic significance of the marine ornamental fish sector and India's rich marine biodiversity, with over 700 indigenous ornamental fish species offering considerable potential for sustainable aquaculture and export diversification. The speaker reviewed the progress made in captive breeding technologies for several commercially important marine ornamental species and emphasized the role of scientific interventions in reducing dependence on wild collection.



The presentation also discussed the need to strengthen traceability, certification, hatchery infrastructure, and market linkages to improve the competitiveness of India's ornamental fish industry. Various business opportunities in captive breeding, aquarium trade, export, hatchery services, aquarium maintenance, and eco-tourism were highlighted. The session concluded that a science-based approach, supported by sustainable captive breeding, responsible trade practices, and strong conservation measures, will be essential for realizing the full potential of the marine ornamental fish sector under the Blue Economy.

Mr. Balasubramaniam V., General Secretary, Prawn Farmers Federation of India (PFFI), delivered a technical session on "Building India's Blue Economy Through Farmer Resilience – Lessons from the Collaborative Shrimp Disease Investigation Program (CoSDIP)." The presentation highlighted the challenges posed by recurring shrimp disease outbreaks, unexplained mortalities, and the emerging Aggressive Running Mortality Syndrome (RMS), which have adversely affected shrimp production and farm profitability despite India's record seafood exports.



The speaker explained the Collaborative Shrimp Disease Investigation Program (CoSDIP) as a model initiative that brings together shrimp farmers, scientists, industry stakeholders, and experts to investigate disease outbreaks and develop science-based management strategies. The importance of farmer participation, multidisciplinary collaboration, and timely scientific intervention in addressing complex aquaculture challenges was emphasized.

The session concluded that strengthening collaborative disease surveillance, research, and extension support is essential for improving farmer resilience, ensuring sustainable shrimp production, and supporting the long-term growth of India's blue economy.

Dr. S. Kandan, Director (I/c), MPEDA–Rajiv Gandhi Centre for Aquaculture (RGCA), delivered a technical session on "Experience Sharing on Super-Intensive Precision and Natural Shrimp Farming System (SIPNSF)." The presentation showcased MPEDA-RGCA's experience in implementing a next-generation, climate-smart, bio-secure, and resource-efficient shrimp farming system developed in collaboration with ICAR-CIBA. The speaker highlighted the key features of SIPNSF, including modular circular tanks, automated feeding, smart aeration, continuous water quality monitoring, natural feed integration, and remote surveillance, which collectively improve production efficiency while minimizing water, feed, and energy consumption.



The presentation also shared the encouraging production results achieved at the MPEDA-RGCA demonstration facility, including high survival, low feed conversion ratio, and enhanced productivity. The speaker emphasized that the system produces chemical-free shrimp with improved nutritional quality and has the potential to promote sustainable, climate-resilient, and profitable shrimp farming, thereby contributing to the long-term growth of India's aquaculture sector.

The Panel discussion on various topics discussed in the session contributed to productive discussion, thereafter, moderated by the chair of the session.

The key takeaways from the session included the importance of optimal stocking density, disease and pond management, and unlocking the potential of inland aquaculture, seaweed farming, and cage culture systems. The session also highlighted innovations in blue swimming crab seed production, Recirculating Aquaculture System (RAS) technology, marine ornamental fisheries, artificial reef development, and supportive policy frameworks. Emphasis was placed on collaborative disease management involving government and research institutions, along with innovative initiatives by MPEDA-RGCA, to promote sustainable aquaculture and enhance farmer livelihoods.


SESSION IV: CULTURE FISHERIES:
SEAFOOD EXPO BHARAT 2026
1st – 3rd July, 2026

DAY 03: 03.07.2026

SESSION V: TRACEABILITY AND FOOD SAFETY
Building Trust in Seafood Supply Chains
Chair:

The session V was chaired by Dr. P. Krishnan, Director, Bay of Bengal Programme BoBP-IGO.

The presentation by **Ms. Supanoi Subsinserm, Expert in Fish Inspection and Quality Control, Department of Fisheries, Thailand**, provided a comprehensive overview of Thailand's Traceability in Aquaculture and Catch Certification System, developed to combat Illegal, Unreported and Unregulated (IUU) fishing and to ensure compliance with international seafood trade requirements. The presentation outlined Thailand's fisheries reforms, legal framework, and traceability systems covering aquaculture, wild-caught fisheries, imported aquatic animals, and exported fishery products.

The presentation highlighted the end-to-end traceability mechanism implemented across the seafood supply chain, covering hatcheries, aquaculture farms, fishing vessels, fish landing centres, processing establishments, cold storage facilities, imports, and exports. It explained the use of movement documents, landing declarations, purchasing documents, import movement documents, processing statements, catch certificates, and coding systems to ensure complete traceability from harvest to export. The importance of document verification, raw material balance, inventory management, and process controls in preventing products originating from IUU fishing from entering the supply chain was also emphasised.



Ms. Subsinserm further highlighted the benefits of Thailand's traceability system, including strengthening fisheries governance, supporting law enforcement and resource management, enhancing international cooperation, preventing market

access for illegally sourced fishery products, and promoting the long-term sustainability of the fisheries sector. The session provided participants with valuable insights into Thailand's integrated traceability framework and its role in ensuring compliance with international market requirements.

The session by **Dr. Ranjit Suseelan, India Representative, Marine Stewardship Council (MSC)** focused on "MSC Implementation Strategies for India: Implementing Fisheries Improvement Projects (FIPs) – Key Challenges and Strategies for Implementation." The presentation outlined India's potential to become a global leader in sustainable seafood and emphasised the growing importance of sustainability, traceability, and responsible sourcing in maintaining access to international seafood markets.

The presentation highlighted the Marine Stewardship Council (MSC) framework and proposed a structured implementation pathway for India, covering stakeholder alignment, scientific baseline development, fishery pre-assessment, action plan preparation, Fisheries Improvement Projects (FIPs), traceability, chain of custody, and certification readiness. Key implementation challenges, including fragmented fisheries governance, funding constraints, data gaps, traceability readiness, and stakeholder coordination, were discussed along with strategies to address these issues through a coordinated national approach.



Dr. Suseelan further proposed the "One India – One Pathway" framework to facilitate fishery-specific implementation under a common national coordination mechanism. The presentation emphasised the roles of government agencies, industry, scientific institutions, NGOs, and markets in supporting sustainable fisheries, while highlighting the importance of traceability, blended financing, and policy alignment. The session

also reviewed India's progress towards MSC certification and outlined a roadmap for achieving certified fisheries and strengthening market access through sustainable fisheries management and collaborative implementation.



The closing session concluded with a panel discussion focusing on traceability and food safety associated with the global seafood sector, and the increasing role of role of certification in future market promotion.



CONCLUSION:

The technical sessions held during Seafood Expo Bharat 2026 in Chennai from 1 to 3 July 2026 deliberated on various challenges being faced by India’s seafood exports and helped to identify measures to support sustained growth of the sector. Experts from diverse fields shared their experience and insights into a sector which is yet to realise its full potential. Both marine and inland fisheries offer considerable scope for further development, with inland resources remaining largely underutilised. Hence, the sessions ended with a positive note to strive hard towards efficient utilization of the available resources while imbibing innovation and modernisation to further support the sector.



The Technical session team of MPEDA with Director, MPEDA & DD, DoC