



**INTERNATIONAL SEMINAR
ON BLUE CARBON
ECOSYSTEM VALUES:
Accounting and Crediting
Guidance Frameworks**

7 September 2026
Busan, Republic of Korea

**PROCEEDINGS OF INTERNATIONAL SEMINAR ON BLUE CARBON ECOSYSTEM VALUES
ACCOUNTING AND CREDITING GUIDANCE FRAMEWORKS
Felix Hotel, Busan, Republic of Korea
September 7, 2026**

Introduction

- i. The International Seminar on Blue Carbon Ecosystem Values Accounting and Crediting Guidance Frameworks, co-organized by the Korea Maritime Institute (KMI) and Partnerships in Environmental Management for the Seas of East Asia (PEMSEA), was held at the Felix Hotel, Busan, Republic of Korea, on September 7, 2026. The meeting served as a regional platform for exchanging knowledge and experiences, validating proposed enhancements to the Regional Blue Carbon Accounting Protocol (RBCAP), and discussing pathways toward harmonized blue carbon and biodiversity accounting and crediting frameworks across the East Asian Seas region.
- ii. The seminar brought together 21 participants, including representatives from the PEMSEA Partnership Council Technical Session, PEMSEA Network of Learning Centers (PNLC), national government agencies and academic institutions from China, Indonesia, Japan, Thailand, the Philippines, and the Republic of Korea, as well as KMI, KIOST and the PEMSEA Resource Facility (PRF). The seminar provided an opportunity to exchange country experiences, identify common challenges, and strengthen regional collaboration on blue carbon and biodiversity accounting and crediting.
- iii. The International Seminar focused on three main objectives: (1) to validate and strengthen the proposed enhancements to the RBCAP, including technical clarification, national applicability, methodological harmonization, and the potential expansion of the framework to additional ecosystems; (2) to review and discuss the Regional Biodiversity Accounting and Crediting Mechanism, including approaches for recognizing biodiversity and other non-carbon ecosystem values and co-benefits; and (3) to define PEMSEA's regional niche and added value, including its potential governance role and technical services in standard setting, verification support, capacity development, and the development of blue carbon and biodiversity markets in the East Asian Seas region.
- iv. The seminar covered key technical and practical aspects of blue carbon accounting and implementation, including country experiences in blue carbon accounting, monitoring, restoration, and carbon-market readiness; application and enhancement of the RBCAP for mangroves, seagrasses, salt marshes, and other coastal ecosystems; and consideration of additional ecosystems such as seaweed and macroalgae, tidal flats, and peatlands. The discussions also highlighted the importance of national circumstances, data availability, institutional capacity, land tenure, governance, long-term financing, and the integration of biodiversity and socioeconomic benefits into blue carbon initiatives.
- v. The meeting identified several key expected outcomes, including: (1) expert-validated recommendations for strengthening the enhanced RBCAP; (2) a shared understanding of the strengths, gaps, and potential development pathways for regional biodiversity accounting and crediting approaches; and (3) a clearer understanding of PEMSEA's role and added value as a regional platform supporting blue carbon and biodiversity accounting, certification, capacity development, and market development in East Asia. These outcomes will provide inputs for the second seminar planned for November 2026

- vi. The following supporting documents are annexed to these proceedings:
- Annex 1: International Seminar Agenda
 - Annex 2: Link to the International Seminar documents, presentation and photos
 - Annex 3: Poster
 - Annex 4: List of participants

1.0 OPENING SPEECH

- 1.1. **Dr. Yeajin Jung**, representing the Korea Maritime Institute (KMI), delivered the opening remarks and warmly welcomed participants to the International Seminar on Blue Carbon Ecosystem Value Accounting and Crediting Guidance Frameworks. She highlighted the importance of mangroves, salt marshes, and seagrass ecosystems not only as carbon sinks but also for biodiversity conservation, ecosystem services, and coastal protection. She noted that the East Asian Seas region, which is home to approximately one-third of the world's mangroves, is at the center of the global blue carbon landscape. She emphasized that differences among countries in accounting for, valuing, and certifying blue carbon continue to create a gap between the ecological potential of these ecosystems and their actual utilization in carbon markets. In this context, she highlighted the development of the Regional Blue Carbon Accounting Protocol (RBCAP) by PEMSEA as an important initiative to promote a more harmonized regional approach. She explained that the seminar was the first of two planned seminars to support the further development of the RBCAP, including consideration of its potential expansion to seaweed, peatlands, tidal flats, and subarctic ecosystems, as well as approaches for recognizing the broader values of blue carbon ecosystems, particularly biodiversity and other ecosystem services beyond carbon sequestration. Dr. Jung also expressed her appreciation to Executive Director Ms. Aimee Gonzales and the PEMSEA team, Dr. Duk-Jae Kwon as Technical Session Chair, Dr. Kazumi Wakita as Technical Session Co-Chair, PNLG President, and the distinguished speakers, panelists, and partner institutions participating in the seminar. She concluded by expressing the hope that the seminar would go beyond academic exchange and contribute to the development of a shared and practical blue carbon accounting and crediting framework for the East Asian Seas region, and formally opened the seminar.
- 1.2. **Ms. Maida Aguinaldo**, in presenting the seminar overview, explained that the seminar built on the PEMSEA Blue Carbon Program, a regional initiative aimed at helping East Asian Seas countries recognize, measure, and ultimately unlock the value of coastal and marine ecosystems as carbon sinks and biodiversity assets. She highlighted the Regional Blue Carbon Accounting Protocol (RBCAP) as a common regional framework intended to promote scientifically sound and harmonized approaches to blue carbon and biodiversity accounting and crediting. The seminar, as the first of two planned seminars in the series, brought together scientists, practitioners, and partners from China, Indonesia, Japan, the Philippines, Thailand, and the Republic of Korea, together with PEMSEA and KMI, to validate enhancements to the RBCAP, exchange country experiences, and explore regional biodiversity accounting and crediting. The seminar had three main objectives: (1) to validate enhancements to the RBCAP; (2) to review the Regional Biodiversity Accounting and Crediting Mechanism; and (3) to define PEMSEA's regional niche, including its unique advantages, governance role, and technical services in standard setting, verification support, and capacity development for blue carbon and biodiversity markets in East Asia. The program comprised seven presentations and a panel discussion, covering the expansion of the RBCAP to mangroves, seagrass beds, salt marshes, and other coastal ecosystems, as well as the development of regional approaches for biodiversity accounting and crediting and the recognition of non-carbon ecosystem values. The expected outcomes were expert-validated recommendations to strengthen the enhanced RBCAP; a shared understanding of the strengths and gaps

in regional biodiversity accounting and crediting approaches; and a clearer understanding of PEMSEA's role and added value as a regional platform for blue carbon and biodiversity markets in East Asia, with the outcomes to provide inputs for the second seminar planned for November 2026.

2.0 SPEAKER PRESENTATIONS

- 2.1. **Dr. Luzhen Chen** from Xiamen University presented the development and application of China's blue carbon accounting methodologies and their potential contribution to improving the PEMSEA Regional Blue Carbon Accounting Protocol (RBCAP). She highlighted China's multi-level methodology system covering mangroves, salt marshes, and seagrass beds, supported by completed projects and real-world carbon transactions, including pioneering transactions for mangrove, salt marsh, and seagrass ecosystems. Dr. Chen emphasized several key lessons from China's experience, including the need to shift from rigid project-based approaches toward flexible, scenario-oriented activity types that can accommodate different restoration and conservation contexts. She also highlighted the importance of a three-tier accounting approach, consisting of basic, intermediate, and advanced levels, to accommodate differences in data availability, monitoring capacity, and technical capability across countries and regions. In addition, she emphasized the importance of integrating long-term sustainability, biodiversity, ecosystem services, and livelihood benefits alongside carbon accounting, noting that market value can reflect the combined benefits of carbon, ecology, and society. For the further development of RBCAP, she recommended drawing on China's validated methodologies, regional reference parameters, and field-tested monitoring and verification approaches, particularly for salt marshes and seagrass beds. She concluded that an effective regional framework should be characterized by flexibility, compatibility, foresight, and strong empirical grounding, while maintaining sufficient adaptability to different national and local contexts.
- 2.2. **Dr. Lusita Meilana, representing Dr Rudhi Pribadi** from Diponegoro University, presented the results of the Feasibility Study of Blue Carbon Ecosystem Rehabilitation in Central Java, Indonesia, focusing on the application of blue carbon accounting, ecosystem assessment, and implementation readiness at the site level. She highlighted that Central Java has approximately 14,002.15 ha of mangroves distributed across 16 areas, while seagrass ecosystems cover approximately 148.92 ha, concentrated in Jepara, Rembang, and Cilacap. The assessment showed that although mangrove cover has generally increased, increases in spatial cover do not necessarily indicate the recovery of ecological functions, as outcomes remain strongly influenced by hydrology, sediment dynamics, regeneration, environmental pressures, and actual land use. The study also identified significant land-cover transitions between 2016 and 2026, including approximately 2,335 ha of former ponds transitioning to mangrove cover, demonstrating substantial potential for ecosystem recovery but also the need for careful site-level verification. She introduced the Action-matched Readiness Framework (AMRF), which assesses readiness based on the combination of villages or sub-districts, ecosystems, and appropriate primary actions rather than assigning a general readiness label to an area. The framework considers four main pillars ecology, tenure and spatial planning, institutions and governance, and social, GEDSI, and financial factors and is designed to identify gaps, opportunities, and appropriate follow-up actions. The assessment categorized interventions into protection, rehabilitation, and restoration, emphasizing that not all degraded sites require active planting; some are better addressed through protection, maintenance, natural

regeneration, or restoration of ecological processes such as hydrological connectivity and sedimentation. Based on screening of 60 candidate villages, 30 priority villages were selected and further assessed through ecological, socioeconomic, tenure, institutional, and field verification processes. The study found substantial variation in readiness among sites, ranging from advanced preparation to locations that were not yet ready for implementation. She emphasized that blue carbon investment should therefore be action- and site-specific, with land tenure, spatial status, governance, community participation, financing, and carbon feasibility addressed before implementation. The proposed implementation pathway consists of three phases: (1) 0–6 months for enabling and readiness, including verification, clarification of access and authority, monitoring procedures, and financing plans; (2) 6 months–3 years for initial protection and limited restoration; and (3) beyond three years for sustainability and investment, including long-term monitoring, diversified financing, ecosystem-based economic activities, and potential carbon credit development only after requirements such as baseline, additionality, benefit sharing, permanence, safeguards, and MRV are fulfilled. She concluded that the success of blue carbon management should not be measured simply by the number of hectares planted, but by the appropriateness of interventions, clarity of land and resource rights, management capacity, ecological suitability, and the sustainability of financing and maintenance.

- 2.3. **Dr. Milica Stankovic** of Prince of Songkla University presented Thailand's experience in blue carbon accounting and monitoring of seagrass ecosystems, focusing on how sediment carbon stocks change over time. Based on nine seagrass meadows, she highlighted substantial differences in carbon stocks among sites, influenced by meadow condition, sediment characteristics, local environmental conditions, and disturbance history. The results showed that seagrass loss can lead to significant declines in sediment carbon, while recovery can gradually restore carbon accumulation; however, vegetation recovery occurs faster than sediment carbon recovery. She emphasized that surface sediment measurements alone may not reflect changes in whole-core carbon stocks and that long-term, site-specific monitoring is therefore important. An ongoing restoration experiment in Koh Libong is assessing seagrass establishment and sediment stability before making any claims about carbon recovery. She concluded that local conditions shape carbon stocks, disturbance affects carbon trajectories, restoration does not automatically guarantee carbon recovery, and monitoring should consider ecosystem history and changes over time rather than only seagrass area.
- 2.4. **Engr. Kristina di Ticman**, Geomatics and Blue Carbon Specialist at PEMSEA Resource Facility, presented the Regional Blue Carbon Accounting Protocol (RBCAP) as a living framework that can be continuously refined, tested, and expanded based on scientific developments and country experience. She explained that RBCAP brings together existing country methodologies, IPCC guidance, and other established blue carbon approaches to provide a common regional framework while allowing flexibility for national circumstances. She highlighted feedback calling for clearer technical guidance, national flexibility, and inclusion of additional ecosystems such as seaweed, tidal flats, and peatlands. She also presented a stepwise approach for developing future ecosystem annexes through scientific review, expert input, regional applicability assessment, and pilot testing. Pilot applications in Thailand, the Philippines, and Indonesia will help assess the practicality, data needs, and usability of the framework. She further highlighted supporting initiatives, including a regional blue carbon data platform and RBCAP training

package, to strengthen consistent implementation. She concluded that RBCAP will evolve through a cycle of refinement, preparation, application, learning, and expansion, allowing the framework to remain relevant to emerging scientific and national needs.

- 2.5. **Dr. Yeajin Jung**, Senior Researcher at the Korea Maritime Institute (KMI), presented Korea's blue carbon policy and the potential integration of salt marsh ecosystems into the PEMSEA Regional Blue Carbon Accounting Protocol (RBCAP). She highlighted that although Korea has ambitious blue carbon targets and strong policy and scientific foundations, it has not yet issued or purchased any blue carbon credits due to legal, methodological, MRV-cost, and market-access barriers. Among the ecosystems assessed, salt marsh was identified as the most promising entry point because it is already included in the national inventory and can be aligned with existing international methodologies through Korea-specific calibration. She emphasized the need to clarify carbon ownership, develop country-specific carbon coefficients, strengthen MRV, and address non-CO₂ greenhouse gases. She proposed using the Maehyang-ri and Seocheon restoration projects as pilot sites for applying and testing RBCAP. She concluded that Korea can use RBCAP not only to accelerate its domestic blue carbon market but also to contribute to improving and validating a regional accounting standard.
- 2.6. **Dr. Yuxing Wang** of the National Marine Hazard Mitigation Service, Ministry of Natural Resources, China, presented a pilot application of regional blue carbon standards and protocols in the Yellow River Delta, Dongying, Shandong. The project established a blue carbon demonstration zone covering ecosystem mapping, carbon stock assessment, carbon sink monitoring, restoration effectiveness, ecosystem services, and value realization. She highlighted the development of a regional carbon density database, standardized monitoring methods, and pilot carbon sink assessments for salt marshes and seagrass ecosystems. The project also demonstrated the potential for carbon trading and ecosystem restoration, including a salt marsh restoration project that transferred more than 1,800 tCO₂e during 2024–2025. She emphasized the importance of long-term monitoring, standardized methods, localized parameters, and collaboration among government, research institutions, enterprises, and communities. She concluded that regional blue carbon protocols should remain flexible and adaptable to national standards, while pilot implementation should be expanded to continuously improve methodologies, build experience, and develop reliable default values.
- 2.7. **Dr. Severino G. Salmo III**, Associate Professor at the University of the Philippines, presented the Biodiversity Credit Protocol: Perspectives, Challenges and Opportunities for Southeast Asia, highlighting biodiversity credits as a market-based financing mechanism to address the substantial funding gap for biodiversity conservation and ecosystem restoration. He explained that biodiversity credits represent measurable and verifiable units of positive ecological improvement or protection and discussed emerging approaches, including biodiversity uplift, avoided biodiversity loss, and maintenance of intact ecosystems. The presentation proposed a framework covering project framing, eligibility, quantification, accounting, monitoring, verification, issuance, and tracking, with ecological additionality assessed against established baselines or credible counterfactual scenarios and biodiversity outcomes quantified through standardized ecological indicators and an Overall Ecological Condition Score (OECS). He highlighted major challenges for Southeast Asia, including conceptual and methodological ambiguity,

policy and legal gaps, weak baselines and additionality, permanence risks, limited institutional capacity, and differences among countries. He emphasized the need for a regionally tailored framework supported by dedicated legal mechanisms, transparent registries, integration or bundling with carbon markets, and equitable benefit-sharing with Indigenous Peoples and local communities. The presentation also proposed clear roles for PEMSEA, ASEAN Member States, funders, private institutions, and project implementers, while identifying potential risks such as double counting, carbon stacking, and cross-country comparability. He concluded by recommending pilot biodiversity credit projects, national biodiversity profiles and registries, identification of priority sites, and development or adaptation of regional guidelines to build practical experience and strengthen biodiversity crediting in Southeast Asia.

3.0 Q&A

- 3.1. A point was raised by **Dr. Yeajin Jung** regarding the potential to link the RB-CAP with Korea's existing blue carbon survey and restoration activities. She suggested that applying the RB-CAP methodology to ongoing field-based restoration projects would be an important first step to demonstrate its practical applicability, support national approval, and promote broader understanding and acceptance across the East Asian Seas region. She asked what should be prioritized to further expand and operationalize the RB-CAP across countries in East Asia. **Engr. Kristina di Ticman** responded that practical application and data development should be key priorities for strengthening the RB-CAP. She suggested initially applying the methodology to ongoing field-based restoration projects, including planned salt marsh restoration projects in Korea, to test its applicability under real conditions and generate empirical data. She highlighted the need for data on blue carbon sequestration and accumulation rates, species-specific parameters, and relevant ecosystem coefficients. She noted that a single standardized coefficient may not be appropriate because carbon dynamics vary among countries, environmental conditions, and species. Instead, PEMSEA could develop a regional data platform or database compiling country-specific coefficients and empirical data, allowing future projects to use values appropriate to their local conditions. She also highlighted the potential for PEMSEA to provide supporting datasets alongside future blue carbon protocols and guidelines. In the longer term, she noted the importance of strengthening regional blue carbon laboratory capacity, including standardized laboratory facilities and analytical procedures, to improve the quality, consistency, and credibility of blue carbon measurements.
- 3.2. Another point was raised by **Dr. Severino Salmo III** regarding the variability of seagrass recovery rates and the factors influencing vegetation resilience following disturbance. He asked whether recovery rates could be predicted based on species composition, meadow characteristics, and the type and severity of disturbance, and whether existing data could be used to estimate the expected spatial extent and timeframe of recovery. The discussion also considered whether maintaining healthy seagrass meadows could enhance ecosystem resilience and facilitate recovery in surrounding degraded areas. **Dr. Milica Stankovic** responded that seagrass recovery is highly site-specific and depends on factors including species composition, meadow condition, sediment characteristics, and the type and severity of disturbance. She noted that some degraded meadows may retain only a few species in small, fragmented patches, with recovery potentially taking 10 years or more. She further explained that sediment instability can be a major constraint, requiring pioneer species to first stabilize the sediment before further recovery can occur. Regarding carbon accumulation, preliminary results remain uncertain, with only one of six samples showing consistent carbon accumulation, while the others showed negligible accumulation or evidence of sediment erosion, including some relatively healthy meadows. She emphasized the need for long-term monitoring and additional data to better understand

the relationships among seagrass recovery, sediment dynamics, and carbon accumulation. Dr. Stankovic also expressed interest in collaboration and contributions of data and expertise to further investigate the factors driving differences in seagrass recovery and carbon accumulation.

- 3.3. Another point was raised by **Dr. Milica Stankovic** regarding whether minimal carbon accumulation is specific to seagrass ecosystems or has also been observed in other blue carbon ecosystems, such as mangroves, tidal flats, and salt marshes. She highlighted the importance of understanding whether similarly low or minimal accumulation rates have been documented in other ecosystems and whether available evidence could help explain the observed variability. **Dr. Rudhi Pribadi** responded that although mangrove carbon accumulation is often considered relatively straightforward to estimate based on existing literature, substantial variability can also occur among sites and ecosystems. He highlighted that mangrove carbon is stored predominantly in sediments, making sediment depth, characteristics, contribution, and accumulation processes important considerations in carbon assessment. Major disturbances, such as catastrophic typhoons, can substantially alter sediment dynamics through erosion, deposition, and redistribution, with recovery potentially taking many years or even decades depending on disturbance intensity and site conditions. He further emphasized the distinction between carbon stock, which represents the amount of carbon currently stored, and carbon accumulation rate, which represents the rate at which carbon is sequestered and retained over time. A high carbon stock does not necessarily indicate a high annual accumulation rate, and both can vary substantially even within the same ecosystem. Reliable assessment therefore requires consideration of sediment depth, sediment characteristics, hydrology, geomorphology, disturbance history, carbon preservation, and spatial variability. The discussion concluded that these ecosystem- and site-specific variations should be carefully incorporated into blue carbon accounting and monitoring frameworks rather than applying uniform carbon accumulation rates across ecosystems or locations.

4.0 PANEL DISCUSSION

- 4.1. The moderator, **Dr Kazumi Wakita (Technical Session Co-Chair, EAS Partnership Council, Professor, Tokai University, Japan)**, invited speakers to provide future perspectives in two main areas: (1) technical refinement and promotion of the RBCAP, including how the protocol could be further improved and operationalized; and (2) future implementation strategies, including the development and integration of a regional biodiversity accounting and crediting protocol and the longer-term potential for establishing or connecting with blue carbon and biodiversity markets. The moderator then invited the speakers to share their perspectives, beginning with the first speaker. In the closing remarks, the moderator highlighted three key points emerging from the discussion. First, Dr. Yonvitner emphasized the important role of PEMSEA as a regional network of local governments and Learning Centers in promoting and implementing the RBCAP across participating countries. Second, Dr. Yasmin Tirol highlighted the importance of local communities and local governments in ensuring that the RBCAP provides tangible benefits to people whose livelihoods depend on coastal ecosystems, while also addressing potential risks, including political and institutional risks, which should be further elaborated in future guidance or manuals. Third, Dr. Kwon, as the technical session chair, emphasized the importance of private-sector engagement and the establishment of a platform for sharing experiences among countries. The moderator noted that these elements are important for further promoting the RBCAP initiative across the region and ensuring that future blue carbon crediting approaches are grounded in a strong scientific foundation. She concluded by expressing appreciation to all panelists, speakers, online participants, and participants attending in person, and formally closed the session.

- 4.2. **Prof. Yonvitner (President, PNLC, Director, CMMRS, IPB University)** expressed appreciation to PEMSEA for its coordination and capacity-building efforts and highlighted the importance of the RBCAP as a regional strategy for developing a standardized blue carbon methodology. He emphasized that the framework could be developed progressively, beginning with basic carbon stock assessment, followed by more advanced assessment of carbon stocks in biomass and soils, and eventually incorporating connectivity among ecosystems, including sediment transport and links between mangroves, seagrass, river basins, and marine ecosystems. He also highlighted the importance of ecosystem services as a potential component of future carbon crediting, while suggesting that this could be addressed at a more advanced stage. Beyond technical standards, he emphasized PEMSEA's potential role as a regional institution providing quality assurance, institutional support, training, community capacity building, and guidance to local governments and partners, rather than functioning only as a methodology provider. He stressed that the RBCAP should maintain sufficient flexibility to accommodate differences among East Asian Seas countries in ecosystems, institutional and technical capacity, local communities, and private-sector participation. For future implementation, he identified capacity building and training, particularly for local governments and PEMSEA partners, as a key priority for reducing capacity gaps across the region. He also emphasized the need for a regional data-management system to collect, manage, trace, and monitor carbon-related data generated by members, partners, and projects, alongside the existing PEMSEA knowledge and expert network. He concluded that strengthening regional capacity, data management, institutional support, and flexible standards would help establish PEMSEA as a credible regional platform for advancing blue carbon accounting and implementation.
- 4.3. **Dr. Yasmin Primavera Tirol (Professor, Aklan State University)** highlighted the importance of developing a biodiversity crediting system that is practical and relevant to local communities and local governments, particularly those whose livelihoods and local cultures are closely connected to coastal ecosystems. She emphasized that biodiversity crediting should recognize that ecosystems are dynamic systems that naturally change through different phases and are subject to disturbances such as typhoons, fires, volcanic eruptions, earthquakes, landslides, and increasing climate-related impacts. These dynamics and disturbances should therefore be explicitly incorporated into the crediting system. She raised the practical question of how a biodiversity credit project should be managed when a natural disturbance partially or completely damages a credited area—for example, whether credits should increase or decrease and what mechanisms should support ecological and livelihood recovery. She stressed that such details should be carefully defined through co-design and consultation with local communities and governments, particularly because the livelihoods of coastal communities and fisherfolk may be severely affected following major disturbances. She also highlighted the potential for biodiversity crediting to link ecosystem recovery with livelihood recovery, ensuring that restoration of biodiversity contributes to the recovery of communities dependent on the ecosystem. A second key issue was risk management, including not only ecological and biodiversity risks but also political and institutional risks. The speaker suggested that biodiversity crediting could incorporate approaches comparable to insurance mechanisms to address losses and support restoration following natural disturbances. She emphasized that PEMSEA has an important regional role as a platform connecting national governments and stakeholders, providing an opportunity to develop mechanisms for managing these risks across regional, national, and local levels. She concluded that these practical and institutional details require careful consideration in the development of the biodiversity crediting framework, particularly through pilot projects that connect local communities, local governments, national institutions, and PEMSEA.
- 4.4. **Dr. Suk-jae Kwon (Technical Session Chair, EAS Partnership Council, Principal Research Scientist, KIOST)**, an environmental economist, highlighted the importance of economic valuation and pricing in determining the value of blue carbon and creating incentives for its protection and sustainable management. He noted that blue carbon valuation can involve different categories of economic value,

including use and non-use values, as well as ecosystem services, depending on the valuation methods applied. He emphasized that determining an appropriate price or credit value for blue carbon is important because it can provide incentives for conservation and investment, while the value may depend not only on carbon storage but also on other ecosystem values and benefits. He proposed strengthening the connection between science, ecosystem health, economic valuation, and stakeholder interests when developing blue carbon pricing approaches. He also recommended establishing a regional platform for sharing experiences and data, recognizing that blue carbon resources and their values vary considerably among locations and ecosystems. Through accumulating regional experience, a generalized valuation model could potentially be developed and subsequently adapted into more specialized models for different ecosystems or locations. Finally, he emphasized the importance of involving the private sector, noting that companies can provide investment and market perspectives and that their activities can help identify emerging trends in blue carbon. He suggested that greater private-sector participation, including through dedicated sessions at future international seminars, could strengthen the connection between scientific knowledge, market development, and practical implementation of blue carbon initiatives.

5.0 CLOSING

- 5.1 **Ms Aimee Gonzales**, in her closing remarks, the speaker thanked all participants, including those joining online, for their active engagement throughout the seminar. She emphasized that the East Asian Seas region contains globally significant coastal and marine ecosystems, and that unlocking their full value requires standard setting, robust science, and strong regional collaboration. She highlighted several key messages from the seminar, including the need for a flexible and adaptable RBCAP, the continued relevance of a tiered accounting approach, and the importance of pilot implementation to test and refine the methodology under national and local conditions. She welcomed the Republic of Korea's offer to undertake pilot testing and highlighted the importance of the RBCAP training manual and the PEMSEA Network of Learning Centers in strengthening regional capacity. She also discussed the potential development of a regional carbon data registry and platform, noting that its success would depend on sustained resources, data sharing, and collaboration among PEMSEA, country partners, and other institutions. The speaker further emphasized the importance of valuing non-carbon ecosystem services, particularly biodiversity and livelihood benefits, alongside carbon credits. She noted that the proposed biodiversity crediting framework could provide a foundation for developing high-integrity market-based financial mechanisms, including biodiversity credit stacking and robust baseline governance. She stressed that blue carbon initiatives should not focus solely on generating carbon credits, but should also contribute to biodiversity conservation, ecosystem resilience, restoration, and sustainable livelihoods, particularly for local and coastal communities. She reaffirmed PEMSEA's role as a regional partnership platform for standard setting, pilot testing, and capacity building, while emphasizing that implementation would require active contributions from partners rather than being undertaken solely by the PEMSEA Resource Facility. For the next steps, she outlined several priority actions: (1) consolidate seminar presentations and feedback into the seminar proceedings; (2) finalize the RBCAP as a living document while developing additional ecosystem annexes when technical and financial resources are available; (3) complete the regional biodiversity crediting protocol, targeted for October 2026; (4) undertake pilot testing of the blue carbon methodology in participating countries, including the Republic of Korea and potentially China, Indonesia, Thailand, and the Philippines; (5) finalize and implement the RBCAP training manual and capacity-building activities; (6) further assess options for developing or linking with existing carbon data platforms and registries; and (7) convene the Blue Carbon Technical Working Group to review the seminar outcomes and related biodiversity crediting discussions. She also announced plans for a future international seminar on blue carbon markets to better understand existing market mechanisms, barriers, and opportunities, recognizing that many countries continue to

face challenges in developing blue carbon markets. Finally, she highlighted plans for a broader Ocean Roundtable on ocean governance, tentatively planned for April 2027 in Japan, involving relevant regional partners. She concluded by emphasizing PEMSEA's catalytic role in initiating and facilitating regional action, while encouraging partners and countries to take forward specific initiatives and build on the momentum generated by the seminar.



ANNEXES

ANNEX 1: AGENDA ([LINK](#))

ANNEX 2: LINK TO THE INTERNATIONAL SEMINAR DOCUMENTS ([LINK](#)), PRESENTATIONS ([LINK](#)) AND PHOTOS ([LINK](#))

ANNEX 3: POSTER

International Seminar on Blue Carbon Ecosystem Values
Accounting and Crediting Guidance Frameworks
7 September 2026 | Felix Hotel, Busan, Republic of Korea

Speakers:

- Dr. Luzhen Chen**
Professor, Xiamen University, China
Improvements to the PEMSEA Regional Blue Carbon Accounting Protocol (RBCAP) for Mangroves, Salt Marshes, and Coastal Wetlands, as Seen Through China's Experience
- Dr. Rudhi Priyadi**
Senior Lecturer, Marine Sciences, Diponegoro University, Indonesia
Lessons from Local and Regional Practice: Application of Blue Carbon Accounting and Monitoring on the Ground: Indonesia Experience (Mangroves)
- Dr. Milica Stankovic**
Lecturer and Researcher, Prince of Songkla University, Thailand
Lessons from Local and Regional Practice: Application of Blue Carbon Accounting and Monitoring on the Ground: Thailand Experience (Seagrass)
- Engr. Kristina di Ticman**
Blue Carbon Specialist, PEMSEA Consultant
The PEMSEA RBCAP: A Living Framework – Refinements, Pilot Implementation, and Future Ecosystem Annexes
- Dr. Yeajin Jung**
Senior Researcher, Korea Maritime Institute
Korea's Blue Carbon Market Policy Status and the Way Forward: A Salt Marsh-Based Approach to RBCAP Integration
- Dr. Yuxing Wang**
National Marine Hazard Mitigation Service, MNR, China
Application of Regional Standards and Protocols in a National Context: A Pilot Case in Dongying
- Dr. Yasmin Primavera Tirol**
Professor, Ateneo de Manila University
The PEMSEA Regional Biodiversity Accounting and Crediting Protocol
- Dr. Severino Salmo III**
Associate Professor, University of the Philippines

PANEL DISCUSSION

- Dr. Yonvittner**
President, PNLC, Director, CCRMS, UPB University
- Dr. Suk-jae Kwon**
Technical Session Chair, EAS Partnership Council, Principal Research Scientist, MOST

MODERATOR

- Dr. Kazumi Wakita**
Technical Session Co-Chair, EAS Partnership Council, Professor, Tokai University, Japan

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ANNEX 4: LIST OF PARTICIPANTS

China

Dr. Luzhen Chen
Professor
Xiamen University

Dr. Yuxing Wang
Associate Researcher
NMHMS-MNR

Mr. Yinfeng Guo
Chief Expert for International Cooperation
NMHMS-MNR

Indonesia

Dr. Rudhi Pribadi
Lecturer, Faculty of Fisheries and Marine Sciences, UNDIP
Diponegoro University (UNDIP)
rudhipribadi@gmail.com

Prof. Dr. Yonvitner
Head, CCMRS, IPB University
Center for Coastal and Marine Resources Studies (CCMRS), IPB University
yonvitr@yahoo.com
yonvitner75@gmail.com

Ms. Isdahartati
Researcher, CCMRS, IPB University
Center for Coastal and Marine Resources Studies (CCMRS), IPB University
PNLC Secretariat
isdahartati@apps.ipb.ac.id
isdahartatie@pksplipb.or.id

Dr. Lusita Meilana
Center for Coastal and Marine Resources Studies (CCMRS), IPB University
PNLC Secretariat

Japan

Dr. Kazumi Wakita
PEMSEA Technical Session Co-chair
Professor, Tokai University

Republic of Korea

Dr. Yeajin Jung
Korea Maritime Institute (KMI)

Dr. Suk-Jae Kwon
PEMSEA Tech. Session Chair
Principal Research Scientist, KIOST

Seungkuk Lee
Pukyung National University

Anna Jo
Ministry of Oceans and Fisheries

Hungen Kim
Ministry of Oceans and Fisheries

Soobin Jeong
Korea Maritime Institute (KMI)

Ji-Young Kim
KIOST

Philippines

Ms. Aimee Gonzales
Executive Director
PRF

Dr. Severino Salmo
Associate Professor
University of the Philippines

Dr. Yasmin Tirol
Professor
Aklan State University

Engr. Tina Ticman
BC Specialist
PEMSEA Consultant

Ms. Maida Aguinaldo
PEMSEA Resource Facility
Mobile: +63 927005 8175
Email: maguinaldo@pemsea.org

Thailand

Dr. Milica Stankovic
Lecturer and Researcher
Prince of Songkla University