



PEMSEA Annual Report 2022

Connection and Empowerment





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PEMSEA Annual Report 2022: Connection and Empowerment

May 2023

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Published by Partnerships in Environmental Management for the Seas of East Asia (PEMSEA).

Suggested citation:

PEMSEA. PEMSEA Annual Report 2022: Connection and Empowerment. Partnerships in Environmental Management for the Seas of East Asia (PEMSEA), Quezon City, Philippines. 72 p.

ISSN 2782-9685

The activities described in this report were made possible with the generous support of our country and non-country partners and collaborators: United Nations Development Programme (UNDP); Global Environment Facility (GEF); German Corporation for International Cooperation (GIZ); International Climate Initiative (IKI); European Union; the Governments of Germany and Norway; and Coca-Cola Foundation Philippines, Inc.

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About Us

Partnerships in Environmental Management for the Seas of East Asia (PEMSEA) is a regional governance mechanism for the sustainable coastal and marine development in the East Asian Seas Region.

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List of Acronyms and Abbreviations

ACCORD	Addressing Challenges of Coastal Communities through Ocean Research for Developing Economies	EAFM	Ecosystem Approach to Fisheries Management
ADB	Asian Development Bank	EAS	East Asian Seas
ALDFG	Abandoned, Lost, and otherwise Discarded Fishing Gear	EASICO	East Asian Seas Initiative on Clean Oceans
ASEAN	Association of Southeast Asian Nations	EASPC	East Asian Seas Partnership Council
ATS	Arafura and Timor Seas	FGD	Focus Group Discussion
ATSEA	Arafura and Timor Seas Ecosystem Action	GEF	Global Environment Facility
BFAR	Bureau of Fisheries and Aquatic Resources	GESI	Gender Equality and Social Inclusion
CAP	Community Action Plan	ICM	Integrated Coastal Management
CBD	Convention on Biological Diversity	ICZM	Integrated Coastal Zone Management
CCA	Climate Change Adaptation	IGES	Institute for Global Environment Strategies
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women	IOC	Intergovernmental Oceanographic Commission
CI	Conservation International	IRBM	Integrated River Basin Management
CNA	Community Needs Assessment	IMO	International Maritime Organization
COP	Conference of Parties	IP	Implementation Plan
CSEAS	Center for Southeast Asian Studies	IPs	Indigenous Peoples
CTI	Coral Triangle Initiative	IPB	Institut Pertanian Bogor
CTI-CFF	Coral Triangle Initiative on Coral Reefs, Fisheries, and Food Security	IUCN	International Union for Conservation of Nature
DENR	Department of Environment and Natural Resources	KEI	Korea Environment Institute
DRR	Disaster Risk Reduction	KIOST	Korea Institute of Ocean Science and Technology
		KOEM	Korea Marine Environment Management Corporation
		LGU	Local Government Unit
		MAF	Ministry of Agriculture and Fisheries Timor-Leste

MARPOL	International Convention for the Prevention of Pollution from Ships	PNLC	PEMSEA Network of Learning Centers
MPA	Marine Protected Area	PPA	Philippine Ports Authority
MRF	Materials Recycling Facility	PRF	PEMSEA Resource Facility
MSP	Marine Spatial Planning	RCOE	Regional Center of Excellence
NAP	National Action Plan	RSOC	Regional State of Ocean and Coasts
NBSAP	National Biodiversity Strategic Action Plan	SAP	Strategic Action Plan
NDC	Nationally Determined Contribution	SDG	Sustainable Development Goals
NGO	Non-Governmental Organization	SDS-SEA	Sustainable Development Strategy for the Seas of East Asia
NIVA	Norwegian Institute for Water Research (Norsk institutt for vannforskning)	SEAKB	Seas of East Asia Knowledge Bank
NSOC	National State of Ocean and Coasts	SWM	Solid Waste Management
OSEAN	Our Sea of East Asia Network	UN	United Nations
PEMSEA	Partnerships in Environmental Management for the Seas of East Asia	UNDP	United Nations Development Programme
PGENRO	Provincial Government Environment and Natural Resources Office	UNEP	United Nations Environment Programme
PML	Plymouth Marine Laboratory	UNESCO	United Nations Educational, Scientific and Cultural Organization
PNLG	PEMSEA Network of Local Governments for Sustainable Coastal Development	UNFCCC	United Nations Framework Convention on Climate Change
		WACS	Waste Analysis and Characterization Study

About Us

Partnerships in Environmental Management for the Seas of East Asia (PEMSEA) is a regional governance mechanism for the sustainable coastal and marine development in the East Asian Seas Region. It was created with a clear mission—to foster and sustain healthy and resilient coasts and oceans, communities and economies across the Seas of East Asia through integrated management solutions and partnerships.

For close to three decades, the organization has provided solutions to effectively managed coasts and ocean across the shared seas of East Asia. As the regional coordinating mechanism for the Sustainable Development Strategy for the Seas of East Asia (SDS-SEA), a shared marine strategy among countries in the region, PEMSEA works with national and

local governments, companies, research and science institutions, communities, international agencies, regional programs, investors and donors towards implementation of the SDS-SEA. Crucial networks such as learning centers also contribute their expertise and coastal management skills to the shared goals of the SDS-SEA.

We aim to proactively build effective intergovernmental and intersectoral partnerships and expand the capacities of countries, local governments and other stakeholders with innovative, cross-cutting policies, tools and services for integrated coastal, river basin and ocean management. PEMSEA applies integrated coastal management (ICM) as our primary approach for generating and sustaining healthy oceans, people and economies.

JOINT MESSAGE

Empowering through Partnerships



Dr. Vann Monyneath
EAS Partnership
Council Chair

Greetings to PEMSEA family and friends!

In the East Asian Seas (EAS) region, 2022 was a critical year for dealing with multiple crises, including the climate emergency, unprecedented biodiversity loss, rising inflation, and inequalities. In some parts of the region, these challenges disproportionately affected vulnerable countries, groups, and individuals by exacerbating pre-existing dynamics of marginalization and exclusion.

Despite the prominent challenges, 2022 also offered a glimmer of hope when the region emerged from the COVID-19 pandemic, and country partners implemented pandemic recovery packages that targeted sustainable, inclusive, and resilient blue economy outcomes.



Aimee T. Gonzales
Executive Director
PEMSEA Resource
Facility

Equally heartening were the decisions made by leaders to guide international, regional, and national efforts over the coming decade, notably the Sharm El-Sheikh Implementation Plan and the Kunming-Montreal Global Biodiversity Framework, while continuing to implement the United Nations (UN) Sustainable Development Goals (SDGs) and targets.

Through this report, we are pleased to share how PEMSEA, as a partnership, worked on key opportunities in the region to highlight and address these interconnected crises in 2022.



Among these are:

- the completion of the Sustainable Development Strategy for the Seas of East Asia Implementation Plan (SDS-SEA IP) 2023-2027, a planning framework to implement coastal and ocean programs in the next five years. This plan took into account country partners' pandemic recovery packages, mainstreamed gender equality and social inclusion, and aligned with UN SDGs and other international and regional commitments;
- the approval to implement multi-year, multi-country projects worth more than US\$ 20 million to strengthen coastal and river basin governance and combat marine pollution, leverage investments, build local capacities, and create a new network of coastal and river basin managers and learning centers;
- the endorsement of the Regional Marine Protected Area Network Design and the Climate Change Vulnerability Assessment Guidebook in the Arafura and Timor Seas by four countries bordering the region: Australia, Indonesia, Papua New Guinea, and Timor-Leste;
- the endorsement of the Regional Strategy on Biofouling Management by the Second Regional Task Force on Biofouling Management in the EAS region, and noted by the 29th PEMSEA Expanded Executive Committee Meeting;
- the publication of numerous studies on plastic pollution and plastic management in the Imus River basin, such as the nature, flow, and costs of plastic pollution, and the social and economic impacts of current and potential plastic management measures to local communities;
- the development of toolkits and manuals to help build local plastic and solid waste management capacity, including capacity for collecting, monitoring, analyzing data as, and improving e-data collection of waste in ports and ships, as well as building capacity for climate change vulnerability assessments that are ripe for scaling and replication in other areas and regions; and
- the hosting of several learning events, as well as the conduct of targeted research in coordination with partners, non-country partners, the PEMSEA Network of Local Governments and Learning Centers, and other collaborators.

Building on science-based actions, engaging local communities, and working closely with partners, PEMSEA aims to continue to drive integrated and coordinated actions to build H.O.P.E. (Healthy Ocean, People, and Economies) in the EAS region.

We look forward to working with you in implementing science-based integrated actions in our coasts, rivers, and maritime spaces through the SDS-SEA IP 2023-2027.

Laying the Groundwork for the Future

The year 2022 focused mostly on the further consolidation of the accomplishments during the last year of implementation of PEMSEA's joint regional strategy, the Sustainable Development Strategy for the Seas of East Asia Implementation Plan (SDS-SEA IP) 2018-2022, and moving forward after the year's gradual recovery from the global pandemic. For PEMSEA, laying the groundwork for the future meant identifying clear directions in consideration of past achievements and lessons learned, and addressing priorities in the coming years.

Strategy development

The Sustainable Development Strategy for the Seas of East Asia (SDS-SEA) Implementation Plan (IP) 2023-2027

In 2022, PEMSEA reached another milestone with the completion of the 2023-2027 Implementation Plan for the Sustainable Development Strategy for the Seas of East Asia (SDS-SEA). This framework document serves as a blueprint for PEMSEA as it embarks on its post-2020 journey towards realizing its vision of healthy ocean, healthy people, and healthy economies, with effective governance as its cornerstone.

PEMSEA will implement actionable steps and measures to ensure the sustainability of the region's valuable coastal and marine resources. This achievement marks a turning point in the organization's efforts to promote environmental management and economic development in the East Asian Seas, paving the way to a brighter and sustainable future for the region.



The SDS-SEA IP 2023-2027 was formulated over a 10-month consultative and participatory process involving representatives from PEMSEA’s country and non-country partners. The process was guided by the East Asian Seas Partnership Council’s (EASPC) Technical Session Chairs and Co-Chairs, and the final plan was adopted at the 29th Expanded Executive Committee Meeting of the EASPC on 29 November 2022.

The Implementation Plan consists of four components and 13 priority programs, each with targeted actions, indicators, timelines, and responsible partners. This comprehensive approach aims to achieve 24 ambitious but achievable outcomes within the next five years, in line with the UN SDG and took into account regional and global processes such as the UN Decade of Science for Sustainable Development, UN Decade of Ecosystem Restoration, post 2020 Global Biodiversity Framework, among others.

The new targets were set, after taking into account the accomplishments of the SDS-SEA from 2018 to 2022, and builds on the



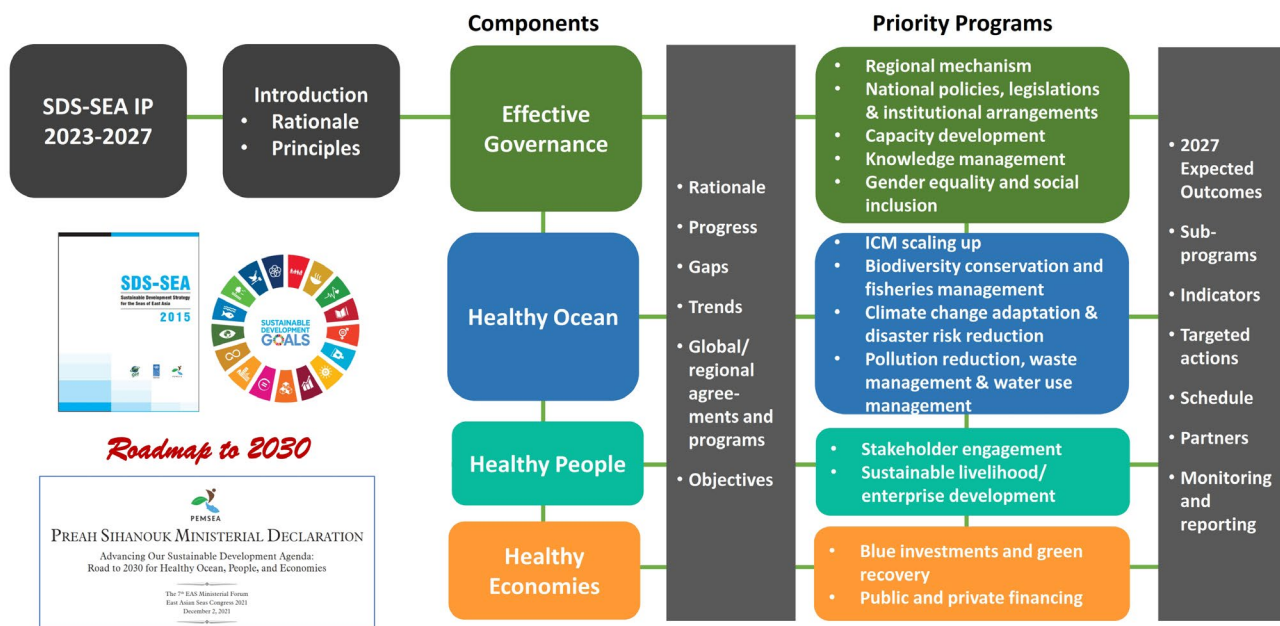
medium- and long-term socio-economic development and thematic plans of country partners. (See “National laws and policies that guided the development of the SDS-SEA IP 2023-2027.”)

The preparation of the implementation plan was also guided by the various post-2020 initiatives and actions that accelerate sustainable solutions, complement COVID-19 post-pandemic recovery measures, and most importantly, align with the directions provided in the Preah Sihanouk Ministerial Declaration for stepping up actions on the road to 2030.



Photo by PEMSEA/F. Robas

Framework of the SDS-SEA Implementation Plan 2023-2027



Significance of Having A Shared Regional Strategy

“At a time when the world is facing serious and urgent threats, integrated coastal management with the involvement of various stakeholders is essential for real action on the ground. The [SDS-SEA IP 2023-2027] emphasizes gender equality and social inclusion, which is not a coincidence but a reflection of the needs of the times.”

Dr. Keita Furukawa
Technical Session Chair,
PEMSEA Executive
Committee





“The Philippines has a long-term commitment to PEMSEA in supporting the operationalization of the SDS-SEA IP 2023-2027 towards achieving a blue economy. The Plan can help facilitate the efforts of the EAS region in offsetting their carbon footprint based on the discussions made on blue carbon trading during the 27th Conference of Parties of the UNFCCC... and can help facilitate long-term partnerships towards achieving a sustainable coastal environment.”

USec. Analiza Rebutela-Teh
Department of Environment
and Natural Resources and
PEMSEA National Focal Point
for the Philippines

The [SDS-SEA IP 2023-2027] considers the current state of the region and the realities of different countries. It will guide the future actions of the EAS region in terms of ocean and coastal management, including inter-country cooperation. We are confident to see the outcomes resulting from the plan's execution.”

Ms. Xu Heyun
PEMSEA Operational
Focal Point for China

National Laws and Policies that Guided the Development of the SDS-SEA IP 2023-2027

Country	 Sustainable development	 Biodiversity	 Climate change	 Pollution
Cambodia	National Environment Strategy and Action Plan 2016–2023	Updated National Biodiversity Strategy and Action Plan (NBSAP) (2016)	Climate Change Strategic Plan 2014-2023 NDC (12/31/2020; active)	National Circular Economy Strategy and Action Plan (launched in 2021)
China	14th Five-Year Plan 2021–2025	NBSAP 2011–2030	National Strategy for Climate Adaptation 2022–2035 NDC (10/28/2021; active)	14th Five-Year Plan for the Development of Circular Economy
DPR Korea	5-Year National Economic Development Plan 2021–2025	NBSAP (2007)	National Climate Change Adaptation Strategy NDC (9/19/2019; active)	National Environmental Protection Strategy
Indonesia	National Development Plan 2020–2024	NBSAP 2015–2020	National Action Plan on Climate Change Adaptation NDC (9/23/2022; active)	Plan of Action on Marine Plastic Debris 2017–2025
Japan	Third Basic Plan on Ocean Policy	NBSAP 2012-2020	Green Growth Strategy through Achieving Carbon Neutrality in 2050 NDC (10/22/2021; active)	National Action Plan for Marine Plastic Litter
Lao PDR	National Green Growth Strategy till 2030 10-Year National Socioeconomic Development Strategy 2016–2025	NBSAP 2016–2025	National Strategy for Climate Change: Vision to the Year 2050, Strategy and Programs of Actions to the Year 2030 NDC (5/11/2021; active)	National Plastics Action Plan (under development)
Philippines	Philippine Development Plan 2023–2028 (under development)	Philippine Biodiversity Strategy and Action Plan 2015-2028	National Climate Change Action Plan 2011–2028 NDC (4/15/2021; active)	National Action Plan for the Prevention, Reduction, and Management of Marine Litter Philippine Action Plan for Sustainable Production and Consumption
RO Korea	Third Basic Plan for Sustainable Development 2016–2035	NBSAP 2019–2023	3rd National Climate Change Adaptation Plan 2021–2025 NDC (12/23/2021; active)	National Action Plan on Marine Litter and Contaminated Sediment 2021–2030
Singapore	Singapore Green Plan 2030	NBSAP	Singapore's Climate Action Plan NDC (3/31/2020; active)	National Action Strategy on Marine Litter
Timor-Leste	Strategic Development Plan 2011–2030	NBSAP 2011–2020	National Adaptation Plan NDC (8/16/2017; active)	National Action Strategy on Marine Litter
Viet Nam	Strategy on Sustainable Development of Viet Nam's Marine Economy to 2030, Vision to 2045 Green Growth Strategy 2021–2030, Vision to 2050	NBSAP 2020–2030	National Strategy for Climate Change by 2050 NDC (9/11/2020; active)	National Action Plan for the Management of Marine Plastic Litter by 2030 National Action Plan on Sustainable Consumption and Production 2021–2030

Incorporating Gender Equality and Social Inclusion (GESI) in PEMSEA's Plans and Programs

Gender Equality and Social Inclusion (GESI) refers to a society where every individual, regardless of their gender, age, race, religion, nationality, gender identity, sexual orientation, disability, ethnicity, and socio-economic status, has an equal chance to enjoy human rights, opportunities, socially valued resources, and goods. In simpler terms, GESI creates an inclusive environment where everyone is treated fairly and has the opportunity to thrive without discrimination.

The UN General Assembly addressed GESI as early as 1979, with the adoption of the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), a treaty considered an international bill of rights for women and ratified by 189 states. Today, UN SDG 5 (Gender Equality), with a target to “achieve gender equality and empower all women and girls,” maintains the focus on GESI. Ensuring gender responsiveness of PEMSEA's policies and program on sustainable coastal and marine

Understanding and mainstreaming GESI is critical not only to achieving specific targets contained within national and international goals, but to ensuring the effective and sustainable success of specific coastal development projects. Gender and social inequalities are pervasive, and significantly impact both individual and community activities. By considering the diverse needs, perspectives, and lived experiences of different groups within a society, organizations and governments can develop more effective and impactful policies and programs to achieve their goals within the community.



Photo by PEMSEA/Peralta



development was a recommendation of the EAS Congress 2021 with a view to integrating gender perspectives and gender equality in all activities, from policy development, research, advocacy, dialogue, legislation, resource allocation, and planning, to program implementation and monitoring.

In preparation for the SDS-SEA IP 2023-2027, the 14th EAS Partnership Council (PC) meeting directed the PRF to ensure that gender perspectives are part of the SDS-SEA IP, along with gender-responsive activities and approaches (such as gender sensitive finance mobilization, or identifying partners in capacity development and training). The PRF drafted a GESI Assessment and Action Plan, to identify significant GESI advances, gaps, barriers, and opportunities in East Asia.

The GESI Assessment was conducted via workshops in September 2022, and was the basis for drafting the SDS-SEA IP 2023-2027 GESI Action Plan to guide the PRF and ensure the participation of women and marginalized groups in the priority programs of the SDS-SEA. Since the roles and contributions of women, informal workers, and indigenous

Implementing GESI at the National Level: Some Examples

CAMBODIA

Cambodia's Labour Law took on the role of women as early as 1997

CHINA

China passed a Revised Law on the Protection of Women's Rights and Interests in 1992

JAPAN

Japan had an Equal Employment Opportunity Act in 1972

PHILIPPINES

Philippines passed its Magna Carta for Women in 2009

Several countries in East Asia have a dedicated government department or national commission focused on mainstreaming gender in all policies and programs.

CAMBODIA's Ministry of Women's Affairs National Council for Women encourages public institutions and the private sector to integrate gender equality in all activities.

MALAYSIA AND THAILAND have gender-focused national councils or committees.

INDONESIA has a Ministry of Women Empowerment and Child Protection.

LAO PDR has the Lao Women's Union (LWU) and the National Commission for the Advancement of Women.

groups are often unaccounted or underestimated in coastal and marine research, management, and policy, especially with regards to their work in fisheries and aquaculture, marine products processing and trade, managing plastic and other waste, and disaster risk reduction, integrating these into the SDS-SEA IP 2023-2027 will identify the complementary roles of men and women as well as gaps between the two, along with other disadvantaged groups, and will highlight potential points for inclusivity.

The action plan will guide SDS-SEA IP 2023-2027 programs, objectives, and actions on how to mainstream GESI, and that data is reviewed while noting the extent to which females, males, or members of historically excluded groups are involved in SDS-SEA IP 2023-2027 priority programs. Data for sex-disaggregated and gender-sensitive indicators will be regularly updated and available for use during program reviews, and unintended outcomes, both positive or

negative, will be analyzed and discussed with partners and stakeholders, so that GESI-related learnings are shared among partners and stakeholders.

Some recommendations made for gender integration in the SDS-SEA IP 2023-2027 include:

- incorporating gender equity and social inclusion indicators and guidelines for regional and national State of the Oceans and Coasts reports;
- organizing GESI-focused workshops, where examples of gender sensitivity and empowering women and vulnerable groups can be shared at the EAS Congress;
- including GESI-sensitivity training in PEMSEA's training and capacity building programs;
- integrating GESI knowledge products and services into the SEA Knowledge Bank (SEAKB) platform; and
- promoting women's participation in the blue economy, among others.

Managing Biofouling in the East Asian Seas Region

Biofouling is the accumulation of marine animals, plants, and algae on the surface of ships and other marine structures. When ships and structures move to new areas, these species can detach themselves, adapt to the new habitat, dominate local fauna, and become invasive with negative effects in the host ecosystem ([UNDP/GEF IMO Glofouling Partnerships Project](#)).

The International Maritime Organization (IMO), working with the United Nations Development Programme (UNDP) and the Global Environment Facility (GEF), launched the GloFouling Partnerships Project in 2019. It is a five-year global undertaking to control and manage ship biofouling through technology transfer, capacity-building, and demonstration sites. The PRF serves as

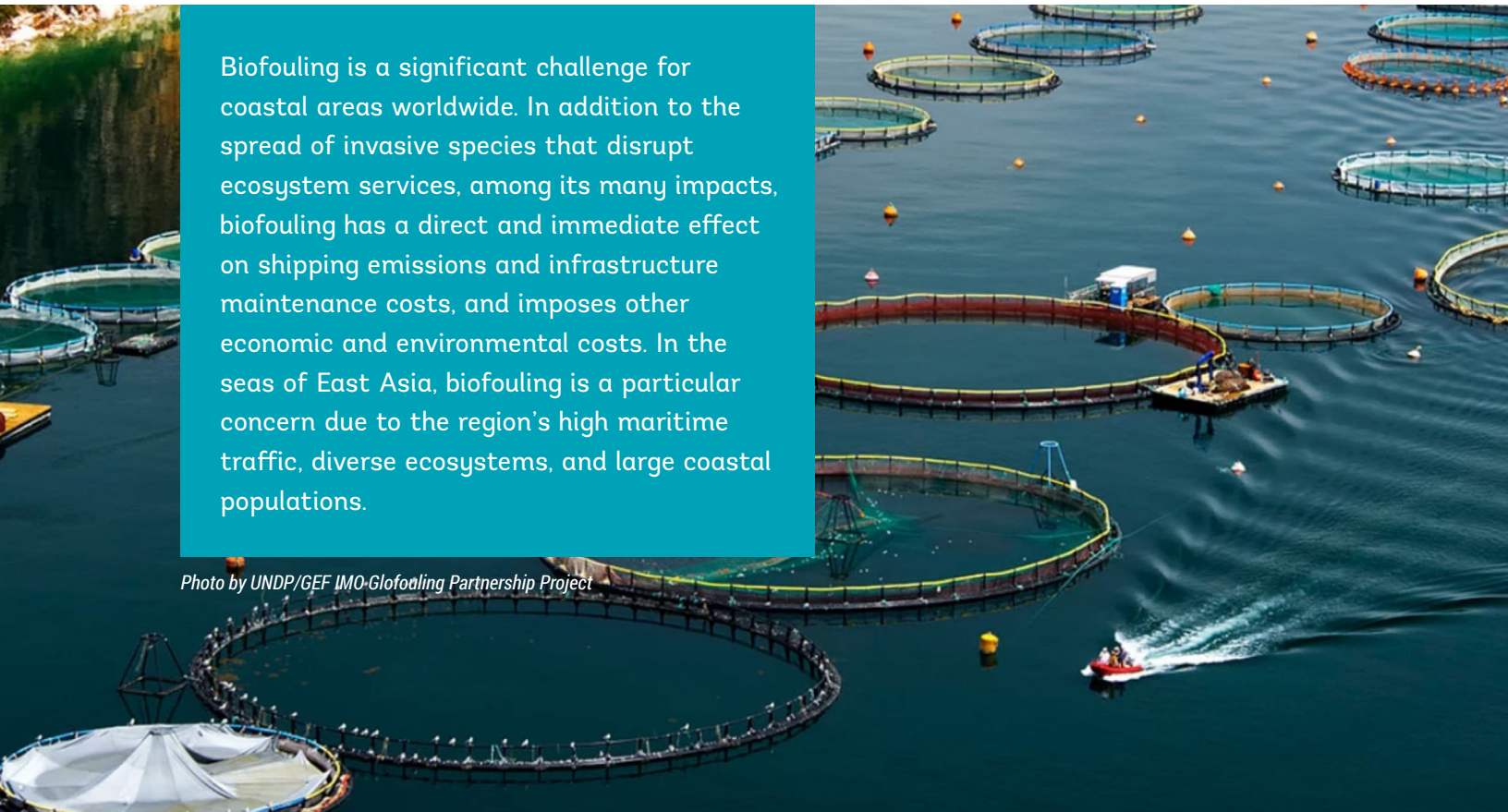
the regional coordinating office for the EAS region. This region is an important locus of global maritime trade, thus, making it a major hotspot for invasive aquatic species arriving through biofouling vectors.

In 2022, PEMSEA convened two regional task force meetings to develop and complete a regional strategy for ship biofouling management, with the support of IMO, the Ministry of Oceans and Fisheries of RO Korea, and the Korea Institute of Ocean Science and Technology (KIOST).

The regional strategy aims to address biofouling in the region in a concerted and integrated way. Its vision is to see “harmonized biofouling management practices across the EAS region to maintain

Biofouling is a significant challenge for coastal areas worldwide. In addition to the spread of invasive species that disrupt ecosystem services, among its many impacts, biofouling has a direct and immediate effect on shipping emissions and infrastructure maintenance costs, and imposes other economic and environmental costs. In the seas of East Asia, biofouling is a particular concern due to the region’s high maritime traffic, diverse ecosystems, and large coastal populations.

Photo by UNDP/GEF IMO-Glofouling Partnership Project



healthy marine ecosystems, free from disruption of invasive aquatic species, and to enhance the energy-efficient operation of ships.” Its mission is “to protect and maintain healthy marine ecosystems and reduce greenhouse gas emissions from ships through integrated efforts and a systematic implementation of the IMO

recommendations on biofouling management across the region.”

The regional strategy will be presented by IMO and the lead partner countries of the project, Indonesia and the Philippines, for endorsement by the ASEAN Working Group on Maritime Transport during its meeting in May 2023.

Objectives of the Regional Strategy for Ship Biofouling Management

- 1 **Establish** national biofouling governance in the EAS region;
- 2 **Promote** regional research and development and technology exchange;
- 3 **Build** regional capacity and awareness on biofouling management;
- 4 **Secure** sustainable financing mechanisms at the national and regional levels; and
- 5 **Enhance** cooperation among stakeholders.



Photos of the 2nd Regional Task Force Meeting on Biofouling Management held in November 2022. (Photos by PEMSEA)

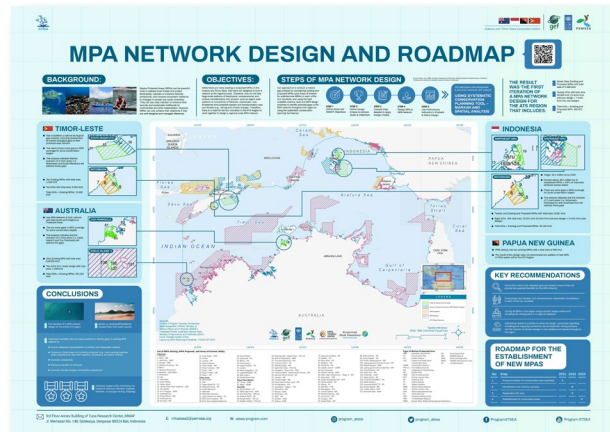
Empowering Communities in the Arafura and Timor Seas (ATS)

The second phase of the Arafura and Timor Seas Ecosystem Action Program (ATSEA-2), was established in 2019. ATSEA-2 works for sustainable development in the Arafura Timor Seas region through the restoration, conservation, and sustainable management of marine coastal ecosystems by enhancing collaboration and coordination amongst the participating countries in the region. ATSEA-2 is funded by the GEF and managed through UNDP, with PEMSEA as the implementing partner.

Designing MPA Networks

In October 2022, the four ATS countries—Australia, Indonesia, Papua New Guinea (PNG), and Timor-Leste—endorsed an MPA network design to support ATS waters and biodiversity, as well as its coastal communities. Sea turtle protection and reproduction are being incorporated in this design. In 2020, the ATS had 265,324.49 square kilometers of MPAs across the four countries.

2022 marked the third year of the project’s implementation, and presented significant progress towards the establishment of cooperative governance mechanism for the ATS region, as well as the empowerment of local communities towards sustainable management of the Arafura and Timor Seas.



[DOWNLOAD MAP](#)



Photo by ATSEA-UNDP

Expansion of the MPA area coverage (6,263.79 sq km) is being planned in the coming years.

The National Representative System of Marine Protected Areas in Australia covers four million square kilometers, and includes some marine parks that help maintain high biodiversity in the ATS, while the PNG government is working with 13 villages covered by the Torres Strait Treaty, which defines the boundaries between PNG and Australia and safeguards the traditional way of life of communities in the Torres Strait Protected Zone (TSPZ).

Indonesia's target is to establish an additional 300,000 square kilometers of MPAs by 2030. In January 2022, four new MPAs with a total of 12,559 square kilometers were declared in the waters surrounding the islands of Tanimbar, Damer, Mdon Hier, Lakor, Moa, Letti, and the Romang in the eastern province of Maluku. With this, the archipelago is now two-thirds of the way closer to its goal of ensuring "effective management" of 10 percent of its national waters by 2030. ATSEA-2 is also supporting the Ministry of Marine Affairs' blue economy strategy of expanding conservation areas to 30 percent of all Indonesian waters.

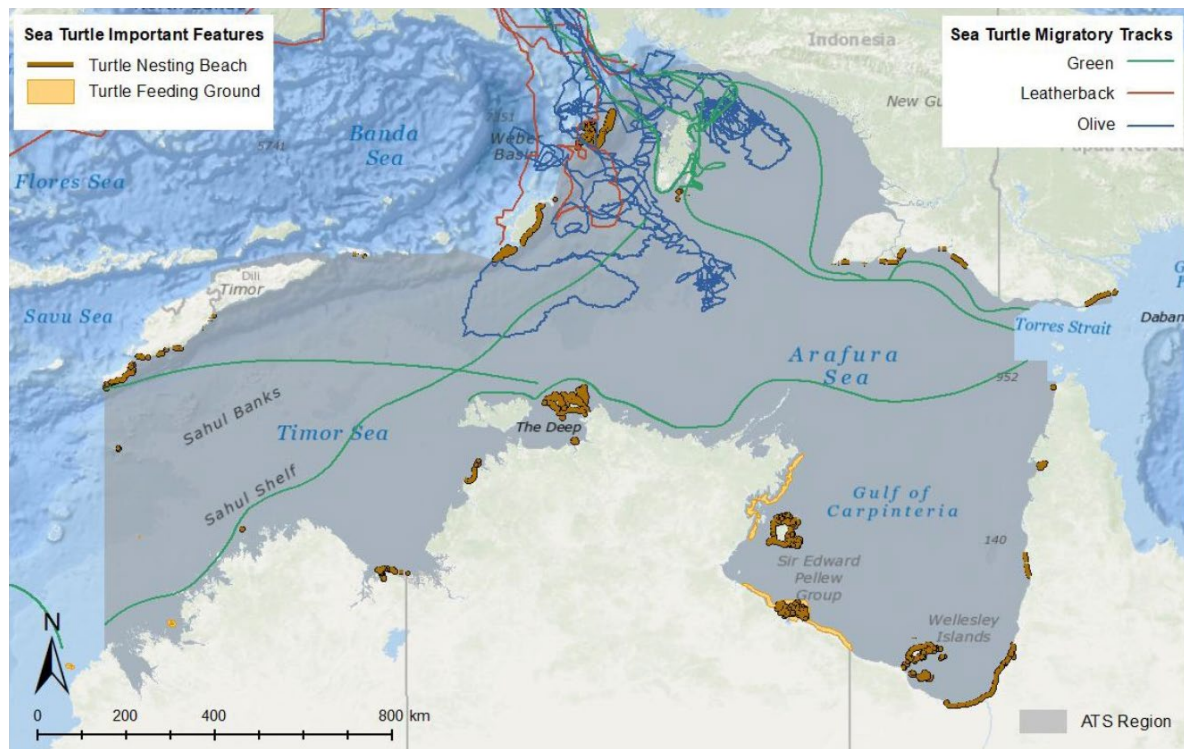
In June 2020, Timor-Leste's government came up with [Decree Law no. 6/2020](#), "establishing the Legal Regime for the protection and conservation of biodiversity." At this stage of the country's economic development, and with its goal of diversifying national revenue generators,

Timor-Leste's new law helps identify the officials in charge of sustainable resource use, conservation, and research and development for marine biodiversity. It is an affirmation of the country's commitment to sustainable marine and coastal ecosystem management in the ATS.

Conserving Sea Turtles

The ATS region is a known foraging and migrating area for sea turtles. It is home to six of seven known sea turtle species: Green, Hawksbill, Loggerhead, Leatherback, Olive Ridley, and Flatback. Of the six, only Loggerheads do not nest on beaches in the ATS.

Sea turtles provide many benefits to the ecosystem they inhabit, while also being part of the customs and traditions of indigenous peoples. Yet, turtle populations in the ATS are decreasing, as they are globally, due to multiple threats. Bycatch, the unintended capture of sea turtles during fishing operations, leading to their drowning, while gear discarded by fishers, mostly nets, also results in turtles getting caught. Climate change has exacerbated the erosion or loss of nesting beaches, while rising temperatures can lead to population imbalance. Egg and turtle consumption continues even in protected and managed areas, and pollution causes problems like entanglement and the life-threatening ingestion of plastic. Dredging destroys beaches as well as seagrass beds, important coastal feeding areas for turtles.



Map of Sea Turtle Migratory Tracks along Timor and Arafura Sea.

Green and Loggerhead sea turtles are now classified by the International Union for Conservation of Nature (IUCN) as endangered, Leatherback and Olive Ridley turtles are vulnerable, and Hawksbill turtles are critically endangered.

In consultation with marine scientists and relevant national and local stakeholders in the region, ATSEA-2 produced the Regional Sea Turtle Action Plan for the Arafura and Timor Seas in July 2022. The plan aims to ensure better coordination and management among concerned stakeholders and governments working for sea turtle protection in the ATS. The plan includes recommendations to improve conditions for sea turtles, including dealing with discarded fishing gear, establishing a

funding mechanism, addressing bycatch, and improving mechanisms for sea turtle conservation in Indonesia, PNG, and Timor-Leste.

Prior to the publication of the plan, a Sea Turtle Expert Workshop was held in April 2022, attended by 27 sea turtle experts from the four ATS countries, to raise awareness and review and share knowledge on sea turtles, as well as to refine the regional plan. In time for the World Sea Turtle Day on 21 June 2022, ATSEA-2 hosted a webinar to bring together experts, professionals, academicians, and community stakeholders to discuss the challenges facing sea turtles and ways forward to protect and manage them and their habitats in the ATS.

From Turtle Slaughter to 'Turtle Tourism' in Timor-Leste



Photo by ATSEA-UNDP Indonesia

Despite the critical role that sea turtles play in maintaining the balance of marine habitats, their populations have dwindled exponentially as decades passed due to a plethora of human activities such as poaching, habitat destruction, and bycatch. In Com Village, part of the Nino Konis Santana National Park in Timor Leste, this decline was very evident. Turtles were slaughtered for meat, and eggs were stolen from nesting sites.

In a focus group discussion (FGD) conducted on 4 May 2022, ATSEA-2 worked with a local conservation organization in Com Village, Lautem, the Hadomi Ambiente Youth Group, alongside the Ministry of Agriculture and Fisheries (MAF) and Conservation International (CI), to discuss activities to protect local turtle populations. The event drew 37 participants, including one who revealed that as many as 50 turtles were being slaughtered for consumption each week inside the national park itself.

CI shared their experience with volunteer-run turtle conservation groups in the past, and it was agreed that ATSEA-2 and MAF would work together on an action plan for a “new chapter” for turtles on the island. MAF committed to stronger enforcement of protected area regulations, while ATSEA-2 planned subsequent FGDs with volunteer turtle protectors on Lautem, who would receive support for communication, education, and capacity building.

Among these protectors is Grupu Konservativu, seven men and 26 women from Com Village who volunteer for activities to protect sea turtles in their area. Since 2009, the group has been relocating sea turtle eggs to more secure locations, working with conservation experts to protect the eggs from predators—including humans.

It has not been easy. Hatching and release rates have decreased by 80 percent, for example, when group members returned eggs to the same nest to hatch, which does not augur well for the turtle's future. However, recent interventions from ATSEA-2 resulted in a more optimistic outlook.



Photo by ATSEA-UNDP Indonesia

The group got some help at a training session conducted by ATSEA-2 on 29–30 November 2022. The training was facilitated by local NGO PROSPEK, which is providing support for turtle conservation work, as mandated by the National Coordination Unit of Timor-Leste to support the Com community in their sea turtle conservation work. Sea turtle expert Dwi Suprpti was tapped to enlighten attendees on correct conservation procedures and addressed their concerns, provided insights into the animal's life cycle and habits, and demonstrated connections between turtles and other organisms and processes within the ecosystem.

For example, Lucas Monteiro of Grupu Konservativu confirmed that he needed to change the sand after the eggs hatched to avoid the growth of bacteria, which can lower the hatching success rate. Member Olderic Da Costa noted how the price for a kilogram of fish was USD 40, and the price for one kilogram of sea turtle meat was USD 20-USD 30—not a significant increase in income.

In the future, Grupu Konservativu plans to raise awareness on sea turtle conservation even beyond Com Village, and they hope to develop ecotourism to provide economic benefits and sustainable funding for conservation work. In the meantime, to become more effective, the group will need to be legally recognized, and must undergo further training in sea turtle monitoring during nesting season. Education and socialization must also continue so villagers in Com and neighboring areas can understand why sea turtles are protected and must not be harvested.

Regional Biodiversity Specialist of the ATSEA-2 Project Casandra Tania noted that training and other sea turtle-related activities in Com Village will contribute to the Regional Sea Turtle Action Plan for the ATS region that was endorsed by the four ATS countries in 2022.

Coral Reefs and Community Commodities in Rote Ndao



Photo by ATSEA-UNDP Indonesia

Climate change has dramatically affected people's lives and livelihoods, most especially those of vulnerable groups in coastal communities that rely on marine and fisheries resources. In Rote Ndao, East Nusa Tenggara, Indonesia, where seaweed farming is a family enterprise, ATSEA-2 has been developing alternative livelihood activities to lessen dependence on dwindling coastal resources, reduce poverty, and improve well-being. A group of women seaweed farmers in the village of Oeseli in Rote Ndao, has increased income by using abundant local resources such as coconut, seaweed, and mangroves, which can be converted into saleable commodities that can augment family incomes. A group of 24 women was trained to make Minano soap, made from mangrove materials and seaweed, and packaged using environment-friendly materials, that has become popular in spas in tourist destinations. ATSEA-2 is supporting the group through corporate social responsibility (CSR) activities of the Bank Negara Indonesia (BNI).

A second group, Dale Esa, was established in June 2022, and was made up of 10 women and five men living in Daiama, in the easternmost part of Rote Ndao. Here, they use mangrove trees to make coffee and syrup, with help from the Yayasan Reef Check Indonesia (YRCI) and ATSEA-2. A first capacity-building training session was held in 2022, where the group named their coffee "Sehati," and the syrup "Dosela." While Dale Esa needs more resources for mass production and storage, as well as tools and raw materials, the group is already enjoying brisk sales.

Alternative livelihoods have been welcomed in Rote Ndao, especially by the women, who need little training to produce products that can spell economic independence. Support for such groups can help mitigate the impacts of climate change and lessen coastal communities' dependence on marine and fisheries resources. Meanwhile, also in Rote Ndao Regency, locals learned the important role played by the communities' abundant marine ecosystems in climate change adaptation and food security.

According to a study conducted by ATSEA-2 in 2021, Rote Ndao has 11,158 hectares of coral reefs, 3,885 hectares of seagrass, and 2,113 hectares of mangroves, ecosystems providing for an estimated 2,393 fishing households.

With the Reef Check Indonesia Foundation, ATSEA-2 is supporting ICM implementation in Rote Ndao, with emphasis on disaster risk management and climate change mitigation, and with the participation of coastal communities to develop responsiveness to environmental changes threatening their livelihoods.

In Oeseli Village (Southwest Rote) and Bo'a Village (West Rote), coral reef restoration activities have been combined with training on how to make coral reef media and conduct outreach activities designed to move local people to act.

An FGD was conducted in February 2022 in Oeseli Village to harmonize restoration plans and community expectations. In attendance were 14 people, including the village head, community monitoring groups, the Nirwana Lake Tourism boat group, youth organizations, and other community members, along with Reef Check Foundation staff and local government officials.

After the FGD, participants in Oeseli Village were trained in making coral reef restoration media. Two restoration methods were employed: Webspider, adopted from rehabilitation efforts on Badi Island, South Sulawesi, is easy to manufacture, and uses locally available materials. Fishdome, successfully used in marine management areas in Bondalem and Tejakula in Bali, is ideal for fish aggregation because of its shape, which also supports the attachment of young corals without the need for transplanting.

Ten trainees from Oeseli and Bo'a then brought the knowledge back to their respective village communities, and led the restoration media construction. In Oeseli, from 21–24 February 2022, 32 people (including nine women) produced 50 Webspiders and eight Fishdomes. In Bo'a Village, from 28 February to 3 March 2022, twenty people (including nine women), produced 50 Webspiders and six Fishdomes. The pieces were dried and prepared for placement in a predetermined area in the water; they were placed on 8–11 March 2022.

Empowering Artisanal Fisheries and Implementing Ecosystems Approach to Fisheries Management (EAFM)

The development of the artisanal fisheries management plan for the South Fly District in PNG is an effective means to empower isolated coastal communities. Such a plan would help remote South Fly villages like Sigabaduru, about three hours by small boat from the central town of Daru. Sigabaduru is dependent on fishing and marine resources, but is less concerned about poaching and overharvesting than it is about market access for the catch and the effective governance of local fisheries. Villagers have become self-reliant because of the lack of government support; there is enough fish for consumption and sale, they say, but livelihood is limited by remoteness and distance, as fish buyers hardly go to the villages.

Sigabaduru villagers then catch only small amounts of fish to avoid a surplus of stock. Aside from sustainable harvesting, they employ two other community-imposed fisheries management measures. One is protecting the swamp behind the village, the primary spawning ground for barramundi in PNG; anyone caught burning grass near the area is penalized through the village court. The other measure is the prohibition of nets, with only hook and line fishing allowed. Sigabaduru is looking forward to working with ATSEA-2 on a community-based artisanal fisheries management plan, which will certainly require cooperation and joint efforts among communities and stakeholders in the region. The ATSEA-2 project team has been traveling through villages on the South Fly coast to collect data on fisheries and socioeconomics to inform studies on the challenges to sustainable fisheries management in ATS countries. Integrated ecosystem-



Photo by ATSEA

South Fly's coastal villages are almost completely dependent on marine resources for food, income, and bartering with inland communities. Resources have been overharvested, compounded by IUU fishing. Villagers have admitted seeing a decline in fisheries, but have had neither the knowledge nor the resources for better fisheries management. Some villages, such as Sigabaduru, have imposed their own restrictions, with only hook and line fishing now allowed.

Photo by ATSEA-UNDP Indonesia



based approaches to natural resource management and conservation will be explored.

Meanwhile, a training session on the Ecosystem Approach to Fisheries Management (EAFM) was held in August 2022 by ATSEA-2 for South Fly villagers in the western province of PNG, to emphasize the connection between fisheries and nature, and how governance can add structure to more effective natural resource management.

The training session had 23 attendees from 12 South Fly villages, including four women, as well as fisheries managers and representatives from Western Province fisheries, South Fly District fisheries, South Fly District courts, the National Fisheries Authority, the Conservation & Environmental

Protection Authority, and ATSEA-2. Various group activities helped trainees identify management issues, prioritize goals, and craft their vision for the future. Key objectives, indicators, benchmarks, and management actions were identified, with villagers suggesting they form committees for better compliance.

Along with and complementary to the EAFM training, a public consultation on the South Fly Artisanal Fishery Management Plan was held with some stakeholders, to update the plan before finalization. The plan will be endorsed by the Western Province and South Fly District Fisheries, for authorization by the National Fisheries Authority and enactment by the local government as a law, which can be enforced by village courts within the district.



Photo by PEMSEA/Gemerge

Building Climate Resilience and Adapting to Climate Change

In 2022, PEMSEA witnessed a number of activities initiated by various partners to address climate change adaptation and disaster risk reduction, especially the development and refinement of their national climate plans and strategies. The plans were shared by country partners in a regional ocean-climate roundtable dialogue organized by the PRF to commemorate World Oceans Day on 8 June 2022.

Convening An Ocean and Climate Dialogue in the EAS Region

The Glasgow Climate Pact, signed at the 2021 United Nations Climate Change Conference (COP-26) in November 2021 in Glasgow, Scotland, emphasized the “importance of ensuring the integrity of all ecosystems, including forests, the ocean and the cryosphere, and the protection of biodiversity for better climate change adaptation and mitigation in line with the

UNFCCC.” The Preah Sihanouk Ministerial Declaration signed by PEMSEA’s country partners in December 2021 noted how the signatories “have taken initiatives to protect our coastal and ocean ecosystems from the impacts of climate change, marine pollution, and other unsustainable patterns of resource use, mindful of the ecosystem services that it provides...,” citing how climate change mitigation and adaptation are crucial to a blue economy.

In line with the countries’ commitments to these global and regional agreements, PEMSEA virtually conducted the Ocean and Climate Dialogue: East Asian Seas’ Response to Global Climate Change Challenge on June 8, 2022, with the objectives of increasing understanding of the links between the ocean and climate change, and share the region’s progress in using ocean-based adaptation solutions as part of national development plans and policies.

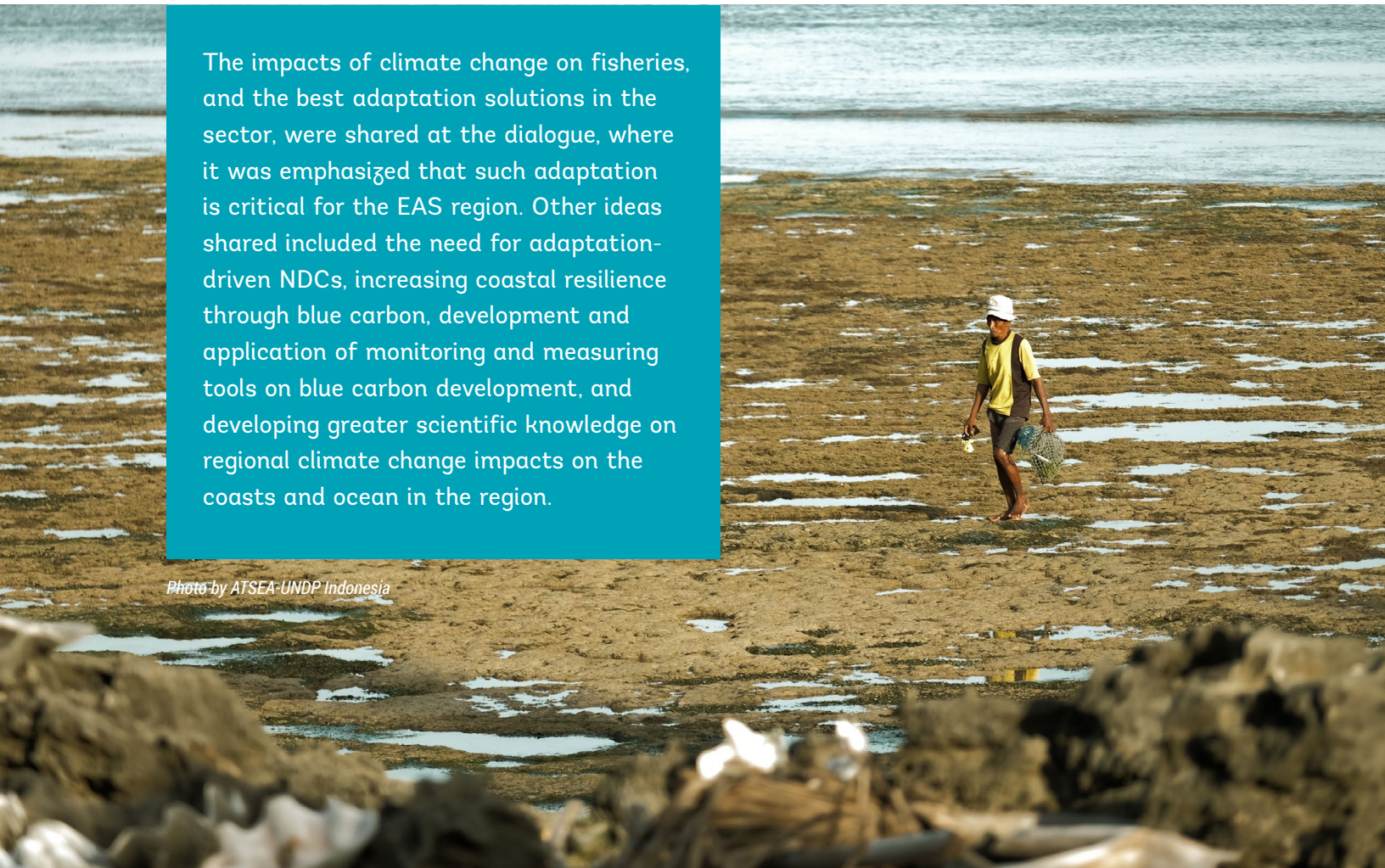
There is increasing understanding of how climate change can impact the oceans. Energy stored within the ocean has intensified sea surface temperatures over the past 40 years, leading to shifts in ocean circulation. This has brought about a rise in global mean sea levels, greater frequency, intensity, and duration of marine heat waves, and ocean acidification. PEMSEA member countries have experienced these effects, especially around their coastal areas. They have launched various initiatives to adapt and mitigate climate change, including China's blue carbon restoration efforts and Japan's Green Growth Strategy. Cambodia, Indonesia, the Philippines, and Viet Nam have incorporated coastal and marine sector actions and targets into their nationally

determined contributions (NDCs). RO Korea is exploring ocean-based solutions to climate change, while Singapore presented its ongoing research on the ocean–climate interface.

This year also saw several programmatic activities undertaken by non-country partners that complement government policy and regulatory actions. Examples of these actions include empirical-based research on climate-smart spatial planning by the Plymouth Marine Laboratory; community engagement in mangrove restoration and rehabilitation in the Philippines; and the development of guides to assess climate change vulnerabilities by ATSEA-2.

The impacts of climate change on fisheries, and the best adaptation solutions in the sector, were shared at the dialogue, where it was emphasized that such adaptation is critical for the EAS region. Other ideas shared included the need for adaptation-driven NDCs, increasing coastal resilience through blue carbon, development and application of monitoring and measuring tools on blue carbon development, and developing greater scientific knowledge on regional climate change impacts on the coasts and ocean in the region.

Photo by ATSEA-UNDP Indonesia



Climate-smart Spatial Planning: Managing Inshore Marine Areas in Da Nang, Viet Nam



Photo by Anh Nguyen on Unsplash

Da Nang in Viet Nam is a pioneering site in Southeast Asia for the implementation of ICM. In 2020, it became the first city in Viet Nam to be designated as an Environmental City. The urban landscape of Da Nang is experiencing considerable changes due to socio-economic growth emerging from tourism, high-tech industry, and a growing marine economy. These changes are likely to bring environmental impacts, with marine water quality being one key concern.

In 2022, Plymouth Marine Laboratory (PML, <http://www.pml.ac.uk>), alongside regional partners, published three reports exploring such issues through the Official Development Assistance National Capability project funded by the UK Natural Environment Research Council (NERC), “Addressing Challenges of Coastal Communities through Ocean Research for Developing Economies” (ACCORD).

The first report shared findings on the city’s inshore marine sectors, which were affected by poor water quality and the COVID-19 pandemic, with the aim of informing enhanced marine coastal management. Artisanal inshore fisheries, aquaculture, and marine tourism sectors were assessed through surveys. Blue carbon and policy mapping was done through desk research, and the resilience of fisheries and aquaculture farmers to COVID-19 measured via in-depth interviews and FGDs. The results provided a wealth of information, highlighting strengths and weaknesses in each sector, as well as areas for further research and the advancement of management policy.

This report recommended a detailed content analysis of integrated coastal zone management (ICZM)-related policies to understand how policymakers in Viet Nam, and Da Nang specifically, have included tourism, fisheries, aquaculture, and blue carbon in their coastal management policies, and how the policies complement each other for sustainable coastal management. (Findings can be accessed at <https://doi.org/10.17031/8xwr-pm23>.)

The second report assessed ocean climate modeling data to determine the sensitivity to climate change of species with commercial and conservation value in the waters off Da Nang, and what actions could be taken to support their adaptation to these pressures. Co-developed alongside the Da Nang Department of Natural Resources and Environment with the support from PEMSEA, the report highlighted spatial management options for the waters off the city to support climate change adaptation.

For species that occupy the water column (as opposed to the seabed), climate sensitivities were concentrated in the southern part of the bay. Fishing pressure was shown to exacerbate the pressures of climate change on pelagic target species, highlighting the challenges to food security amid increasing climate change.

Decreased in greenhouse gases emissions, in line with the Paris Agreement, would deliver clear benefits to all types of species assessed and support a more sustainable path for the exploration of Da Nang's marine resources and blue economy. The report included recommendations on how the Coastal Use Zoning Plan for Da Nang City could better support climate change adaptation in these species and habitats, as well as their broader sustainability. (For details, see <https://doi.org/10.17031/dxfj-a468>.)

A third report described how earth observation was used as a tool for providing background data as part of the ACCORD program, and how this was used to understand basic environmental and ecosystem dynamics not just around Da Nang, but also around the Kep Province in Cambodia. (Report available at <https://doi.org/10.17031/p1rp-f869>.)

Developing A Guide on Climate Change Vulnerability Assessment for ATS region

The ATSEA Transboundary Diagnostic Analysis in 2011 identified climate change as a major environmental transboundary concern for the Arafura and Timor Seas region, due to its effects on marine habitats, and consequently, the communities and industries that depend on them. To better understand such impacts, a Climate Change Vulnerability Assessment (CCVA) for the region was carried out by the project between 2020 and 2021, which detailed the information on habitat vulnerability, endangered species, and important species in the region.

The “Guide for Facilitators and Decision-Makers: Incorporating Regional Climate Change Results into Local Action Planning” was created by ATSEA-2 to incorporate the results of CCVA into local assessment

and adaptation planning. The guide offers tools and step-by-step processes for practitioners and non-government organizations (NGOs) to incorporate climate change in local planning for communities, allowing for the most appropriate adaptation actions on the ground. The elements of successful implementation were identified as community involvement, continual education and awareness, enforcement for compliance, and annual monitoring and review.

The first draft of the guide was tested at two sites in Indonesia and Timor-Leste in 2021. A Climate Change Training Workshop was conducted in Bali, Indonesia, in September 2022 to disseminate the CCVA results and run through the guide. In November 2022, the 4th ATSEA Regional Steering Committee Meeting was also held in Port Moresby, PNG, with aims to improve climate change understanding in the region, raise awareness about climate change and appropriate adaptation strategies, disseminate the CCVA results and the “Guide for Facilitators and

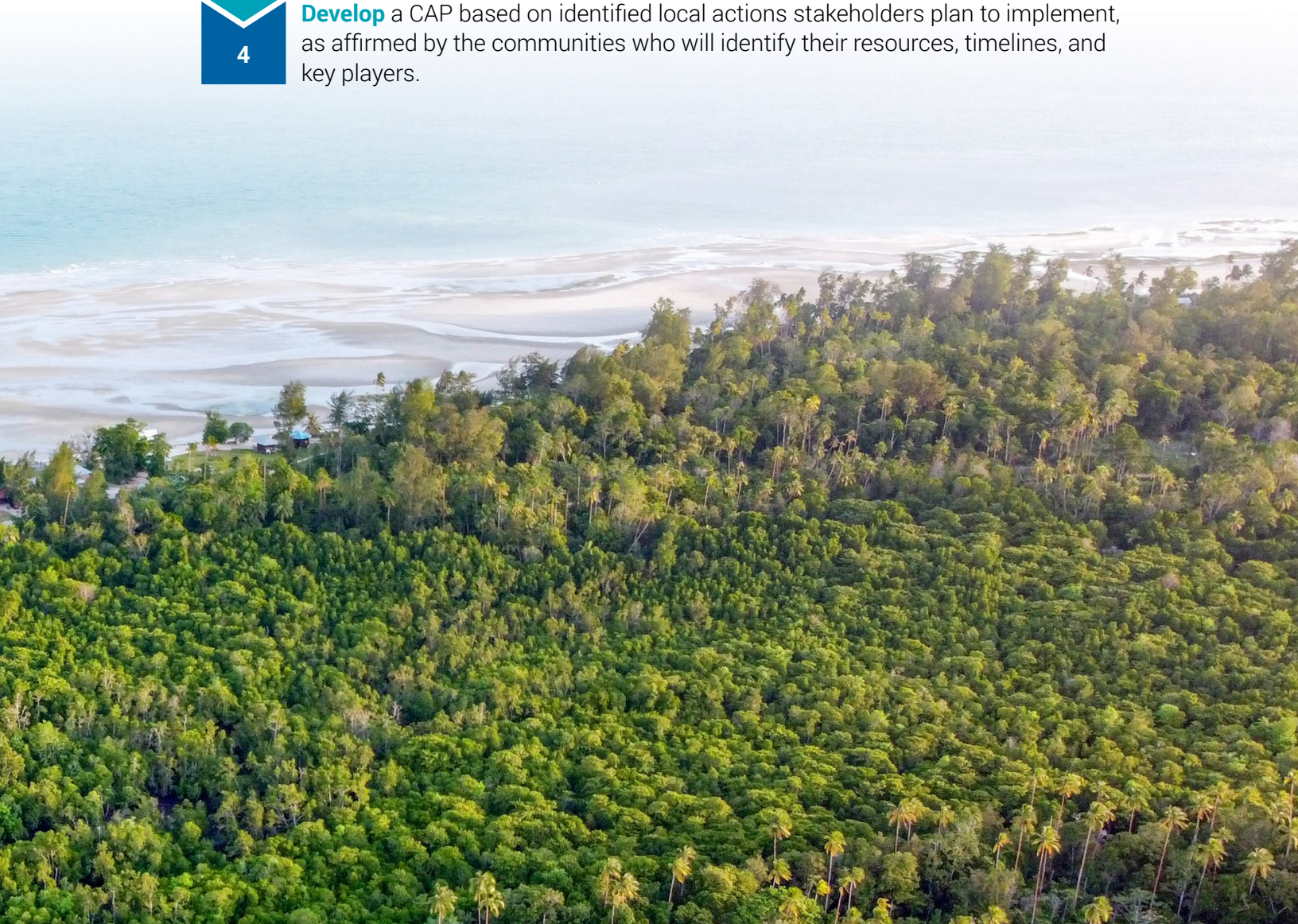
Decision-Makers,” and enhance the capacity of the participants to use the guide.

The guide is divided into five sections covering background information, climate projections for the ATS region, key findings

of the regional vulnerability assessment by species, habitat, and identified hotspots, steps to identify adaptation actions and develop a Community Action Plan (CAP), and elements for successful implementation of the CAP.

Steps for Conducting a Climate Change Vulnerability Assessment

- 1 **Select** an area for assessment, ideally a site that uses the same marine resources.
- 2 **Establish** the scope of assessment, including clarifying the local context and considering objectives.
- 3 **Conduct** the actual assessment
- 4 **Develop** a CAP based on identified local actions stakeholders plan to implement, as affirmed by the communities who will identify their resources, timelines, and key players.



Pilot-testing Climate Adaptation Pathways in Guimaras, Philippines

Guimaras, a coastal province in the Philippines' Western Visayas region, is one of the many areas in the archipelago where coastal communities are affected by the impacts of climate change, leading to alteration in marine ecosystems productivity and enhancing coastal hazards. The Institute for Global Environment Strategies (IGES), in collaboration with the PRF and Guimaras Environment Natural Resources Office of the Provincial Government jointly implemented the project, "Achieving Coastal Resilience through Local Knowledge-based Adaptation Planning: A Pilot Project in Guimaras Province, Philippines," in January–April 2022, with the participation of stakeholders from the five municipal governments.

Funded by the Adaptation Research Alliance (ARA) Microgrant, the project introduced the co-production process in identifying local adaptation options to address the identified priority climate change-related concerns of Guimaras Province over the short, medium, and long term, combining scientific and local knowledge within the framework of the ICM program of the province with the engagement of a wide range of stakeholders.

A series of online and face-to-face meetings and consultation workshops were conducted to: a) introduce the ARA Microgrant and IGES as partner; b) discuss Guimaras Province's climate change adaptation (CCA) and disaster risk reduction (DRR) challenges and plans of action, and

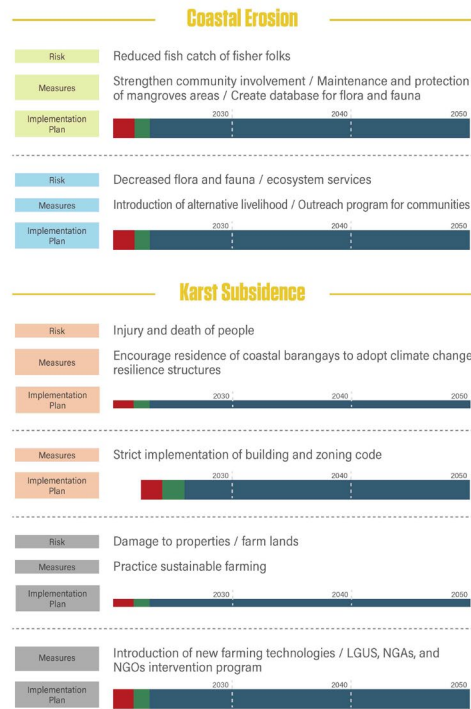


c) initially identify CCA and DRR specific concerns (i.e., coastal erosion and karst subsidence) for the development of local adaptation pathways for presentation and validation by a wider stakeholder group.

A stakeholders' consultation workshop held in March 2022 served as a venue for seeking inputs and viewpoints from a wider group of stakeholders and validating the priority CCA and DRR concerns (i.e., coastal erosion and karst subsidence) and corresponding local adaptation pathways that were previously identified. From the group exercises that were conducted, adaptation pathways were co-developed through four sequential steps, involving a) co-exploring climate impacts, b) identifying hotspots, c) brainstorming climate change adaptation options, and d) co-developing adaptation pathways involving representatives from the provincial departments, national agencies, private sector and the academe.



Local adaptation pathways of Buenavista, Guimaras Province, Philippines.



The group exercises allowed the co-production process to be demonstrated, with active engagement of participants in the discussions to share knowledge and insights, and collectively identify adaptation options over the short, medium, and long term in response to coastal erosion and karst subsidence. While Guimaras has gone through the process of CCA and DRR planning in the course of developing their respective strategic and action plans, the experience that they gained from the project and the preliminary adaptation pathways that were generated could help inform future planning.

The project is the first collaborative undertaking between PEMSEA and IGES, and has fully benefited from the expertise and experience of IGES, having been designated as PEMSEA's Regional Center of Excellence in CCA and DRR in 2020.

Guimaras Province has been implementing ICM since 2008. The ICM program has provided opportunities for the province to strengthen its governance mechanism for ocean and coastal management over the past 14 years through exposure to various approaches and methodologies in collaboration with various partners. The introduction of the co-production approach for CCA through the ARA Microgrant Project, which complements existing ICM approaches to engaging a wide range of stakeholders and partners, including women and youth and other marginalized sectors, in CCA discourses, can add to the suite of tools and methodologies that can be utilized in co-producing localized CCA options. In the context of Guimaras, an island province that is highly vulnerable to the impacts of climate change, a good knowledge system and a clear institutional mechanism for CCA and DRR are critical.



Learning Best Practices on Marine Pollution Control and Waste Management

PEMSEA is working alongside local, national, and international partners to reduce the flow of plastic pollution into the seas of East Asia. Plastic waste has emerged as a particularly insidious form of solid waste, with a lifespan of centuries and long-term impacts that are still not fully understood. Plastic waste, including both macroplastics and microplastics, harms marine ecosystems, disrupts food chains, and degrades eco-tourism sites. Ecological and socioeconomic damage is particularly severe in coastal areas, which bear the brunt of plastic waste influx from inland areas, particularly through river drainage basins. Coastal communities are impacted not only by their own pollution, but also by pollution from upstream areas as well as pollution that follows ocean currents from elsewhere.

Plastics have become widely integrated into society, becoming almost ubiquitous. Addressing plastic pollution thus requires a coordinated effort across different sectors, including industry, government, and civil

society. Such efforts can tackle plastic pollution in a number of ways, from reducing plastic consumption, to finding re-use and recycling opportunities, to improving end-of-life cycle waste management. PEMSEA is working on a number of projects that address one or multiple aspects of plastic pollution, and more widely, solid and plastic waste management.

Recognizing the importance of local community involvement in plastic waste management, PEMSEA has sought to understand the key roles plastic plays in communities within its project sites, and the local understanding of plastic use and misuse. Local stakeholders, including government, businesses, academia, and civil society, have been crucial partners in implementing PEMSEA activities. Diverse stakeholders also reflect the diverse origins of plastic waste, and similarly diverse challenges and opportunities for its management. Recognizing the importance of cross-boundary effects, PEMSEA has

explored management across different local governments, working within overlapping geographical and political boundaries to achieve appropriate scale for plastic management activities.

Some key work was done with the Province of Cavite, whose 10-year Provincial Solid Waste Management Plan aims to reuse, recycle, compost, and divert at least 30 percent of its waste. PEMSEA has also been working within regional and international communities, promoting plastic management through its networks such as the PEMSEA Network of Local Governments (PNLG), and bringing together a range of partners to achieve capacity building, technology transfer, digitization, and sharing of best practices.

ASEAN-Norwegian Cooperation Project on Local Capacity Building for Reducing Plastic Pollution in the ASEAN Region Phase 1 (ASEANO Project)

In July 2022, the closing stakeholders' forum for the Philippine component of the ASEANO Project brought together an array of attendees, ranging from local government units and national government agencies, to the private sector, NGOs, and the academe.

The event, organized by the PRF and the Provincial Government of Cavite through the PGENRO, presented the key outputs of



Group photo of the attendees of the closing Stakeholders' Forum for the Philippine component of the ASEANO Project. (Photos by PEMSEA)

the Philippine component of the ASEANO project, including waste reduction strategies for key industry sectors, environmental monitoring methods and capacity building, impacts of plastic pollution, and scenarios for action, education, and dissemination.

The event also highlighted recommendations for sustaining the ASEANO project activities, future plans, and emphasizing the critical role of the Cavite local government, businesses, and other stakeholders moving forward.

A workshop at the end of the forum identified tools and studies that could be utilized by the LGUs, steps for LGUs to move forward and roles they could take on, and further support needed. The latter, as expressed by the LGUs, included additional assistance on waste analysis and characterization studies (WACS) and updating solid waste management (SWM) plans, IEC materials for different target audiences, and private sector collaborations, among others.

WACS, in particular, have proven to be an essential tool in formulating more targeted action plans under ASEANO. The April 2022 “ASEANO Project Report: Survey on Plastic Litter Along Imus River” was conducted in barangays in three cities and two municipalities along the Imus River in Cavite by De la Salle University–Dasmariñas, with support from PRF and the Norwegian Institute for Water Research (NIVA). Data was gathered through observation and the collection of plastic litter during both the wet and dry seasons. Count, weight, surface cover, and the density of collected

macroplastics, as well as characterization of microplastics, were recorded, with the objectives of determining the flow of macroplastics in Imus River, classifying the macroplastics according to use, determining the main types of plastic waste, quantifying and characterizing microplastics, and comparing the water quality of the Imus River to plastic pollution levels.

Another project report, “Study on Plastics Use and Waste Management in the Food Service Industry,” published in June 2022, covered food service establishments (FSEs) in Dasmariñas, Cavite, which served food either onsite or offsite. Conducted during the period of COVID-19 restrictions, the study noted that food delivery was the fastest growing segment of the industry, which uses significantly more plastic waste than dine-in service. Research classified the food-grade plastics into six common categories, and data gathering also included LGU and FSE surveys, field observations, FGDs and meetings (including with the provincial and local governments), material research, and interviews.



Living with 'trash'



Waste picker Sherwin Salazar, junk shop owner Arles Gozar, and used tire stripper Miguel Sabaño are three Filipinos making a living in scrap and waste collection, as profiled in an *article published online in Esquire Magazine in January 2022*, *Basurero: Inside the Lives of Garbage Pickers* by Gregg Yan.

The feature, based on work carried out as part of the ASEANO project, delves into the lives of these three individuals to dramatize how one man's discards can be another's source of livelihood. Salazar, 38, has been a waste picker hunting for "treasure" amidst Cavite's trash heaps since he was 12. He graduated from a sack to a pushcart and now, has a motorized tricycle, and makes a decent living from collecting "prime" discards like broken kitchen appliances. "Most Filipinos think *pangangalakal* is nothing more than a dirty job, but it's far better than working in other jobs like construction," he said. "I'm not ashamed to be called a *mangangalakal* or *basurero* (scrap collector). I'm proud of it, because I was able to provide honorably for my family, while putting my children through school and bringing them to nice places."

As owner of the Angela Mae Junk Shop in Dasmariñas, Arles Gozar revealed that he has nine to 15 part-time employees who sift through and pack garbage brought to him by waste pickers. Most saleable are materials like copper, hard plastic, scrap metal, corrugated iron sheets, and plastic bottles. "Many people in this area don't have jobs," Gozar said. "By employing people even part-time, my tiny junk shop helps provide for them and their families. The garbage of others provides a good life for our family—I can even help my relatives from the province when they're down and out, because we have a little extra." "Junk shops like Arles' provide a vital solution in the world's quest to minimize waste," wrote Yan. "...By recycling, upcycling or making use of items which would otherwise be bound for landfills and dumpsites, trash is reduced. Less trash means less garbage flowing down rivers whenever a dumpsite floods."

Meanwhile, former fisherman and Kawit, Cavite resident Miguel Sabaño used makeshift tools to pull out polyester or nylon threads from rubber tires and tubing, which can sell for P20 a kilogram. The income can feed Sabaño and his family for the day, but they have also done the environment a service—since rubber tires can take up to a hundred years to break down and decompose, processing them allows them to be broken down to make chips, powder, cement, or even fuel, or upcycled into plant containers, sandals, or bins, which can generate even more income.

Ecological Solid Waste Management

The Ecological Solid Waste Management (ESWM) in Cavite Province (Plastic Wastes Recycling Project), funded by the Coca-Cola Foundation Philippines Inc. and implemented by the PRF in partnership with the Caritas Diocese of Imus Foundation, Inc. and in close coordination with the Provincial Government Environment and Natural Resources Office (PGENRO), aimed to support the diversion rate target for solid waste in the province. The implementation of the project in five communities in Cavite, i.e., Banaybanay, Amadeo; B. Pulido, GMA; San Rafael 3, Noveleta; San Jose, Tagaytay City; and Bucana, Ternate, was scheduled for January 2020 to June 2021, with an extension until December 2021, but logistical concerns, including pandemic restrictions, caused project setbacks leading to the recalibration and adjustment of the project and an extension until December 2022. Adjusting to the new circumstances, the project shifted its priority to strengthening data analytics through a plastic circularity audit, a community needs assessment

(CNA), and WACS. This recalibration produced results which supported the identification of management interventions that were practical, doable, and community-owned.

The plastic circularity audit conducted in the five LGUs (Amadeo, GMA, Noveleta, Tagaytay, and Ternate) recorded junkshops, types of waste handled, names and locations of aggregators and recyclers for plastic, paper, cartons, and other kinds of recyclable trash. The CNAs in the five barangays involved survey questionnaires, consultations, analysis of results, and the development of work plans based on determined needs.

The WACS, as explained in the feature “Recalibration and Revitalization: Sorting out Cavite’s trash” in the project documentation on the PEMSEA website, “was tantamount to peering into the trash cans of barangay residents.” Studies identified the major types of wastes that are generated in



the households, the best practices and responsible players in waste management in the communities, as well as the gaps and challenges in waste management, and identified actions for strengthening waste management in the community.

Results showed that biodegradables made up 15–64 percent of the trash in the five barangays, and recyclables accounted for 12–63 percent of the total volume. Plastic waste accounted for about 21.67 percent of the total waste, which were predominantly pouches, sachets, and wrappers; grocery and food bags; PET bottles; soiled plastic films; and other plastic wastes.

The WACS recorded a still overwhelming amount of plastic, providing a solid basis for pushing to ban certain types of plastic waste, supporting the ongoing review and amendment of Provincial Ordinance 007-2012 on banning and regulating selected plastics in Cavite, and allowing barangay and municipal LGUs to update their 10-year Solid Waste Management Plans. The findings also provided more accurate records of the LGUs' environmental compliance in terms of solid waste management, and gave local leaders experience to enable them to conduct WACS on their own.

As the project comes to its final year of implementation, the benefits and impacts became more evident. The LGUs and their local partner including Caritas Diocese



of Imus Foundation, now have updated data that can help inform further actions to manage solid and plastic wastes more effectively. The circulatory audit has helped the Province of Cavite strengthen the database for junkshops, monitor their compliance, and develop potential linkages between the communities and the junkshop operators for the handling of recyclable wastes.

The CNA more accurately pinpointed good practices, including gaps and needs in the communities, on solid waste management, as well as identified actions for strengthening solid and plastic

waste management that are practical, doable, and community-owned. The WACS provided a solid basis for the most appropriate interventions according to the dominant type of waste, including more biocomposting for fertilizer in urban, community, and backyard gardens for the large volume of biodegradable materials, and more operational MRFs and incentive mechanisms for the handling and management of recyclable materials. The ESWM Project has catalyzed stronger partnerships and linkages among the Provincial Government through the PGENRO, municipal LGUs, Caritas Diocese of Imus

Foundation, and the communities, and has leveraged more technical, human, logistical, and other in-kind support from the provincial and municipal LGUs for the implementation of project activities, as well as in complementing the province's efforts to address solid and plastic waste management. Most important, the project has allowed for immense capacity building and community empowerment among the people of Cavite, as well as the organizations that work on the ground there for more effective solid and plastic waste management.



Community members and barangay leaders joined the Lakbay Aral (study tour) to learn good practices on solid waste management.
(Photo by PEMSEA)

Digital Waste Notification



Group photo (left) of the participants of the Seminar on Ship Waste Management held in Bayleaf, Intramuros, Manila . (Photos by PEMSEA)

A mandatory advanced online waste notification system was a key outcome of the Ship Waste Management in Philippine Ports Project, a national pilot project funded under the Rethinking Plastics–Circular Economy Solutions to Marine Litter of the European Union (EU) and the German Federal Ministry for Economic Cooperation and Development (BMZ), and implemented by the German Corporation for International Cooperation (GIZ) GmbH and Expertise France.

The Project was initiated in December 2020, and concluded in June 2022. It was implemented in Batangas Port in partnership with the Philippine Ports Authority's (PPA) Ports Operations and Services Division (POSD). The objective was to “sustainably reduce the discharge of ship wastes and cargo residues to the seas and coasts of the Philippines while ensuring the smooth operation of maritime traffic, and improving the availability and use of adequate port reception facilities and the delivery of ship waste to those facilities.” Other key outcomes were

incentivized cost recovery system, a manual on ship waste management, capacity development for stakeholders on ship waste management, and legal assessment and recommendations for improving the regulatory and institutional framework for ship waste management in the Philippines. The waste notification system will be implemented through the PPA's Internet-based Port Operations and Terminal Receiving System (IPOINTS), following the International Maritime Organization's (IMO) and EU's format for waste notification and classification. The implementation of the system is integrated in PPA's Proposed Revised Guideline for Shore Reception Facility, currently under review and set for public consultation. Once the guideline is approved, the online advanced waste notification system through the IPOINTS will be implemented in all ports within the jurisdiction of PPA across the country. Future implementation of the IPOINTS' waste notification module will allow wider access, to include shore reception facility (SRF) providers to facilitate ship waste handling and management in the port.

Managing the Problem of Port and Shipping Waste



Photo by D. Bautista



A research paper, “Managing Port and Shipping Waste: Challenges and Best Practices,” was developed by the PRF for the Incheon Port Authority (IPA), as part of knowledge sharing on port sustainability, and with a focus on waste management within ports. Ship waste discharge has been a concern for many decades, even before the International Convention for the Prevention of Pollution from Ships (MARPOL) was first drafted in 1973. “The handling and treatment of ship waste discharge has evolved over time, as shipping has changed and as the understanding of the human impact on the environment has increased,” the paper cited. Shipping capacity has grown steadily with the expansion of the global economy, as maritime vessels carry over 90 percent of the world’s food and commercial goods, according to a study by Dabrowska et al., 2021.

Effective maritime waste management has also become a key component of sustainability efforts, with UN SDG 14 (Life Below Water) aiming, “by 2025, to prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.”

The trend in international regulations to dispose of waste on land and not at sea demands more efficient recycling of waste, waste segregation, and more effective waste management systems, even as the global shipping industry continues to grow. These steps now constitute essential services for ports, with economic and environmental benefits, as well as earning a port a reputation for good waste management that translates to more business.

However, Waste management is costly, and requires stringent monitoring. Sustainability can only be achieved with broad compliance with enforcement mechanisms and consultations with port authorities, shipping representatives, local communities living near the ports, and local and national authorities.

New technology in ports worldwide has led to greater efficiency and sustainability. Increased digitization makes such crucial steps as advance notification of waste deposits, monitoring of waste movement, faster data analysis, and improved segregation easier. Innovations, after all, are often the results of cooperation among stakeholders and appropriate funding schemes.

“As a hub of the global shipping network, the fate of the seas of East Asia is intertwined with the sustainability of global shipping,” stated the paper. “While this will be a challenge, it also provides an opportunity for the ports around these seas to become global leaders in port sustainability innovation.”

The study further covers the logistics of port and ship waste management, challenges, potential port policies and implications, cost recovery and incentive structures (such as the structuring of waste fees), measurement, and monitoring. The study also offers a seven-step roadmap for establishing efficient ship waste handling and MARPOL compliance. It starts with assessment of a port’s existing ship waste handling system, followed by strategic decisions made by port management concerning involvement, ownership and operation, cost recovery, and type and volume of waste to be accepted. Next are the design and implementation of a mandatory online waste notification system, the incentivization of a cost recovery system design based on fees, and the establishment of a ship waste handling organization in the port. An operational Ship Waste Management Manual on procedures and requirements must be made available to all stakeholders, followed by implementation and follow-up.

The East Asian Seas Region is an important conduit for global shipping, and some ports in the area have already innovated to accommodate change. For example, the Port of Krakatau Bandar Samudra (KBS) in Cilegon, Indonesia, established in June 2016, is the country’s first “green port,” with a view to helping address climate change through proper waste management to reduce emissions.

In 2020, the Philippines set out a new fee system for solid waste, oily liquid, and noxious liquid, which was updated in 2021 because of COVID-19. There are fixed fees for domestic and foreign vessels to cover different garbage volumes; PPA has engaged in wide stakeholder consultation, while the Port Management Office (PMO) of Batangas monitors ship waste, port and terminal waste, and cargo residue.

The 2015 Vietnam Maritime Code requires that ships and seaports have environmental protection equipment. Along with the 2014 Law on Environmental Protection and the 2015 Law on Natural Resources and Environment of Sea and Islands, the code requires ships and ports to dispose of waste in line with international treaties.

Citizen Science Empowerment

In June 2022, partners of the East Asian Seas Initiative on Clean Oceans (EASICO) came together in a workshop hosted by the Indonesian Waste Platform (IWP) in Labuan Bajo, West-Manggarai, Flores, Indonesia. Participants from RO Korea, the Philippines, and Viet Nam as well as stakeholders from Labuan Bajo, Komodo Island, Papagaran Island, and Mesa Island shared knowledge, expertise, experiences, and challenges in dealing with marine debris.

The four-day workshop also highlighted IWP's work in and around Labuan Bajo and Komodo National Park. IWP's Citizen Science Program was designed to gather baseline data for strategies on reducing marine litter among government agencies, NGOs, and community businesses in Labuan Bajo and surrounding islands.

Labuan Bajo is among Indonesia's five Super Priority Tourism Destinations, and has grown over the last decade from a fishing community to a tourism hotspot. Unfortunately, solid waste management on Flores and in Komodo National Park has not kept up, challenged by an increase in product packaging, especially single-use ice bags discarded by fishermen. The program's aims are to come up with an activity manual, to sign a memorandum of understanding with the Komodo National Park Bureau & Administration of West Manggarai District, to set monthly informative movie nights and online webinars, and to distribute flyers for boat owners and fishermen in Papagaran.



Photo by PEMSAE/T. Bell

EASICO partner Our Sea of East Asia Network (OSEAN) provided the Project with monitoring equipment, and IWP looped in the youth from community groups in Labuan Bajo, who were trained in monitoring. Three videos were produced on marine litter monitoring methods to highlight the value of citizen science, along with a campaign brochure for community participation programs. Access the videos here:

The important role of Citizen Science to combat Marine Litter (Part 1)

[▶ WATCH VIDEO](#)

The important role of Citizen Science to combat Marine Litter (Part 2)

[▶ WATCH VIDEO](#)

Marine litter - Citizen Science program in Labuan Bajo & Komodo, Flores, Indonesia

[▶ WATCH VIDEO](#)

IWP is expanding the Citizen Science program to Bali, and a proposal for targeted monitoring areas for litter has been submitted.

Representatives of the Ministry of Environment and Forestry, Republic of Indonesia, the Marine Environment Policy Division of the Ministry of Oceans and Fisheries of RO Korea, and PEMSEA attended the workshop, along with EASICO partners OSEAN, Centre for Supporting Green Development (GreenHub),

International Coastal Cleanup–Philippines (ICC-PH), and IWP.

The second workshop day’s focus was on marine litter and citizen science, the role of citizen science in dealing with abandoned, lost, and otherwise discarded fishing gear (ALDFG), household waste collection, and community clean-ups to reduce marine litter. Participants went on a field trip to collect and study macro beach litter in front of the Jayakarta Hotel.

The third day of the workshop saw EASICO partners and other participants heading to Komodo National Park. In Komodo, ladies from the local group Wine Raso Kiling Komodo demonstrated how they collected recyclables from households and conducted regular village clean-ups.

The final workshop day focused on measures to prevent marine litter. IWP shared how they advocate refilling to replace single-use packaging, sachets, and pouches in Labuan Bajo and on Mesa Island. Partners, including PEMSEA, shared best practices and programs being pursued region-wide. Good outcomes of the workshop included expansion of macro-litter monitoring in Bali in collaboration with the Bali Waste Platform, emphasis on citizen science among local clean-up organizations, expanded macro litter work in the Philippines under ICC-PH concentrated in the youth sector, better understanding of citizen science targets in clean-ups, knowledge sharing among organizations, and the engagement and commitment of local policymakers and stakeholders.



Measuring Coastal and Marine Project Outcomes and Impacts

The Phase 1 of the DENR-PEMSEA Special Project on Assessment of Foreign-Assisted Coastal and Marine Initiatives in the Philippines, which was completed in December 2021, has generated an integrated evaluation framework, indicators, survey methodology, and questionnaires based on the assessment of 14 foreign-assisted projects on coastal and marine management implemented between 2008 and 2020.

The Phase 2 was implemented in 2022 and focused on validating the integrated evaluation framework and survey instruments developed under Phase 1 by key stakeholders, practitioners, and direct beneficiaries of five completed foreign-assisted coastal and marine projects implemented in 2007–2020. Phase 2 also endeavored to document major achievements, lessons learned, and best practices for consideration in designing future programs and projects, and to provide recommendations to facilitate the systematic monitoring, evaluation and reporting of outcomes and impacts of current projects, where applicable, and future projects, based

on the results of the survey; to inform future programming of coastal and marine initiatives to meet the requirements of global (SDGs, Convention on Biological Diversity [CBD], United Nations Framework Convention on Climate Change [UNFCCC]) and regional (Strategic Action Plans [SAPs], SDS-SEA) commitments and targets to which the Philippines is a signatory; and to enhance policies and procedures in assessing the effectiveness of current and future projects and programs for sustainable coastal development.

Based on the criteria for their selection, the projects and sites covered for the validation exercise included the Strengthening Marine Protected Areas to Conserve Marine Key Biodiversity Areas in the Philippines (SMARTSeas PH Project) in Batangas Province; the Integrated Coastal Resource Management Project (ICRMP) in Cebu Province; Protection and Rehabilitation of Coastal Ecosystems for Improved Adaptation to Climate Change as a Contribution to the Coral Triangle Initiative

(ACCCoast Project) in Misamis Oriental Province; the Camiguin Coastal Resources Management Project (CCRMP) in Camiguin Province; and Capturing Coral Reef and Related Ecosystem Services (CCRES) in El Nido, Palawan.

Four main data gathering methods were employed: a) a desk review to gather detailed information on the project; b) customizing the survey questionnaires and routing them to the DENR regional and field offices prior to the conduct of the actual field surveys; c) conducting key informant interviews with officials of DENR Regional and Field Offices, project managers and coordinators, provincial and municipal government officers, and concerned organizations (e.g., NGOs, academic institutions, private sector) directly involved in project implementation in their respective areas of jurisdiction; and d) holding FGDs for selected communities and project beneficiaries and their community-based organizations (CBOs).

Questions in the survey measured such parameters as familiarity with and engagement in project implementation, institutional arrangements, capacity development, health and resiliency of coastal habitats and MPA management effectiveness, knowledge management and information, education, and communication (IEC), livelihood development, monitoring, evaluation, and reporting, and overall assessment. The questions were designed to capture the projects' relevance to and coherence with the target beneficiaries' priorities, the effectiveness and efficiency of the projects in achieving their stated goals and objectives, and the sustainability measures that were put in place, including the impacts.

The results of the field validation underscored the importance of establishing baseline data and information to measuring project performance,

outcomes, and impacts, and improving the reporting processes to minimize informational gaps that would hinder future monitoring and evaluation efforts. The engagement of DENR regional and field offices in project planning, implementation, monitoring, and reporting was also recommended to ensure better project coordination and a greater sense of ownership; that project outputs and tools are integrated and used; that capacity, knowledge, and consequently, confidence is built among DENR regional and field offices to better support stakeholders; and that there is greater access to the knowledge products generated by the projects.

The study further recommended the following: a) an improved mechanism for DENR's Foreign-Assisted and Special Projects Service (FASPS) to organize project outputs in one platform to serve as a "one-stop-shop" for knowledge products and materials; b) institutionalizing the monitoring systems to sustain project investments; c) conducting a post-project evaluation at least three years after completion to determine the sustainability of project interventions and impacts on the beneficiaries; d) developing a capacity development strategy and plan to strengthen monitoring and evaluation; e) pilot-testing the evaluation framework and indicators at various levels of implementation to consolidate and reduce duplication of efforts; f) utilizing existing platforms like the Philippine Clearing House Mechanism for data and information management; g) mainstreaming gender equality and social inclusion in project planning, implementation, and reporting; and h) tapping into existing reporting systems, such as the State of the Coasts, as a tool to support policy and decision making.

Connecting and Empowering: The PEMSEA Networks

The 2022 PNLG Forum

The 2022 PEMSEA Network of Local Governments (PNLG) Forum was held on October 25–28 in Tangerang Regency, Indonesia. It was hosted by the local government of Tangerang, and co-organized by the Ministry of Environment and Forestry (MoEF) of Indonesia, the Center for Coastal and Marine Resources Studies (CCMRS) of IPB University of Indonesia, the PNLG Secretariat, and the PEMSEA Resource Facility. The forum had the theme “Strengthening Coastal Resilience Towards Sustainable Local Blue Economies,” and was attended by local government and other stakeholders from 11 countries: Indonesia, Vietnam, Malaysia, Japan, South Korea, Cambodia, Thailand, Myanmar, China, the Philippines, and Timor-Leste.

The forum highlights included an opening session and keynote message from H.E. Siti Nurbaya Bakar, Minister of Environment and Forestry, Indonesia; a welcome speech by Mayor of Tangerang Mr. Ahmed Zaky Iskandar; and the PNLG Assembly, where the work achievement report 2022 and work plan and budget for year 2023 were presented by PNLG Deputy Secretary General Dr. Fang Qinhua. The Tangerang Initiative was also launched, it is a joint commitment of all delegates in realizing sustainable coastal development by encouraging ecological and socio-economic resilience in coastal areas.

The forum featured two side events: the Integrated Coastal Management (ICM) Forum, which discussed ICM as a framework for strengthening coastal resilience for sustainable blue economies, as well as best practices for implementing nature-based solutions in the East Asian Seas Region; and ICM knowledge sharing by experts and practitioners from each country on tools, approaches, and good practices in partnership and governance, environment and ecosystem health, and knowledge management. Field visits were made to see good examples of coastal ecosystem restoration and development in Ketapang Urban Aquaculture (KUA), and a coastal development city showcasing coastal urban infrastructure development in Pantai Indah Kosambi (PIK 3).





Highlights of the 2022 PNLG Forum that was held in Tangerang Regency, Indonesia on 25-26 October 2022. (Photos by Tangerang Regency)

Delegates learned valuable lessons from some key messages. Holding a local government forum to discuss vital issues on climate adaptation and mitigation affirmed PNLG's commitment to align with globally agreed actions on climate change adaptation and mitigation, ensuring that coastal cities, municipalities, and provinces became aware of climate change threats, and were ready to mitigate or adapt to such threats.

Within the PNLG, political, socio-economic, and cultural backgrounds may vary, but there is a coming together to share, discuss, and learn from practical experiences and from each other in the pursuit of sustainable coastal and marine development.

Policies on blue economy and integrated ocean management should be pursued, alongside capacity improvement, innovative technologies, laws, plans for economic growth, job creation, more equitable wages and incomes, financial viability, environmental and ecological sustainability, and natural hazard and climate resiliency. Among these essential coastal ecosystems that strengthen the country's coastal resiliency are mangroves, since they provide vital ecosystem services to local communities and to the global population. The local government has an important role in environmental management. Regulations, incentives, institutional building, stakeholder participation, research and capacity development, and financing mechanisms in key environmental service sectors, such as in biodiversity conservation, solid waste

management, and wastewater treatment, allow for further investments to ensure not only healthy and sustainable oceans, but also a sustainable and resilient ocean economy.

The Tangerang Initiative was launched as a joint commitment among delegations, an inclusive and collaborative initiative for strengthening the resilience of coastal areas in the EAS through the application of ICM. Despite post-pandemic realities such as climate change and economic difficulties in the wake of the Ukraine–Russia war, PNLG members recognize the importance of coastal and marine resources and agreed to continue to develop, maintain, and share knowledge on ICM through four strategic action plans: increasing the effectiveness of coastal and marine governance, improving the health of the region's ocean through ICM scaling up, improving the health of people, and advancing the health and inclusiveness of economies.

Recognizing ICM Systems

PEMSEA evaluates the performance of the ICM systems of local governments using the ICM Code, a standard for an integrated management system that results in improved performance in governance and sustainable development and management of coastal and marine resources. The code encapsulates good governance practices in crafting long-term vision and strategy and implementation plans, coordinating mechanisms and supporting

legislations, and enabling conditions for public awareness, capacity building, and sustainable financing. The ICM Code also covers the development and implementation of management programs addressing priority issues on climate change and hazard prevention, habitat protection and restoration, water use and supply, food security and livelihood, and pollution and waste reduction.

The PEMSEA-ICM Code was developed conforming to two internationally recognized standards, ISO 9001 (Quality Management) and ISO 14001 Environmental Management.

Established in 2015, the ICM System Certification formally evaluates and confirms if a local government’s ICM system is consistent with the Code.

Local governments have certainly benefited from the ICM System Certification. There is improvement in the credibility and image of a certified local government, as the system is based on best practices in ICM and international standards for quality management and environmental management systems. The confidence of citizens, stakeholders, funding agencies, and local governments is markedly increased, helping leaders to move forward, establish new sites, and improve existing ones. The system also drives local governments to push for better outcomes, as not only compliance, but performance and impact are measured. Thus, PEMSEA is encouraging more local governments to pursue ICM certification, and encouraging those already certified to pursue higher levels.

The ICM System Certification has three levels to encourage local governments to continually progress:

Level 1: Proficient ICM Governance Level

The system is developed and implemented compliant with the Level 1 requirements of the ICM Code.

Level 2: Effective ICM System Level

There is significant progress in building processes, and demonstrated environmental benefits in priority areas.

Level 3: Blue Economy Level

Local government has reached a high level of excellence in ICM with sustainable development benefits demonstrated, maintained, and continually improved.

After the assessments conducted by PRF in September and October 2022, certifications were issued to local governments. Tangerang Regency, Indonesia received an ICM System Level 1 Certification after demonstrating an established and operational ICM system, along with ongoing projects addressing sustainable habitat protection for mangroves as well as tourism development.

The ICM System Level 2 Certifications were given to the province of Guimaras, Philippines; Preah Sihanouk, Cambodia; and the city of Danang, Viet Nam. ICM systems in these sites have been institutionalized and integrated into the main functions of their respective local governments.

Sustainable development programs and good practices have also led to specific improvements: habitat protection and restoration management, water use and pollution reduction, and waste management in Guimaras; habitat protection and

restoration management, tourism and livelihood, pollution and waste management, and beach management in Preah Sihanouk; and tourism, livelihood, and oil spill and disaster risk response in Danang.

Welcoming New PNLG Members

The PNLG welcomed the province of Gorontalo, Indonesia as the network's 53rd member, and the National Ocean Technology Center (NOTC) of the Ministry of Natural Resources, China as the fourth associate member.

The Gorontalo Province, in the northern part of Indonesia and the smallest region of Sulawesi Island, has 903.7 kilometers of coastline, and is composed of 127 islands. Surrounded by deep waters, the province sits at the center of the Coral Triangle, with abundant coral reefs and remarkable biodiversity. A Marine Coastal Resource Management (MCRM) Project under the Fisheries Ministry was carried out in 2002–2006, as an initial foray into ICM. The Project has since compiled several ICM planning documents and conducted various coastal community empowerment programs.

The Gorontalo Province has made progress in ICM through the compilation of draft SOC baseline

reports, the rehabilitation of mangrove ecosystems, coral reef transplantation, and capacity building for local communities.

Founded in 1965, the NOTC of the Ministry of Natural Resources, China guides national marine technology development, provides technical support for national marine natural resources management, marine public service, and marine security, and leads technological innovations in the field.

It has created and implemented marine spatial planning and marine functional zoning, formulated management as well as marine renewable energy technology, and conducted marine resources investigation, monitoring, and evaluation. The center has also carried out research on marine technology development strategy and planning, and has thus accumulated much information and experience in the pursuit of its mission, which aligns with that of the PNLG.

Operationalizing the PNLC Charter

The Charter of the PNLC was signed in 2021 in Preah Sihanouk, Thailand marking the network's vision to build a system of recognized academic and research institutions dedicated to supporting the implementation of the SDS-SEA and other commitments at the global and regional levels. Its mission is to serve as a collaborative network of PEMSEA Learning Centers and regional centers of excellence (RCOE) which provide technical assistance and capacity-building opportunities.

Such support comes in the form of information exchange and development among learning centers and ICM sites via the SEAKB; the development of new ICM and IRBM sites in the EAS region; and bringing members together for educational, research, and networking efforts.

In 2022, the network operationalized the PNLC Charter and Code of Conduct, upholding the principles of due diligence, objectivity, cooperation, impartiality, social inclusion, integrity, truthfulness, data transparency, professionalism, a conducive learning and work environment, environmental sustainability, financial prudence, and accountability.

In 2022, PNLC members included 17 learning centers, and four RCOEs across nine countries. The network has begun implementation of the Operational Plan for 2022–2027, which builds on previous regional commitments and conventions

such as the SDS-SEA IPs of 2018–2022 and 2023–2027, the UN SDGs, the Aichi Biodiversity Targets, the Paris Agreement, the Glasgow Climate Pact, and the UN Decade of Ocean Science for Sustainable Development. The plan's target outcomes are the maximized engagement of regional knowledge hubs for ocean and coasts, such as the SEAKB; implementation of the ICM approach and reviews of its effectiveness; and using research-based scientific data, tools, and methodologies in support of SDS-SEA implementation.

The operational plan has three components: governance, covering relevant management structures and policies; programs, ICM certification, and projects that support ICM and the SDS-SEA, along with capacity development and knowledge sharing initiatives; and communications through the SEAKB and the PNLC. A fourth component, partnerships and resource mobilization, will be implemented in 2023, and involves learning centers and RCOEs as well as financial landscape assessments.

PNLC also elected its new officers, led by Dr. Yonvitner, Director of the Center for Coastal and Marine Resources Studies, IPB University, Indonesia, as the new president, and Dr. Fang Qinhua, Deputy Director of the Coastal and Ocean Management Institute, Xiamen University, China and concurrent Deputy Secretary General of the PNLC Secretariat, as the new Vice President.



Dr. Yonvitner



Dr. Fang Qinhua

PNLC Officers (2022-2024)

President: Dr. Yonvitner received his Ph.D in Coastal Resources Management, Master of Science degree in Natural Resources Management and Environment, and Bachelor's degree in Aquatic Resource Management, all from IPB University. He received his postdoctoral degree from Universitat de Girona in Spain. Dr. Yonvitner's work at IPB University has covered disaster studies and management, agro-maritime issues, collaboration, student and alumni affairs, and concerns of the Rector's Office. He has served on several Indonesian national and subnational working groups, associations, and programs on ICM, fisheries management, ecolabeling, mangroves, and maritime investments, and he has conducted research on marine pollution, fisheries, population dynamics, and coastal and marine resource management.

Vice President: Dr. Fang Qinhua has Ph.D and post-doctoral degrees in Marine Affairs from Xiamen University, was a visiting scholar at the Center for Ocean Policy of the University of Delaware in the United States, and is a visiting fellow at PEMSEA. He has also worked on various national and subnational and research projects on environmental impact assessment, marine science and policy, ecosystem service assessment, marine spatial planning, and environmental systems assessment.

On 14 September 2022, PEMSEA held a virtual ceremony to induct the State Key Laboratory of Marine Pollution (SKLMP) consortium as a PEMSEA RCOE, after it had been redesignated during the 14th EAS PC Meeting on 27 July. PEMSEA and SKLMP have been working together since 2004, and the collaboration was made official when the consortium, then known as the Centre for Marine Environmental Research and Innovative Technology (MERIT), was designated as the first RCOE, focused on marine pollution research, innovation, and capacity building, in 2008. The SKLMP consortium was established in 2010 under the leadership of the City University of Hong Kong.

At the 29th EC Meeting of PEMSEA on 29 November, two new PNLC learning centers in the Philippines were added to the roster. Catanduanes State University (CatSU) is a center of higher learning in Catanduanes Province which works in, among other fields, natural resource assessment and ecosystem restoration, specifically of coral reefs and mangroves. De La Salle University–Dasmariñas (DLSU-D) in Cavite Province is a renowned institution for studies in biology, chemistry, environmental planning, modeling and monitoring, environmental impact assessment, and pollution control, among many others.

Engaging the Youth

A second “**EAS Futures: Youth and the Oceans 2022 Youth Video Competition**” was launched in June 2022, after a successful first run in 2021. With video serving as a compelling medium for story-telling and sharing lessons, the competition sought to use it to elicit the perspective of young people on the oceans and marine sustainability.

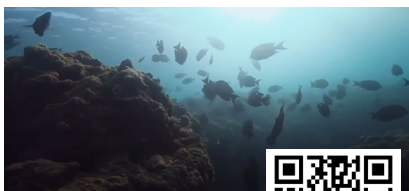
Information on the competition was disseminated through the PEMSEA website, newsletters, social media, and networks of government agencies, schools, forums, youth organizations, and NGOs. Two PEMSEA staff members and two external parties served as judges.



▶ WATCH VIDEO



In first place was ***Planting a Forest*** in the Ocean by David M. Agustin, which focused on the Bakhawan Eco-Park in Kalibo, Aklan in the Philippines. It was established in the 1990s as a showcase of the urgency to protect, conserve, and sustainably manage mangrove ecosystems, which are critical to climate regulation, disaster risk reduction, and food security in communities. This becomes more important in light of the fact that between 90 and 251 square kilometers of mangrove forest are lost each year.



▶ WATCH VIDEO



In second place was ***Shaped by the Sea*** by Celestine Noelle Robles, Arsen Carl Vargas, Aryanne Dale Malanguis, Beatrix Deanne Saul, and Ellie Czar Baltar, which examined how the establishment of the Bugnayan Point Marine Sanctuary in San Joaquin, Iloilo in the Philippines five years ago actually helped protect barangays like Lawigan and Igcadlum from the ravages of Typhoon Odette (international name Rai) in December 2021. The filmmakers showed more benefits provided by the sanctuary, and underscored the importance of establishing more marine protected areas



▶ WATCH VIDEO



In third place was ***I'm Ocean*** by Koh Yong Qi, Ong Ai Jia, and Yeong Kai Ni. The young filmmakers depicted the ocean as a beautiful girl, and her voice encouraged everyone to take better care of her.

Reaching Farther: PRF in Global and Regional Arenas

As a driving force in sustainable coastal and marine development in the East Asia Seas, PEMSEA and its representatives have consistently engaged in high level events at the global and regional levels to share developments in PEMSEA's work through various modalities. These included participation in international policy discourses, serving as keynote or resource speakers and panelists, and showcasing the work of the partnership through different platforms of knowledge sharing.



On Climate Change

- Organized a virtual pavilion highlighting the role of the EAS in coping with climate change through cooperation at the Sharm El-Sheikh Climate Change Conference (COP-27)
- Organized the East Asia Seas Roundtable Dialogue on ocean-climate nexus during World Ocean Day to help inform the global ocean-climate dialogue as mandated by the Paris Agreement, the Glasgow Pact, and the Sharm El-Sheikh Implementation Plan
- Speaker during the International Conference Towards Net Zero Emissions: Policy and Practice, which addressed the problem of climate change in the maritime transport sector in the EAS, and shared research and expertise toward a net zero emissions target while pursuing sustainable economic development
- Speaker during the IMO-Norway Green Voyage 2050 2nd National Stakeholders Roundtable, which identified opportunities and partners for low- and zero-carbon demonstration projects in Malaysia
- Speaker during the Adaptation Research Alliance (ARA) Microgrant Asia-Pacific Workshop, where microgrant project teams from the region shared experiences in local, indigenous, and experimental knowledge, and adaptation research, policies, planning, and knowledge in the light of climate change adaptation
- Speaker during the 13th ASEAN Insurance Congress 2022, where the impacts of climate change and recommendations on the role the regional insurance industry can play were highlighted.



On Building Blue Economy

- Disseminated a position statement on the importance of ICM to operationalize the Kunming-Montreal Global Biodiversity Framework at the Convention on Biological Diversity COP-15, which was pushed by China and the Philippines and supported by other countries during the technical negotiations.
- Panelist for the session on “Setting the Foundation for Ocean Finance” in the Asian Development Bank Healthy Oceans Tech & Finance Forum, discussing shared innovation, technology, and financing needs and solutions for ocean health and transitioning into sustainable blue economies
- Keynote speaker at the 4th Oceans Forum, a global platform to share experiences and explore options towards the trade targets of SDG 14 (Life Below Water), with emphasis on post-COVID-19 recovery and resilience
- Participated in the 3rd G20 (Group of 20) Development Working Group (DWG) Meeting side event on “Blue Carbon: Enabling Conservation and Financial Capital” on 8 August, supporting the G20 objective to contribute to UN SDG achievement and adopt sustainable energy
- Supported the nationwide roll-out of the Philippines’ Department of Environment and Natural Resources–Biodiversity Management Bureau (DENR-BMB) Technical Bulletin on Mainstreaming the

ICM Approach into the Local Government Units’ Comprehensive Land Use Plan (CLUP) as resource speaker delving into ICM implementation practices in the Philippines.

- Speaker at the ICM Knowledge Sharing session on Environment and Ecosystem Health, focusing on “Transboundary issues in coastal and ocean management in Arafura and Timor Seas,” during the PEMSEA Network of Local Governments (PNLG) Forum.



On Marine Spatial Planning

- Discussed marine spatial planning and blue economy developments in the EAS region during the Virtual Marine Spatial Planning Seminar on Enhancing the Area of Ocean Governance of the EU Strategy for Cooperation in the Indo-Pacific through Dialogue
- Panelist and speaker at the 3rd International Conference on Marine/ Maritime Spatial Planning (MSP), to assess the implementation of MSP in line with the MSP Roadmap priority areas and target to cover at least a third of global maritime areas with marine spatial plans by 2030
- Speaker at the Regional MSP Forum: Accelerating Marine Spatial Planning in the Western Pacific to gathered MSP stakeholders in the region to share learnings from the earlier Conference on Marine/Maritime Spatial Planning, review national and regional milestones,

and seek better mutual understanding of marine spatial planning processes

- Speaker on “Transboundary Cooperation: Update from the Arafura and Timor Seas” at the 5th International Forum on Marine/ Maritime Spatial Planning (MSP Forum) and 3rd MSP Conference



On Coastal and Marine Governance

- Speaker during the World Ocean Day Dialogue on Ocean Governance, discussing PEMSEA’s regional cooperation initiatives in the EAS region
- Speaker at the Integrated Network-based Management of the Coasts of Southeast Asia (InMSEA) Project Kick-off Workshop on 29 June, which introduced InMSEA, an international collaborative consortium among Japan, the Philippines, the UK, Malaysia, and Indonesia under the Science, Technology, and Action Nexus for Development (STAND) Program
- Speaker region during the International Webinar on “Local Knowledge for Regional Development and Solutions to a Global Problem: Building Capacity for Reducing Plastic Pollution in the ASEAN Region,” discussing PEMSEA collaborations and regional cooperation in the EAS
- Opening speaker for the World Ocean Week in Xiamen, China, a response to the United Nations Ocean Sustainable Development Initiative, and focusing on innovation-based blue actions and international cooperation
- Speaker discussing the SDS-SEA during the international webinar on Developing a Safe, Secure and Sustainable Maritime Sector
- Shared PEMSEA’s experience in cooperation and communication with China and island countries during the China-Island Countries High Level Forum on Ocean Cooperation
- Keynote speaker at the Qingdao Forum, which serves as a platform for international cooperation and exchanges in the marine field
- Speaker during the China-Island High-Level Forum on Ocean Cooperation, held 30 November
- Speaker during the UN Economic and Social Commission for Asia and the Pacific’s (ESCAP) Seventh Session of the Committee on Environment and Development, with the theme “Protecting our Planet through Regional Cooperation and Solidarity in Asia and the Pacific”
- Discussed collaborative work undertaken and to be undertaken with the RPOA-IUU Secretariat at the 15th RPOA-IUU Coordination Committee Meeting.
- Participated in the 2nd Annual World Ocean Summit Asia- Pacific and discussed sustainable ocean economies, marine pollution and plastics and chemicals in the ocean.



On Marine and Maritime Cooperation Approaches

- Speaker at the ADB Innovations Seminar on Green Ports, Shipping, and Maritime Decarbonization for ADB partner countries and experts
- Speaker at the Regional Consultation Forum on the Development of a Science-based Decision Support System for Coastal and Marine Environment in the ASEAN Region, for technical discussions among ASEAN Member States and experts on coastal and marine biodiversity data management
- Discussed the Regional State of the Oceans and Coasts Report at the East Asia Summit Workshop on Maritime Cooperation: Technical and Scientific Cooperation Towards Clean, Healthy, and Sustainable Oceans
- Shared updates on PEMSEA's involvement in maritime issues in the EAS region at the Marine Environment Protection of the South-East Asian Seas (MEPSEAS) Third High-Level Regional Meeting



On Marine Pollution

- Participated in the G20 Summit Talk Show on Circular Economy of Plastic to Prevent Marine Litter on 26 August, organized by the Center for Southeast

Asian Studies (CSEAS) and focusing on policies and approaches of both the EU and Indonesia on the circular economy of plastics



On Marine Environmental Protection

- Participated in the Limited Coordination Meeting to follow up on Indonesia's initiation in establishing the Regional Convention on the Protection of the Marine Environment and the Coastal Region in the Arafura and Timor Sea
- Shared outcomes of ATSEA-2 efforts at the Virtual Coral Triangle Initiative MPA Working Group Meeting on 7 September, hosted and organized by the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF) and moving forward from recommendations of the 16th Senior Officials Meeting of CTI, and from MPA progress in the CT



On Building Coastal Resilience

- Resource speaker during the Virtual Focus Group Discussion on Maritime Security Study Program, discussing approaches to developing resilience in coastal communities for a more effective maritime security environment

On Public Sector Engagement

- Discussed ATSEA-2 initiatives as speaker to graduating college students interested in marine environmental management and protection at the Virtual Marine Career Talk 2022 of the Mahasiswa IPB University
- Supported Indonesia's Ministry of National Development Planning to evaluate development work in the marine and fisheries sector at the FGD on Strategic Issues for Indonesia's National Long-Term Planning 2025–2045 and Mid-Term Planning 2025–2029 for the Marine Sector



Charting the Blue Frontier: PEMSEA in the Next Five Years

Looking ahead, the next five years present considerable opportunities for PEMSEA to implement integrated management approaches, from integrated river basin management and intermodal transport to reduce greenhouse gas emissions, to integrated solid waste management and expanding area-based management (integrated coastal management, marine spatial planning), as tools to effectively manage large marine ecosystems and create a regional governance mechanism for the Arafura Timor Seas, following the development and subsequent approval of their regional strategic action plan.

The SDS–SEA IP 2023–2027 will now also serve as a blueprint for PEMSEA as it pursues its vision of healthy ocean, healthy people, and healthy economies, anchored on effective governance, in the next five years.

These initiatives will provide opportunities to strengthen partnerships with local governments and learning centers, leverage private sector financing, and mainstream gender equality and social inclusion, while supporting the UN SDGs, the Montreal-Kunming Global Biodiversity Framework, the Sharm El-Sheikh Implementation Plan, and other biodiversity conservation, climate change adaptation and mitigation, and international and regional commitments of PEMSEA country partners in the region.

In order to ensure PEMSEA's institutional sustainability and make sure the organization is "fit for purpose" in the post-pandemic era, it has also embarked on a review of its Rules of Governance and Quality Management Standards.

The continued engagement of partners and stakeholders with PEMSEA in building a sustainable, resilient, and inclusive ocean economy in the EAS region is very much appreciated. Interested parties can be updated on PEMSEA's latest news and discussions by following us on social media.

Here is the status of ongoing and upcoming projects based on areas of focus for PEMSEA, as of December 2022:

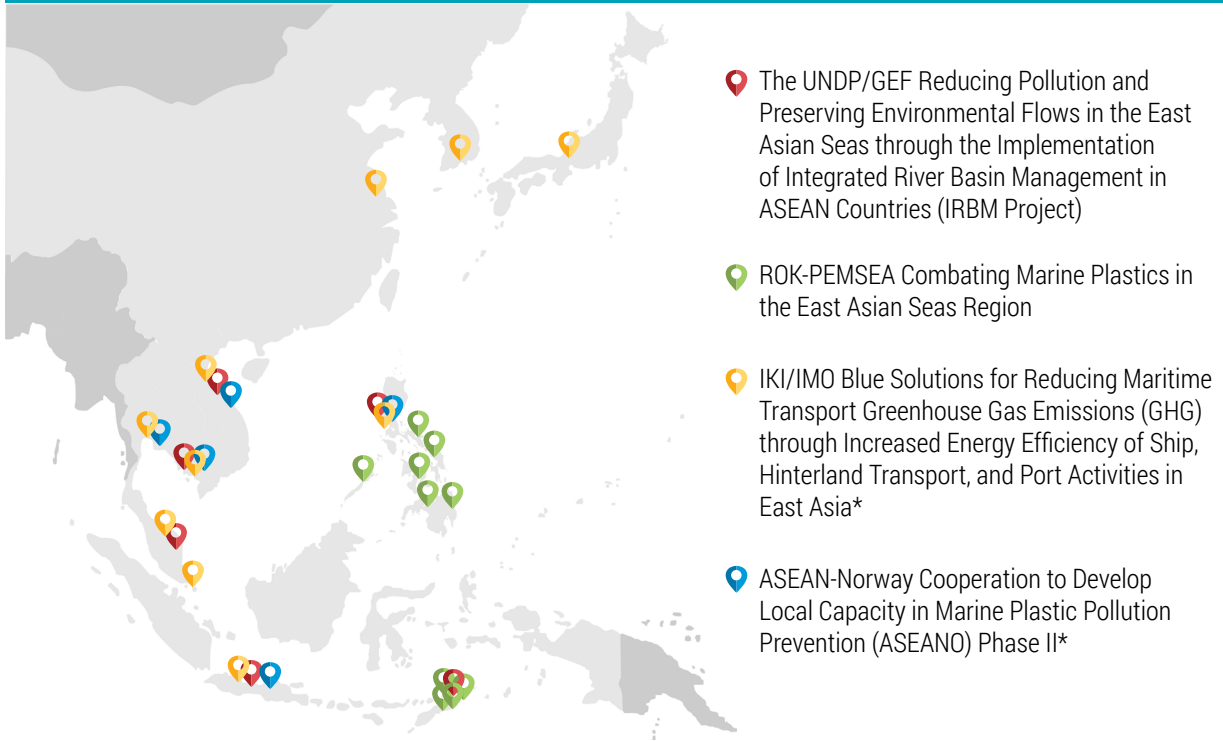
On applying the source-to-sea concept in East Asia: The UNDP/GEF Reducing Pollution and Preserving Environmental Flows in the East Asian Seas through the Implementation of Integrated River Basin Management in ASEAN Countries (IRBM Project) is a five-year project (2023-2027) with a goal of establishing functional IRBM mechanisms in priority river basins and sub-basins in the six ASEAN member states (AMS), i.e., Cambodia, Indonesia, Lao PDR, Malaysia, the Philippines, and Viet Nam, to reduce pollution, sustain freshwater environmental flows, and adapt to climate change vulnerabilities. The project is designed to improve governance and management arrangements in IRBM and accelerate the required changes in the six AMS in support of national priorities

and commitments to global sustainable development targets using the source-to-sea framework. The project has been approved by the GEF Governing Council and will be governed by a Regional Steering Committee, comprised of members of the ASEAN Working Group on Water Resources Management, the ASEAN Secretariat, UNDP, and PEMSEA's Executive Committee.

On promoting the development of national plans of action on plastics in the Philippines and Timor-Leste: Combating Marine Litter in the East Asian Seas Region is a project spearheaded by RO Korea's Ministry of Oceans and Fisheries, with the Korea Marine Environment Management Corporation (KOEM), the Philippines, and Timor-Leste as partners. It will run from 2023 to 2028, with work taking place across 10 sites in the Philippines and Timor-Leste, and the possibility of including more countries in capacity development initiatives. Approval by the National Assembly of RO Korea is being awaited, and development of the full project proposal and country partner engagements will be carried out in 2023.

On integrated maritime transport: IKI/IMO Blue Solutions for Reducing Maritime Transport Greenhouse Gas Emissions (GHG) through Increased Energy Efficiency of Ship, Hinterland Transport, and Port Activities in East Asia is funded by the International Climate Initiative (IKI) of the German Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety. The

Project Sitemap of Ongoing and Upcoming Projects* of PEMSEA (as of December 2022)



project preparation phase was completed in 2022 in partnership with the International Maritime Organization (IMO) and the participating countries, namely Cambodia, Indonesia, Malaysia, the Philippines, Thailand, and Viet Nam, with China, Japan, RO Korea, and Singapore as knowledge partner countries. Set for 2023–2027, the project will aid East and Southeast Asian countries in their transition to a low-carbon future, through the implementation of IMO’s GHG reduction strategy for the shipping sector, development of roadmaps in transitioning to a low carbon future in the maritime sector, demonstration projects of innovative technologies, capacity building, and knowledge management. The project document is currently under review by IKI.

On developing local capacity to reduce marine plastics: The ASEAN-Norway Cooperation to Develop Local Capacity in Marine Plastic Pollution Prevention (ASEANO) Phase II, funded by the Norwegian Agency for Development Cooperation (NORAD), counts as partners the Association for Southeast Asian Nations (ASEAN), the Norwegian Institute for Water Research (NIVA), and the Center for Southeast Asian Studies Indonesia (CSEAS), and is led by the ASEAN Working Group on Coastal and Marine Environment (AWGCME). Country partners are the Philippines, Cambodia, Indonesia, Thailand, and Viet Nam. Set for 2023–2025, the project has been approved by the AWGCME, and is pending NORAD’s evaluation of ASEANO Phase I.

Presenting the PEMSEA family

East Asian Seas (EAS) Partnership Council (PC)

New leaders of the East Asian Seas Partnership Council (EAS PC) were elected during the meeting last 27 July, for terms that will run until 30 July 2025. The Council is the governing body of PEMSEA, and is composed of the Executive Committee, made up of elected Chairs and Co-Chairs and the Executive Director of PEMSEA Resource Facility, and PEMSEA's country and non-country partners.

PEMSEA Executive Committee

Dr. Vann Monyneath

Council Chair, EAS PC

Usec. Jonas Leones

Co-Chair, EAS PC

Ms. Chen Danhong

Chair, Intergovernmental Session, EAS PC

Mr. Le Dai Thang

Co-Chair, Intergovernmental Session, EAS PC

Dr. Keita Furukawa

Chair, Technical Session Chair, EAS PC

Dr. Suk-jae Kwon

Co-Chair, Technical Session, EAS PC



The outgoing PEMSEA Executive Committee members with the incoming EC Chairs and Co-chairs during the 14th EAS PC Meeting (Photo by PEMSEA)

PRF expresses its appreciation to the outgoing Chairs—Mr. Arief Yuwono, Dr. Ca Vu Thanh, and Dr. Jae Ryoung Oh—and hopes for their continued involvement in creating a healthy ocean, people, and economies in the EAS region.

Country Partners



Cambodia

H.E. Thay Chantha, Deputy Secretary General of the National Committee for Cambodian Coastal Management and Development and Concurrent Deputy Director General of the General Directorate of Protected Areas in the Ministry of Environment (MoE)



China

Ms. Chen Danhong, Deputy Director-General, International Cooperation Department, Ministry of Natural Resources



DPR Korea

Mr. Jong Kwang-Jin, Deputy Director-General, General Bureau for Cooperation with International Organizations



Indonesia

Ir. Sigit Reliantoro, Acting Director-General for Environmental Pollution and Damage Control, Ministry of Environment and Forestry



Japan

Mr. Masahiro Iwatsuki, Vice Director-General, Policy Bureau, Ministry of Land, Infrastructure, Transport and Tourism (MLIT)



Lao PDR

Dr. Inthavy Akkharath, Director-General, Department of Water Resources, Ministry of Natural Resources and Environment



Philippines

Atty. Analiza Rebuelta-Teh, Undersecretary for Finance, Information Systems and Climate Change, Department of Environment and Natural Resources



RO Korea

Mr. Kang Jeong-Goo, Director, Marine Environment Policy Division, Marine Policy Office, Ministry of Oceans and Fisheries



Singapore

Mr. Hazri Hassan, Director, International Policy Division, Ministry of Sustainability and the Environment



Timor-Leste

Mr. Acacio Guterres, Director-General of Fishery, Aquaculture and Marine Resources, Ministry of Agriculture and Fisheries



Viet Nam

Ms. Hang Pham Thu, Deputy Director-General, Viet Nam Administration of Seas and Islands (VASI), Ministry of Natural Resources and Environment (MONRE)

Non-Country Partners



ASEAN Centre for Biodiversity (ACB)



Coastal Management Center (CMC)



Conservation International (CI) Philippines Foundation, Inc.



International Center for Environmental Management of Enclosed Coastal Seas (EMECS)



International Ocean Institute (IOI)



Intergovernmental Oceanographic Commission–Sub-Commission for the Western Pacific (IOC-WESTPAC)



International Union for Conservation of Nature and Natural Resources (IUCN)–Asia Regional Office (ARO)



IPIECA



Korea Environment Institute (KEI)



Korea Institute of Ocean Science and Technology (KIOST)



Korea Marine Environment Management Corporation (KOEM)



Korea Maritime Institute (KMI)



Marine Biodiversity Institute of Korea (MABIK)



Norwegian Institute for Water Research (NIVA)



Northwest Pacific Action Plan (NOWPAP)



Ocean Policy Research Institute of the Sasakawa Peace Foundation (OPRI-SPF)



Oil Spill Response Limited (OSRL)



PEMSEA Network of Local Governments for Sustainable Coastal Development (PNLG)



Plymouth Marine Laboratory (PML)



UNDP/GEF Small Grants Programme (SGP)

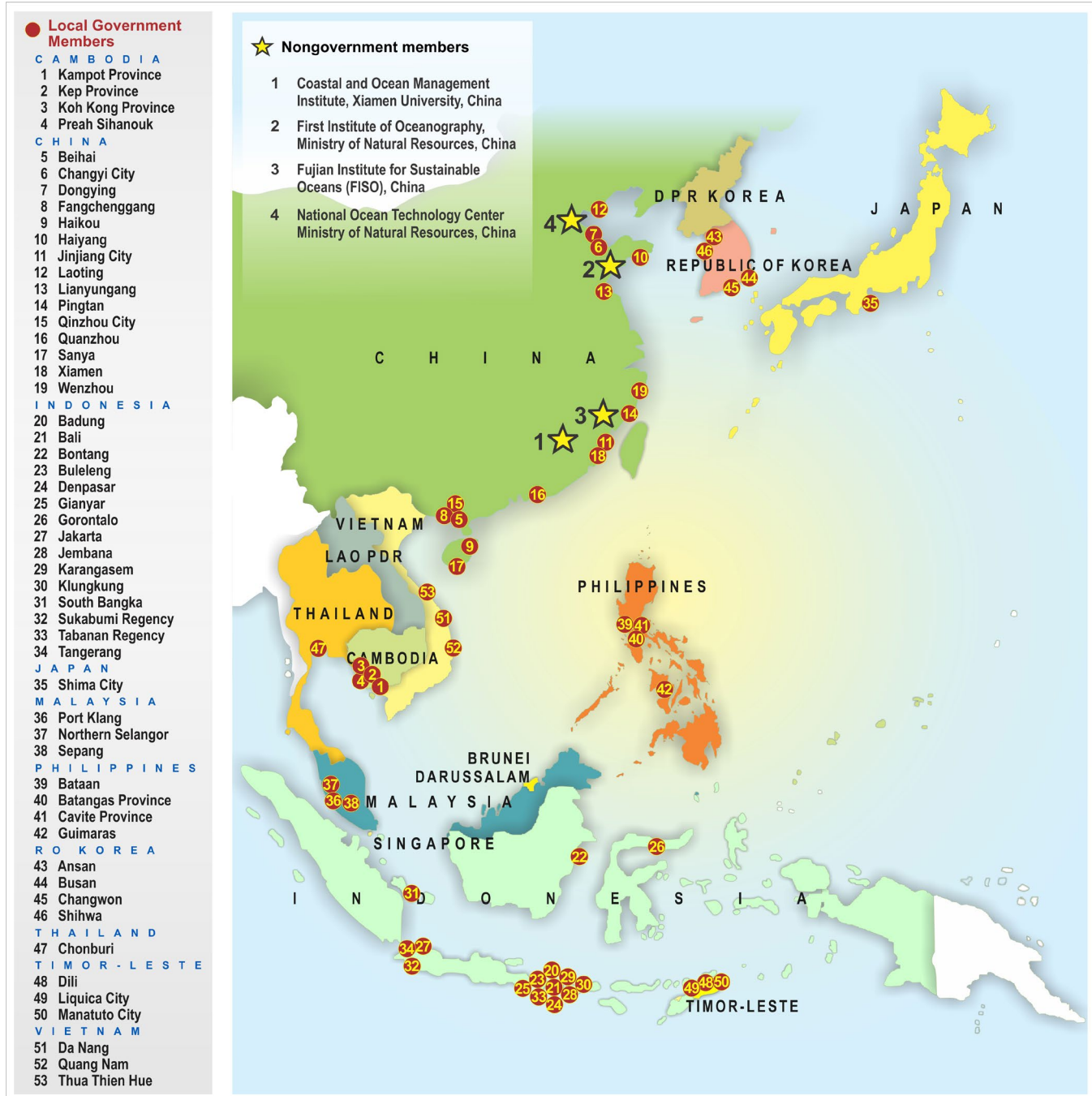


UNEP Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (GPA)

PEMSEA Resource Facility

Gonzales, Aimee	Executive Director
Bacay, Jose Gerald	Administrative Assistant
Bell, Thomas	Programme Manager
Bermas, Nancy	Senior Programme Manager
Bresemann, Nadine	Head of Maritime Transport
Cardinal, Renato	ICM Certification Consultant
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dela Peña, Mary Ann	Finance Specialist
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Gutierrez, Anthony	Driver
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Tania, Casandra	Regional Biodiversity Specialist, ATSEA-2
Tjiptohandono, Dwi Aryo	Communications and Knowledge Management Specialist, ATSEA-2
Triani, Deti	Marine Technical Assistant. ATSEA-2
Yhuanje, Kenneth	National Coordinator (Papua New Guinea component), ATSEA-2

PEMSEA Network of Local Governments (PNLG)



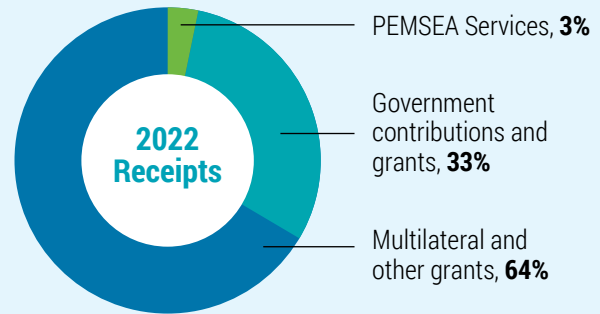
PEMSEA Network of Learning Centers (PNLC)



2022 Financial Performance of PRF

Receipts

In 2022, the PRF had total receipts of USD 2.5M, which was a 25 percent increase from the USD 2M generated in 2021. This was due to additional projects that started in 2022. Multilateral and other grants (USD 1.6M) represented 64 percent of the total receipts in 2022, the bulk of which came from GEF. Grants and contributions from country partners (USD 813.5k) and PEMSEA services (USD 84k) amounted to 33 percent and 3% of the total receipts, respectively.

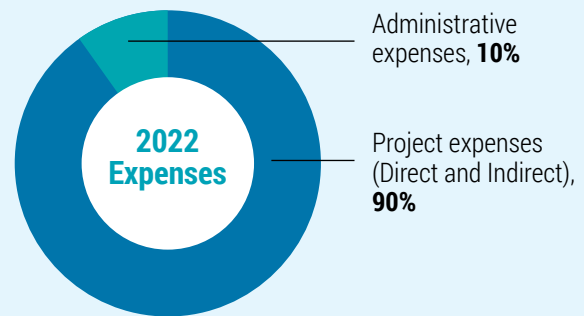


Expenses

Expenses in 2022 totaled USD 2.4M, which gave a 19 percent increase compared to expenses incurred in 2021. The bulk of expenses came from personnel and consultancy services which comprised 54 percent of the total expenses. This was due to projects hiring external services to assist countries on project implementation.

Project Expenses (direct and indirect) amounting to USD 2.2M, composed 90 percent of the total expenses. Out of this, USD 2.1M was attributed to direct project expenses.

Administrative Expenses comprised 10 percent of the total expenses, which was an in-kind contribution provided by the Government of the Philippines through the Department of Environment and Natural Resources for office space and utilities.



Assets

PEMSEA's total asset decreased by 9% of which is mainly attributable to the decrease in Cash and Receivables of 6% and 68%, respectively. The decrease is a result of the full implementation and the conclusion of some projects in 2022.

We remain thankful for our partners' continuing support in working together towards the sustainable development of our shared Seas of East Asia.

* International Financial Reporting Standards (IFRS) require us to record receipts in the year the funds are designated for use.

Statement of Financial Position (in US\$)

ASSETS	31 December	
	2022	2021
CURRENT ASSETS		
Cash	2,966,337	3,172,276
Receivable	34,557	108,289
Total current assets	3,000,893	3,280,565
NON CURRENT ASSETS		
FA at Fair value	56,611	63,752
Property & Equipment - net	5,603	2,244
Other non-current assets	10,493	50,061
Total non-current assets	72,707	116,057
TOTAL ASSETS	3,073,600	3,396,622
LIABILITIES AND FUND BALANCE		
CURRENT LIABILITIES		
Accounts Payable and Accrued Expenses	274,424	306,375
Deferred Grant	1,108,947	1,430,954
Total current liabilities	1,383,371	1,737,329
NON CURRENT LIABILITIES		
Defined contribution liability	141,876	155,520
Retirement benefit obligation	64,855	76,535
Total non-current liabilities	206,731	232,055
TOTAL LIABILITIES	1,590,103	1,969,384
EQUITY		
Fund Balance	1,442,791	1,404,730
Employee benefit reserve	54,529	25,124
Fair value reserve	(13,823)	(2,616)
Total equity	1,483,497	1,427,238
TOTAL LIABILITIES AND EQUITY	3,073,600	3,396,622

Statement of Receipts and Expenses (in US\$)

ASSETS	31 December	
	2022	2021
RECEIPTS		
Government Contributions and grants	813,556	624,356
Multilaterals and other grants	1,611,783	1,342,979
PEMSEA services	84,086	114,097
Others	484	195
TOTAL RECEIPTS	2,509,909	2,081,626
EXPENSES		
DIRECT PROJECT EXPENSES		
Personnel	449,507	688,274
Consultancy	759,891	507,620
Subcontract	527,622	314,947
Travel and meeting	121,986	65,272
Training	199,600	
Other direct costs	57,043	55,945
Total direct project expenses	2,115,649	1,632,058
INDIRECT PROJECT EXPENSES		
Personnel	77,021	117,188
Travel and meeting	4,408	
Depreciation	1,205	
Overhead	17,882	16,315
Total indirect project expenses	100,516	133,503
ADMINISTRATIVE COST		
Personnel	24,706	72,150
Consultancy	20,953	20,228
Travel and meeting		
Depreciation	2,978	
Overhead	211,112	214,386
Total administrative cost	259,749	306,765
TOTAL EXPENSES	2,475,914	2,072,326
EXCESS (DEFICIENCY) OF RECEIPTS OVER EXPENSES	33,995	9,300
OTHER COMPREHENSIVE LOSS		
Items that will not be reclassified subsequently to receipts or expenses		
Remeasurements gain/loss on retirement benefit obligation	29,405	18,547
Fair value loss on FA at FVOCI	(7,141)	(2,762)
TOTAL COMPREHENSIVE INCOME	56,259	25,086

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