



ANNUAL REPORT 2019

GEARING UP

FOR THE NEXT DECADE
OF HEALTHY OCEANS





Photo by PEMSEA/E. Seastres

Gearing Up for the Next Decade of Healthy Oceans: PEMSEA Annual Report 2019

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Photo by the Province of Guimaras, Philippines



A MESSAGE
FROM THE
**COUNCIL
CHAIR**
AND THE
**EXECUTIVE
DIRECTOR**

Dear partners, collaborators and friends,

In many ways, 2019 felt like a fresh start for us at PEMSEA. It was a year of expansion and exciting changes.

We saw our geographic reach go beyond the East Asian Seas to include Australia and Papua New Guinea. We welcomed new collaborators from the transport and maritime industries, while enhancing our work with current country and non-country partners. To address the issues of marine pollution and ocean health, we examined marine pollution issues other than eutrophication, such as microplastics and deoxygenation, more closely. And finally, we welcomed some leadership changes and new staff onboard.

In the past year, concerted efforts to scale up the implementation of the 2018-2022 Sustainable Development Strategy for the Seas of East Asia (SDS-SEA) meant PEMSEA and its partner countries surpassed its integrated coastal management (ICM) targets ahead of schedule. Targeting to achieve at least 25% coverage of the region's coastline by 2021, ICM coverage of the region's coastline is now estimated at 37.9% as of December 2019.

Our work, however, is far from over. The year 2020 has been declared a "Super Year" for the ocean, as growing evidence has shown that the sustainability of our marine ecosystems is inextricably linked to our human health and future prospects.

The next decade has also been declared by the United Nations as the Decade of Ocean Science for Sustainable Development. From 2021 to 2030, PEMSEA is committed to supporting the UN SDGs, the new Biodiversity Conservation Framework and other international and regional commitments. This new decade of action will see the East Asian Seas play a leading role in addressing the issue of marine pollution and venturing into new integrated approaches to promoting ocean health and sustainable blue economies.

One of these approaches is preparing for the upcoming 2021 East Asian Seas (EAS) Congress, which will be held in Sihanoukville, Cambodia on December 1-4, 2021. With the EAS Congress, PEMSEA is looking to move the issues of ocean health linked to human health into the political agenda in the East Asian region with tangible and actionable solutions.

For this, we would like to thank PEMSEA country and non-country partners for the constructive collaboration and commitment to the Partnership so far. We also see that the collaboration has increased significantly in the PEMSEA Network of Local Governments (PNLG), the PEMSEA Network of Learning Centers and PEMSEA Network of Young Leaders. With these, we are confident that we are able to fulfill our mandate to save coastal and marine resources in a sustainable manner in order to help usher socio-economic benefits and well-being to the local communities and peoples in the East Asian Region.

As always, we thank you for your support.

Sincerely,

Arief Yuwono
PEMSEA Council Chair

Aimee T. Gonzales
PEMSEA Executive Director

2019 YEAR IN REVIEW

On the verge of a new decade, PEMSEA's focus for 2019 centered on an expansion of target accomplishments, an expansion of geographic reach and scope, and an expansion on activities that address specific issues relating to marine pollution and ocean health, but always nested within the broader integrated coastal management (ICM) system.

2019 saw PEMSEA surpass its ICM coverage target of 25% throughout the region ahead of schedule under the Da Nang Compact on the Sustainable Development Strategy for the Seas of East Asia 2015.¹ Capacity building efforts across PEMSEA's country and non-country partners were intensified to create bigger impacts. The year also saw some new changes in leadership, and the expansion of our work geographically with a new project including Australia and Papua New Guinea along with country partners Indonesia and Timor-Leste. We also have new partners for grants aimed at pollution reduction and improving solid waste management.

¹ Signed during the Fifth Ministerial Forum on the Sustainable Development Strategy for the Seas of East Asia on 20 November 2015, the Da Nang Compact revisits and reaffirms the regional coastal and marine strategy and the Sustainable Development Strategy for the Seas of East Asia (SDS-SEA), and lays down the post-2015 Strategic Targets of PEMSEA.



Photo by PEMSEA/P. Castillo

In the next few pages, key results related to our preparations for “Gearing up for the Next Decade of Healthy Oceans” in line with the strategic direction set by the UN Decade of Ocean Science, as well as the UN Decade on Ecosystem Restoration, from 2021 to 2030 are presented.

PEMSEA has been consolidating its gains in the past 26 years and implementing newfound initiatives in the region, in accordance with the UN SDGs and other international and regional commitments. This report is a look back on our collaborative efforts for what is quickly shaping up to be a decade of definitive action towards healthy coasts and oceans.

SURPASSING ICM TARGETS IN THE REGION



Efforts to scale up the execution of the 2018-2022 Sustainable Development Strategy for the Seas of East Asia (SDS-SEA) Implementation Plan were in full swing in 2019. Eleven country partners and collaborators, namely Cambodia, China, Indonesia, Japan, Lao PDR, Philippines, RO Korea, Singapore, Timor-Leste, Thailand, and Viet Nam reported on their respective initiatives to implement their integrated coastal management (ICM) programs at both the national and local levels.

Targeting to achieve at least 25% coverage of the region's coastline and contiguous watershed areas through ICM programs by 2021, as agreed in the 5th East Asian Seas Ministerial Declaration or the Da Nang Compact, scaling up ICM aims to: increase the areal extent and resilience of ecosystems in selected priority sites of the 11 partner countries; replicate good practices in the application of ICM tools to new sites; mobilize technical and investment support to scale up ICM implementation on the ground; implement certification programs for local governments, universities and ICM professionals; and catalyze public

and private investments and participation in scaling up the implementation of ICM programs.

As of December 2019, ICM coverage of the region's coastline is now estimated at 37.9%, surpassing PEMSEA's target of 25%, and achieved well before the 2021 deadline.

PEMSEA's focus in the remaining two years of the SDS-SEA's implementation is to ensure that each country fulfills its own targets by the end of 2022 and to keep the progress of their ICM activities on track. More importantly, it is critical that the countries also measure the effectiveness and impacts of their ICM programs over the next two years, as well as validate the coastline coverage that was reported in 2019.

Here's a look at how PEMSEA's partner countries are mainstreaming and scaling up their ICM programs to protect, manage and restore ocean health and productivity. It is heartening to note significant progress on the application and implementation of integrated coastal management programs at the local level, which is crucial to securing our common vision of healthy oceans, peoples and economies.



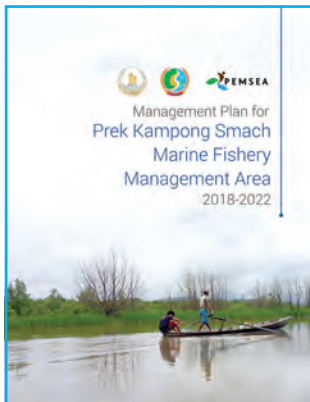
Photo by China PEMSEA Sustainable Coastal Management Cooperation Center (CPC)



Cambodia



Photo by Preah Sihanouk ICM PMO



CM scaling up activities in the provinces of Preah Sihanouk, Kampot, Kep and Koh Kong resulted in 100% ICM coverage of the country's coastline. The country's total coastline of 440 km has been covered by ICM program implementation for strengthened governance and addressing specific management concerns in the coastal and marine areas since 2016.

In 2019, notable achievements at the national level included:

- The completion of a White Paper that provides a review and recommendations for harmonizing national policies and legislation and strengthening of institutional mechanisms for sustainable development and management of coastal and marine areas, and its submission to the government for consideration.
- The completion of the National State of the Coasts report of Cambodia, which is the first report to comprehensively analyze the status and threats of the country's marine and coastal resources and environment, the country's ocean economy, and its initiatives towards developing a blue economy.
- As part of the implementation of the Joint Framework for Oil Spill Contingency and Response, Cambodia has drafted its National Oil Spill Contingency Plan and Guidelines on the Use of Dispersants.

While at the local level, achievements in 2019 included:

- **Preah Sihanouk Province** – As part of the ongoing effort to establish Kampong Smach as a Marine Fishery Management Area (MFMA), the Management Plan for Prek Kampong Smach MFMA (2018-2022) and the Kampong Smach Ecotourism Management Plan (2019-2023) have been finalized and drafted, respectively. In addition, a regulation on illegal settlement and encroachment has been issued, and a Technical Working Group for the implementation of the Kampong Smach MFMA Management Plan and a patrol group that will lead the regular patrolling of the area have been established. Prek Kampong Smach covers 3,400 hectares of mangrove areas and is targeted to be fully designated as a MFMA in early 2020. In terms of pollution reduction and waste management, the Pollution Assessment report for Sihanoukville, which maps out wastewater sources, estimates the pollutant loading in the area as well as provides recommendations for consideration in wastewater planning and management, has been completed. A feasibility study and masterplan for the development of a municipal sewerage/drainage system in Sihanoukville has been developed in collaboration with the Ministry of Public Works and Transport and the Beijing Urban Construction Group, Inc. A study on plastic pollution, including a review of policies and investments on reducing plastic pollution and improving solid waste management, was also conducted with support from RO Korean experts.
- **Kampot Province** – The Coastal Strategy of Kampot Province, a long-term strategy for the sustainable development and management of coastal areas and integrating habitat protection and seagrass management, has been endorsed to the Provincial

Governor for approval. The coastal strategy integrates the implementation of the seagrass conservation area covering 25,000 hectares of seagrass beds in Kampot Province. Under the GEF/UNDP SDS-SEA Scaling Up Project, Kampot Province is identified as the learning site for habitat protection, particularly seagrass management.

- **Kep Province** – Similarly, the Coastal Strategy of Kep Province that integrates disaster risks, climate change and saltwater intrusion has been completed and endorsed to the Provincial Governor for approval. The province identified saltwater intrusion into agricultural fields as one of its priority concerns. The establishment of community-based mangrove protected areas was identified as one of the strategies in addressing saltwater intrusion. As part of this effort, a rapid assessment of the mangrove areas in Angkoul Commune has been conducted. A total of 301 hectares of mangroves in Angkoul Commune (39 hectares in Ampeng Village, 175 hectares in Toul Sangnam Village and 87 hectares in Angkoal Village), which represents 38% of the total mangrove area in Kep Province, had been mapped and will be established as a community-based mangrove protected area.
- **Koh Kong Province** – Solid waste management is one of the identified priority concerns in the province. Like the other coastal provinces, the Coastal Strategy of Koh Kong Province has been developed and presented to the Provincial Council for approval. Consultations with Khemarak Phumin Municipality and the Peam Krasop Community for the implementation of community-based solid waste management, including awareness raising and waste segregation, have been conducted and trash bins have been initially distributed to the community.



Photo by Preah Sihanouk ICM PMO



China



Photo by China PEMSEA Sustainable Coastal Management Cooperation Center (CPC)

Scaled up efforts for ICM implementation in China have resulted in an estimated **32.7% coverage of the country's coastline**. Eight additional new sites under the SDS-SEA Project have brought the total number of ICM sites in China to 22. Of the 22 ICM sites, 10 sites implemented ICM programs addressing specific management concerns.

Notable achievements in 2019 included:

- Chinese tamarix (*Tamarix chinensis*) restoration and rehabilitation guidelines were developed by the First Institute of Oceanography, National Marine Environmental Monitoring Center, and Special Ecological Marine Protected Area Administration Committee of Changyi Province based on their experience in rehabilitating 27 hectares of the northeast portion of Changyi Marine Ecological Special Protected Area with the said plant species with support from the National Restoration Project funded by the State Oceanic Administration. The restoration of Chinese tamarix is one of the key approaches in restoring coastal habitats and the marine environment in the implementation of the 13th Five Year Plan for Economic and Social Development (2016-2020) of the People's Republic of China. The SDS-SEA Project supported the conduct of capacity building, developing technical guidelines for the restoration process, documenting good practices, and assessing the ecological benefits of the restoration.
- Management plans were developed for five marine protected areas in Nanji Islands, Dongying, Quanzhou, Fangchenggang, and Yangjiang, putting 451,782 hectares of coastal and marine waters under protection. The five MPAs demonstrated the following specific approaches for cross-site learning:



Photo by China-PEMSEA Sustainable Coastal Management Cooperation Center (CPC)

- MPA networking in Nanji Islands to enhance connectivity with neighboring MPAs of Ningde, Fujian Province.
- MPA networking in Dongying, linking seven nature reserves focusing on conservation and protection of birds, mollusks, fishes and other key marine species and ecosystems.
- Integrated planning and management of Nanpeng Island Nature Reserve in Yangjiang, covering 11 MPAs for conservation of marine ecosystems, fishery resources and the island ecosystem.
- Implementing sustainable alternative livelihood programs for increased benefits to local communities and conservation of mangrove forests in Fangchenggang, particularly focusing on the replication of an in-situ conservation system in mangrove forests as demonstrated by Guangxi Mangrove Research Center.
- MPA management planning for Quanzhou Bay Estuarine Wetland Nature Reserve.
- Technical guidelines on marine ecological GDP accounting and policy recommendations based on the experiences in Sanya

were developed. The results of the theoretical research and application of marine ecological GDP accounting are expected to provide useful tools for marine management in areas such as assessing environmental performance and liability, marine resource conservation, sea use management and market-based incentives for ecosystem conservation, management and restoration.

- The China-PEMSEA Sustainable Coastal Management Cooperation Center (CPC), which was established in 2014, is playing a key role in coordinating and providing technical support to SDS-SEA/ICM implementation across the 22 ICM sites. PEMSEA's National Focal Point, the International Cooperation Department of the Ministry of Natural Resources, expressed its continuing support to CPC in further strengthening its role in coordinating ocean governance and management training for local governments and other agencies in China. Discussions on extending the Memorandum of Agreement for the continuing operationalization of the CPC beyond the life of the SDS-SEA Project was made at the CPC Executive Committee meeting held in Qingdao on 15 June 2019. This represents a new arrangement for project implementation that can serve as a model for other countries in the region.



Indonesia



An opportunity to scale up and sustain ICM implementation in Indonesia was provided by the harmonized enactment of the country's Law No. 23/2009 on Environmental Protection and Management that promotes environmentally sustainable development; Law No. 27/2007 on Management of Coastal Areas and Small Islands (amended through Law No. 1/2014) that mandates provincial and local governments to prepare ICM strategic plans and coastal use zoning plans; and Law No. 23/2014 on Regional Governance that transferred responsibility for coastal management to the provincial level. This facilitated the preparation of ICM and zoning plans at the provincial level, complemented by environmental management programs at the local levels. **Currently, 24 out of 34 provinces, covering an estimated 52.8% of the country's coastline, have legally adopted ICM zoning plans.**

Under the coordination of the Ministry of Environment and Forestry (MOEF), the SDS-SEA Project continued to support the regencies of Sukabumi, Tangerang and East Lombok; cities of Bontang and Semarang; and Bali Province in implementing their respective ICM programs through local ICM workshops that promoted inter-agency and multi-sectoral coordination and collaborative planning; technical assessments that identified priority areas for management improvement; and linking with provincial offices responsible for marine, coastal and fisheries management. PEMSEA ICM Learning Centers in Bogor Agricultural University, Diponegoro University and Udayana University, in collaboration with Mulawarman University and Mataram University, provided technical and capacity building support to the six project sites.

Following initial support from the project, Bontang City proceeded to collaborate with the Provincial Fisheries Agency of East Kalimantan and the Directorate of Marine Biodiversity



Photo by Tangerang Regency, Indonesia

Conservation of the Ministry of Marine Affairs and Fisheries (MoMAF) in developing the final draft of the Bontang City MPA Management and Zoning Plan. The plan, when adopted, will be implemented by the Provincial Government in collaboration with Bontang City.

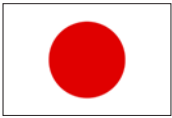
In Tangerang Regency, implementation of the Gerbang Mapan Program or Coastal Community Development Program included mangrove rehabilitation using multi-stakeholder approaches in five priority sites, namely Tanjung Pasir Village, Patramanggala Village, Kohod Village, Ketapang Village and Kronjo Village. In Tanjung Pasir, the Tangerang Mangrove Center (TMC) is being developed for mangrove rehabilitation, conservation and ecotourism in a 168-hectare area through collaboration among local agencies and various partners from the government and private sectors. Development of the TMC is ongoing, including the building of roads, bridges, a food court, floating restaurants and small mosques as well as mangrove planting targeting 400,000 mangroves planted by the end of 2019.

In Semarang Regency, the development of community-based waste management and alternative livelihood programs was initiated in the villages of Tugurejo and Mangkang Kulon in support of Semarang's Clean and Green Program.

In Sukabumi Regency, the development of an integrated environmental monitoring program (IEMP) was initiated to consolidate monitoring efforts of various agencies and institutions and optimize use of results for environmental planning and management.

In July 2019, back-to-back with the hosting of the 11th East Asian Seas Partnership Council Meeting by MOEF and Surabaya City, MOEF also organized a national ICM workshop where academic and practical perspectives on integrated approaches for controlling marine and coastal degradation and pollution at the local, national and regional levels were discussed. In the field visit joined by national and international participants, Surabaya City shared their initiatives on: coastal forest rehabilitation, urban greening and city park development that contributed to reducing flooding and ambient temperature in the city by 2°C; waste management and recycling through the integrated waste recycling center and the bus system that accepts plastic bottles in exchange for tickets; and state-of-the-art command center for various emergencies and public services.

In December 2019, Indonesia's Regional Capacity Center for Clean Seas (RC3S) in Bali also hosted the Asian Regional Data and Information Management Workshop co-organized by PEMSEA and the GEF LME:LEARN.



Japan



Photo by OPRI/K. Furukawa

In 2019, the implementation of the SDS-SEA in Japan focused on ICM scaling-up, blue-carbon application and blue economy demonstration within the framework of integrated river basin and coastal zone management.

At the national level, in line with the cabinet approval of the 3rd Basic Plan of Ocean Policy in 2018 and global agenda (SDGs, Paris Agreement), the following initiatives were implemented:

- Bay Renaissance Projects in Tokyo, Ise, Osaka and Hiroshima Bays are in progress. In Tokyo and Osaka Bays, the second interim assessment for the 2nd Bay Renaissance Plan has been prepared and completed. In Tokyo Bay, a project to create a shallow habitat at the Port of Yokohama and an experiment to create a flounder spawning ground at the Port of Chiba were carried out and backfill was done using the recycled soil of land-based construction. In Hiroshima Bay, a new public-private partnership platform called “Satoumi Net” is being prepared.
- In June 2019, the Cabinet decided on “Japan’s Long-Term Strategy Under the Paris Agreement,” stating that further measures would be implemented for promoting carbon sinks and technological innovation. For blue carbon, it was stated that preservation and restoration of useful aquatic plants nationwide, such as seagrass and seaweed beds, will be pursued in view of their potential in absorbing CO₂ and the development of innovative functional food and new materials using marine resources.

- The Ministry of Land, Infrastructure, Transport and Tourism (MLIT) published a mid-term policy strategy “Port 2030” in 2018 and stated that the implementation of the Blue Carbon Project is one of the possible mitigation measures in the ports and transportation sector, and established in 2019 a study group on the role of blue carbon in mitigating global warming.

At the local level and scientific community level, the implementation of ICM and its scaling-up as an engine for establishing blue economy continues, including the implementation of research projects as presented below:

- OPRI conducted a questionnaire survey in light of the revision of the 2018 Basic Plan on Ocean Policy to identify the public perception on the measures that were indicated in the plan. From the survey, maintaining and conserving the marine environment, which serves as the foundation for blue economy development, was promoted by local government officials, university teachers, and employee groups. Nevertheless, the importance of marine environment conservation was recognized moderately by parliamentarians, research institutions and private companies. On the other hand, it became clear that the promotion of industrial use of the ocean, together with maritime security, was recognized as an important initiative as a whole.
- Comprehensive Assessment and Conservation of Blue Carbon Ecosystems and Their Services in the Coral Triangle (Blue CARES: 2016-2020) has been implemented as an international joint research project under SATREPS (JICA-JST cooperative

project). The project aims to elucidate the blue carbon dynamics and assessment of ecosystem services based on new methodologies and frameworks in the target sites in the Philippines and Indonesia. The project also aims to develop a “Blue Carbon Strategy” for promoting conservation, restoration and creation of blue carbon ecosystems.

- Active efforts are being made to scale up ICM in local areas in Japan.
 - Taketomi-cho, Okinawa Prefecture revised their own Basic Ocean Plan in 2018. In 2019, it launched an initiative to collect entry fees from people visiting Taketomi Island and use the fees for environmental conservation activities.
 - In Bizen City, Okayama Prefecture, the “Satoumi Satoyama Brand Promotion Council with ICM” has been established to certify Satoumi Satoyama brands and to prepare for the establishment of a base facility for field activities, education, networking of seagrass conservation and studies.
 - Oyster farmers in Shizugawa, Miyagi Prefecture, whose farms were devastated by the 2011 tsunami, acquired the Aquaculture Stewardship Council (ASC) certificate in 2018, the first certification given in Japan, with the acknowledgement of their environmentally sound production method. The Shizugawa Bay was designated as a site to be protected under the Ramsar Convention in 2018 in the light of the presence of diverse kelp species and its significant ecosystem services. The OPRI is supporting these efforts as blue economy practices and conducting research activities in several sites as case studies.

Photo by OPRI/K. Furukawa





Lao PDR



Photo by the Department of Water Resources of Lao PDR

Being a landlocked country, the implementation of the SDS-SEA Scaling Up Project in Lao PDR focuses on the demonstration of the integrated river basin management approach.

In 2019, Lao PDR's milestones at the national level included the following:

- Refinement of the draft National Water Resources Management Strategy to 2030, which provides the guiding framework for achieving the triple bottom line of economic, social and environmental outcomes in the implementation of integrated development and management of the country's water resources. The

Strategy supports the implementation of the updated Water and Water Resources Law, the regulatory framework for the development and management of the country's water resources, which was enacted in 2017 by the Legislative Assembly. To further promote the implementation of the updated Water and Water Resources Law, seminar workshops involving the water supply industries and developers and relevant provincial and district government offices in the Sedone River Basin were conducted.

- In support of the implementation of Presidential Decree No. 001 on Natural Resources Fee, a National Guideline for Water Resources Fee has been drafted and refined



Photo by the Department of Water Resources of Lao PDR

based on results of a series of consultations with the water sector and relevant government agencies. The pilot-testing of the implementation of the National Guideline for Water Resources Fee is targeted in 2020 in the Sedone River Basin.

At the local level, the implementation of the GEF/UNDP SDS-SEA Project in the Sedone River Basin has supported the provision of improved access to water in seven priority villages in the provinces of Champasack, Saravan and Sekong. The improved community village water system in Champi Village, Champasack is benefiting 94 households (666 people, 341 of which are female) and covers about 80% of the whole village. While in Nongkok Village, 12

households (71 people, 47 of which are female) and one primary school (57 people, 26 of which are female) are benefiting from the installed deep well. A total of 389 households (2,503 people, 1,266 of which are female) are benefiting from the drilled wells in four villages (Kokmai, Pakpuiy, Phakka and Vangzon) in Saravan Province. In Sekong Province, the water reservoir and piped system that were established in Nongkok Village is currently serving 100% of the village with 127 households (651 people, 223 of which are female). The priority villages for the provision of access to water were identified in the scoping and baseline assessments that were conducted as part of the initial activities for the project.



Philippines



ICM scaling up in the Philippines covered an estimated 26.9% of the country's coastline in 2019. Validation of this ICM coverage was made possible through the conduct of a third-party assessment to independently evaluate the coastal governance performance of 32 coastal provinces (out of 64) using the ICM Code as standard.

Collaboration and partnerships characterized ICM implementation in the Philippines, as exemplified in the following:

- Habitat protection/restoration:
 - Mapping and assessment of coral reefs in Tablas Island, Romblon Province were completed with funding support from the Department of Environment and Natural Resources (DENR) and technical assistance from Romblon State University. The assessment covered 24 sampling sites in nine municipalities covering 1,795 hectares of coral reefs in the island with potential for ecotourism and livelihood development.
 - Coral reef assessment and monitoring of associated reef fishes in Pamanculan and Tumulintinan Point MPAs in Guimaras Province in collaboration with University of the Philippines Visayas showed increased coral cover and fish density inside the core zones of the two MPAs.
- MPA management and networking:
 - Agreement was reached with the Romblon Provincial Government and Bureau of Fisheries and Aquatic Resources to use the results from the application of MPA

Effectiveness Assessment Tool (MEAT) in 38 MPAs/fish sanctuaries in Romblon Province as basis for selection of priority MPAs for the SDS-SEA Project.

- The MPA Network of Batangas Province includes 46 MPAs, essentially protecting 1,969.934 hectares of coastal and marine waters with critical habitats. Agreement with Batangas Province was reached for the SDS-SEA Project to support the biophysical assessment of 25 MPAs that were not covered in the 2018 assessment in collaboration with Malampaya Foundation.
- MEAT and METT assessments for eight MPAs in Guimaras, with assistance from DENR, US Peace Corps Volunteers and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH or GIZ, showed improvements in METT ratings.
- Pollution reduction and waste management: The Joint Cavite Water and Solid Waste Management Summit was conducted on 19-20 November 2019 in collaboration with the Cavite Provincial Government and De La Salle University Dasmariñas. The summit revisited the agreed actions from the 1st and 2nd Water Summits, particularly the commitment of partners in

water conservation and management, as enshrined in the Cavite Water Management Declaration. The 2019 Summit also witnessed the launching of a consortium of 16 academic institutions in Cavite Province to support the province's efforts in water conservation and solid waste management.

- Sustainable fisheries and livelihood development: Socio-demographic profiling and an assessment of anthropogenic activities, the current situation of coastal resources and existing livelihood programs of coastal communities in Macajalar Bay were conducted in coordination with Macajalar Bay Development Alliance. A feasibility study on the development and viability of sustainable and eco-friendly livelihood programs in Laguindingan and Jasaan was also conducted.
- Technical Guidelines on the Application of ICM as a Strategy in the Implementation of Coastal and Marine Ecosystems Management Program (CMEMP), which guide the DENR and its field offices on ICM implementation initially in 33 National Integrated Protected Areas System MPAs nationwide, have provided opportunities to further utilize the ICM framework in biodiversity conservation and protected area management.



Photo by the Province of Guimaras, Philippines

FIRST ENVIRONMENT LABORATORY IN THE PHILIPPINES OPERATED BY A LOCAL GOVERNMENT

When the Province of Batangas in the Philippines established its Integrated Coastal Management Program (ICM) in 1994 aimed at addressing the issues and challenges associated with pollution prevention and management, monitoring data were fragmented and inconsistent based on studies conducted by academic institutions and private entities. Along with the creation of the Provincial Government Environment and Natural Resources Office (PG-ENRO) in 1995, the blueprint for the Batangas Environment Laboratory (BEL) came into fruition. PG-ENRO was able to secure partnerships with various institutions in the implementation of a collaborative water quality monitoring program that started in 1998. BEL was

established with contributions from partner companies, academic and local government institutions, and PEMSEA.

The laboratory is the Philippines' first environmental monitoring laboratory operated by a local government. It provides scientific data on the environmental quality of different water bodies in the province including groundwater resources and services not only for the local government, but private sector clients as well.

In 2004, the province inaugurated the laboratory with upgraded facilities and new capabilities. Subsequently, the Provincial Government approved a PHP 29 million



Photos by PG-ENRO BEL

(US\$ 620,000) budget for a new PG-ENRO building inclusive of a new laboratory. The new lab has rooms for microbiological analysis, air quality analysis, instrumentation for toxic metal and trace organics analysis, a storage area for chemicals, a hot room and a central laboratory where other water analyses can be carried out. The new PG-ENRO building with the new lab was inaugurated in June 2016.

Since 2008, BEL has been continuously aiming to further improve its capacity and sought certification and recognition for its competence in analyzing water and ambient air quality. It operates as a third-party laboratory of the Department of Environment and Natural Resources-Environmental Management Bureau for water and wastewater quality parameters. It also received accreditation from the Department of Health (DOH) for drinking water analysis. In 2014, BEL was awarded the PNS ISO/IEC 17025:2005 Certificate of Accreditation in the field of Chemical Testing. The accreditation recognizes BEL's technical competence for specific tests or measurements for drinking water, sewage, industrial wastes, other waters such as fresh, marine and ground water, and the operation of a laboratory quality management system that meets the principles of ISO 9001:2008.

The PG-ENRO water quality monitoring program now covers Batangas Bay, Calumpang River and Balayan Bay. Additional stations are tested in response to individual requests and complaints of pollution discharges.

BEL's impact on the province included increased awareness on the status of bays and river pollution within Batangas; providing technical assistance to various stakeholders; and helping enforce the Pollution Control Law through effluent quality monitoring.

BEL's evolution over the past two decades has shown that environmental monitoring improves governance and facilitates the crafting of appropriate policy and management interventions. For example, communities have been mobilized to do coastal clean-ups in Batangas in response to high coliform levels in analyzed water samples; and residents were also directed to practice efficient waste management and refrain from using the coastline as a dumping area for household wastes.

In the future, the BEL hopes to expand its services to cover analysis of sediments and biota for food safety, and to utilize the laboratory for the issuance of environmental clearance to all establishments within the province.

PG-ENRO Batangas Environment Laboratory (BEL) Capabilities





RO Korea



Photo by KOEM, RO Korea

As a coastal nation, RO Korea's management of its marine resources is key to a sustainable future. The Republic of Korea has also been carrying out activities in support of the SDS-SEA as follows:

- The issues of marine pollution, marine litter and microplastic pollution are top priority not just in the current global agenda but also in regional issues for the EAS region. ROK has made efforts to manage marine litter and microplastics through life cycle management. In 2019, Korea established the 3rd National Marine Debris Management Plan from 2019 to 2023. In December, an Act on Management of Marine Debris and Marine Pollution Compositing Material was enacted to reinforce the legal basis for managing marine debris. The country also established the National Marine Plastic Reduction Plan in June 2019. It aims to reduce by 50% the current marine plastic waste by 2030.

- In relation to the integrated management of marine space, the First Marine National Spatial Plan (2019-2028) was developed for full-scale integrated management of all areas. A marine regional spatial plan will be developed step by step based on the spatial characteristics of each region.
- To ensure the active management of marine ecosystems and habitats, 21,490 hectares of sea forests were restored in 2019. The Act on Sustainable Management and Restoration of Mudflats was legislated in January 2020 to restore mudflat ecosystems.
- As the world's oceans are all connected and pollutants move with the wind and ocean currents, RO Korea needs to establish global cooperation and pursue joint responses. In collaboration with ROK Non-Country Partners, ROK supported a series of trainings and workshops with PEMSEA: sea water quality analysis and monitoring, international symposium on marine microplastics, expert training workshop on marine debris, and the first workshop of the WESTPAC Ocean Oxygen Network.

Photo by KOEM, RO Korea





Singapore



Photo by MCAP, Singapore

A coastal city-state measuring some 71,920 hectares in area, Singapore's common marine habitats include mangroves, seagrass, coral reefs, mudflats, rocky shores, sandflats and beaches. In line with the SDS-SEA, Singapore focuses on building healthy and resilient marine and coastal ecosystems through the implementation of its Integrated Urban Coastal Management (IUCM), which is based on the Integrated Coastal Management (ICM) framework advocated by PEMSEA and takes into account Singapore's unique urban context.

The IUCM has four guiding principles: (1) proactive planning and management to safeguard Singapore's coastal and marine environment by optimizing the use of coastal resources, including coastal spaces in a sustainable manner; (2) a Whole-of-Government approach to ensure consultative planning and coordination of policies between all stakeholders in coastal and marine land use and planning; (3) active partnerships through community engagement and public awareness programs; and (4) science-based management through research, monitoring, restoration and enhancement programmes to conserve sensitive coastal habitats and their biodiversity and natural resources amidst coastal development.

In 2019, Singapore's initiatives included the following:

- Enhancements to the Maritime Singapore Green Initiative (MSGI), which reduces the environmental impact of shipping and shipping-related activities to promote clean and green shipping, were announced in 2019 to include a new focus on decarbonisation.



Photo by MCAP, Singapore

- Under the MSGI, the Maritime and Port Authority of Singapore (MPA) has supported over 62 vessels and all these have collectively reduced the emission of maritime activities by 177,000 tonnes annually.
- The MPA, Singapore Maritime Institute, and Nanyang Technological University have jointly set up a center of excellence in Maritime Energy and Sustainable Development to carry out R&D in alternative marine energy (e.g., biofuels, hydrogen and electrification) and air emission abatement technologies. The funded projects include “development of sustainable biofuel pathway as low-carbon energy sources alternative to conventional fuels for maritime industry” and “alternative fuels for the shipping industry.”
- Under the International Maritime Organization-Singapore Third Country Training Programme, Singapore supported the following capacity-building courses in 2019:
 - Regional Workshop on the Implementation of the IMO Member State Audit Scheme (IMSAS) held in Singapore from 18 to 22 March 2019
 - Regional Train-the-Trainers Workshop on the delivery of The National Training Course Focused on Implementation of IMO Conventions held in Singapore from 28 to 30 May 2019
 - National Workshop on MARPOL Annex V and Port Reception Facilities (PRFs) held in Manila, Philippines from 23 to 25 October 2019
- To ensure that Singapore’s new port is designed and built to meet the challenges of rising sea levels, the Tuas Port is designed with an operational platform level of about 5 m above Mean Sea Level (MSL) to be resilient against rising sea levels over the next 100 years.
- Prior to commencement of the reclamation works for Tuas Port, key environmental receptors such as corals around Sultan Shoal were protected. In 2019, the coral relocation and monitoring works for Sultan Shoal were completed.



Thailand



Photo by Praparsiri Barnette

Thailand's efforts to scale up ICM implementation was strengthened with the enactment of the Law on Promotion of Marine and Coastal Resources Management (BE 2558/2015), which mandated the establishment of inter-agency and multi-sectoral Provincial Committees for Marine and Coastal Resources Management in all 24 coastal provinces. In support of this law and under its implementing mechanisms, the Department of Marine and Coastal Resources (DMCR), with technical support from PEMSEA ICM Learning Centers in Burapha University and Prince of Songkla University, coordinated the implementation of the SDS-SEA Project to scale up ICM approaches and good practices from Chonburi Province to the provinces of Chantaburi, Rayong and Trat. **The four provinces cover close to 18% of the country's coastline.** Experiences in SDS-SEA/ICM implementation from the four provinces are contributing to discussions on how to enhance the implementation of BE 2558/2015 and contribute to national and regional ICM targets.

In 2019, Thailand's efforts to scale up ICM included:

- approval of SDS-SEA/ICM Project work plans by the Provincial Committees for Marine and Coastal Resources Management in the four provinces;
- establishment of Technical Working Groups (TWG) led by the Vice Governors of the four provinces, and conduct of meetings to guide project implementation and delivery of outputs as well as discuss opportunities and strategies for streamlining ICM plans into government work and budget plans;

- preparation of draft State of the Coasts reports for the four provinces; and
- conduct of baseline and risk/vulnerability assessments and preparation of ICM plans for pilot sites focusing on:
 - **Chonburi:** Coastal erosion management in Saensuk Municipality, integrated land and sea-use planning in Koh Si Chang Municipality, and oil spill preparedness and response and integrated environmental monitoring in Chonburi Province.
 - **Chantaburi:** Habitat rehabilitation and marine resource conservation in the subdistricts of Bangkrachai, Koh Proet, Khlong Kut and Pak Nam Laem Sing.
 - **Rayong:** Integrated solid waste management in the subdistricts of Taphong, Ban Pae and Klang, municipalities of Neung Phra, Muang Rayong and Ban Pae, and Khao Laem

Ya-Mu Ko Samet National Park. Two plans will be prepared to cover adjacent coastal areas near Rayong River (Zone 1) and adjacent coastal areas and part of the national park (Zone 2).

- **Trat:** Sustainable fisheries management in the subdistricts of Mai Rut and Laem Klat.

In line with the updating of the national Oil Spill Contingency Plan (OSCP), the Marine Department provided technical support to the updating of the OSCP of Chonburi. It also agreed to serve as the permanent secretariat for the implementation of the Framework Programme for Joint Oil Spill Preparedness and Response in the Gulf of Thailand (adopted by Cambodia, Thailand and Viet Nam).

Under the coordination of the Port Authority of Thailand, upgrading of the Port Safety Health and Environmental Management System (PSHEMS) in Bangkok Port and Laem Chabang Port (located in Chonburi) was initiated in 2019.



Photo by Praparsiri Barnette



Timor-Leste



Photo by PEMSEA/I. Narcise

CM programs in three municipalities (Dili, Liquiça and Manatuto) cover an estimated 32% of Timor-Leste’s coastline. At the national level, in preparation for the review of the National Oceans Policy (NOP) by the Council of Ministers in early 2020, support for the proposed policy was reinforced through closer coordination of the Ministry of Agriculture and Fisheries (MAF) with key national agencies including the Ministry of Foreign Affairs and Cooperation. Preparation of a five-year Implementation Plan for the NOP was also initiated by the NOP Working Group under the coordination of MAF, with technical support from PEMSEA. As an island-state, the importance of the NOP to Timor-Leste’s development cannot be overemphasized. The policy aims to provide an integrated approach to addressing national marine issues and offers a framework for stakeholders and donors to work together towards common objectives. ICM was specified as one of the strategies for implementing the NOP at the local level. This was demonstrated in Dili, Liquiça and Manatuto with the preparation of long-term coastal strategies and medium-term implementation plans, as well as action plans for selected pilot sites where initial implementation included the following:

- Ma’abat Village, Manatuto: Training on mangrove rehabilitation, mudcrab culture and participatory monitoring of local fisheries in the Lamsana Locally Managed Marine Area in collaboration with Blue Ventures; training on boat engine repair in coordination with MAF; initiation of community-based waste management; and promotion of alternatives to traditional salt-making practices that use firewood to support efforts for improving coastal protection and conservation, capacity for nearshore fisheries, and local livelihoods.

- Vaviquinia Village, Liquiça: Development of a roadside food park aimed at providing alternative livelihood, diversifying income sources, and increasing adaptive capacity of the community to natural hazards that affect their fisheries and agriculture-based livelihood. Building of eight kiosks was initiated in 2019; training on boat engine repair was done in coordination with MAF; coastal reforestation is being done to minimize wave impacts, flooding and coastal erosion; and training on food processing, packaging, marketing and enterprise development are scheduled in 2020.
- Ulmera Village, Liquiça: Establishment of a “Green School” in the Escola Básica Central (EBC) Kasait (Junior High School) incorporating environmental protection and conservation in school activities and curriculum, including planting of at least 100 trees; setting up a vegetable garden to support the school feeding program and train students and their families on farming techniques for infertile and saline soil common in the area; building a fishpond for hydroponic and fish cultivation; and plastic and rubber recycling to construct fish ponds, a platform for school activities, flower gardens, tables and chairs, and classroom walls. The Green School is a program coordinated by the Secretary of State for Environment, implemented in Ulmera in collaboration with local and national governments, with support from PEMSEA, UNESCO, FAO, WaterAid, USAID, and local and international companies based in Ulmera.
- Atauro Island, Dili: Updating of the MPA management effectiveness tracking tool (METT) in the MPA in Maumeta Vila village showed various areas of improvement including the

condition of coastal habitats and fisheries. An action plan was prepared to harmonize efforts among key stakeholders towards further improving the METT rating, including additional capacity building for the village council and MPA management unit, establishment of a community discussion forum, conduct of fish stock assessment to assess and improve the implementation of the fisheries no take zone, and mangrove rehabilitation and natural engineering approaches to prevent coastal erosion. Training on boat engine repair was conducted in coordination with MAF. Atauro Subdistrict has also stepped up efforts on waste collection and recycling to minimize impacts of wastes to the coastal environment. With support from the Oriental University of Timor-Leste (UNITAL), a “Blue School” is also being established with the aim to incorporate coastal conservation and sustainable fisheries into the senior high school curriculum.

The National University of Timor-Leste (UNTL) and UNITAL, both PEMSEA ICM Learning Centers, provided technical, research and capacity building support for the above activities in coordination with MAF, the local governments and ICM Task Teams, and other stakeholders at the national and local levels. In 2019, UNTL signed a MOA with MABIK (Marine Biodiversity Institute of Korea) to establish the MABIK-UNTL Bio-Resources Research Center (MURC). UNITAL conducted trainings on alternative livelihoods in Liquiça, addressing ice-ice disease in seaweeds in Atauro Island, and the application of GIS and remote sensing tools to support coastal use zoning in Manatuto Municipality.

SCHOOLS AND SUSTAINABILITY: THE GREEN SCHOOL PROGRAM

Schools that support sustainability may still be a novel concept, but in Timor-Leste, integrating the importance of environmental conservation and protection into the learning process is already underway. In 2016, the Timor-Leste government started implementing its “Green School Program” to encourage schools to be proactive stewards of the environment and contribute to the sustainable development of local communities.

The program was piloted in two schools in Dili (Junior High School or Escola Básica Central [EBC] Esperança da Pátria and EBC Cristal), and will be replicated in three ICM sites in the country. Initial results from the implementation of the Green School Program were

promising. The schools saw an increase in school cleanliness and conditions; students were more aware and conscious of waste management; and a recycling program became a welcome habit that was integrated into the school’s weekly activities. Every Friday was also designated as a “clean day,” wherein students collect recyclable wastes and turn them into other usable materials.

In June 2019, the Secretary of State for Environment, with support from PEMSEA and other partners, coordinated the launch of another Green School in Liquiça Municipality. The EBC Kasait-Ulmera implemented the following activities: (1) planted 100 trees and various decorative plants on the school



Photos by Mario Cabral, SDS-SEA Project Coordinator



grounds; (2) started a vegetable garden as a training ground for students and their families on farming techniques to cope with infertile and saline soil in the area; (3) demonstrated plastic recycling through the use of repurposed plastic bottles and old tires to build flower gardens, a fish pond, tables and chairs, and to improve air circulation in classrooms (with open-ended bottles replacing some classroom walls); and (4) established a concrete platform for various school activities.

Mr. Geraldo R. Soares, the school's director and principal, said the gardening activities provided opportunities for students and their families to develop their livelihoods, and supported the school's feeding program, which has limited government funding. He added that collaboration with various partners enabled the school to be self-sufficient and not dependent on limited government resources. In addition to support from PEMSEA, they also received support from various organizations to improve the facilities of the green school. These included the concrete platform built with funds from Jonize Construction Unipessoal, LDA (a private company); a water hose from the water source to the vegetable garden provided by UNICEF; water canalization

from TimorAid; trash bins from the Ministry of State Administration; and fish seeds from the Ministry of Agriculture and Fisheries.

However, the Green School still needs additional support, including having student-friendly manuals on good practices for plant cultivation and fisheries (Oriental University of Timor-Leste/UNITAL has pledged to provide the manuals). The school also has limited access to water, and the Secretariat of State for Environment and PEMSEA PMO will help identify potential partners including from the private sector to address this need. The KOICA-funded National Institute of Fisheries and Agriculture in Liquiça is also a potential partner from which the school can request support for equipment and capacity building. They are also getting support from the China Harbor Company for planting trees along the road around the school perimeter.

To maintain the Green School Program activities, the application of Tara Bandu (local customary law) combined with school regulations to achieve cooperation from the students, their parents, and the community is being planned.



Photo by Mario Cabral, SDS-SEA Project Coordinator



Viet Nam



Photo by Danang Agency for Seas and Islands

ICM scaling up in Viet Nam involving 14 coastal provinces (out of 28) covered an estimated 49.2% of the country's coastline. The implementation of the Viet Nam National ICM Strategy to 2020 with Vision to 2030, which was approved by the Prime Minister in 2014, and more recently, the issuance of Resolution 36 by the Party Central Committee on the Strategy for Sustainable Development of Marine Economy to 2030 with a Vision to 2045 provide tremendous opportunities for strengthening the integrated management of the seas and islands of Viet Nam.

Experiences in SDS-SEA/ICM implementation in selected provinces in 2019, as presented below, are contributing to the body of knowledge that would support the implementation of both strategies, which recognize the important role of coastal provinces in the adoption of economic development policies based on maritime economic development:

- Coastal use zoning and spatial planning: Assessment of policy and regulations related to coastal zoning and spatial planning in Da Nang was conducted, including the documentation of experiences and lessons learned in the implementation of zoning plans focusing on tourism development in Son Tra and Ngu Hanh Son districts.



Photo by Danang Agency for Seas and Islands

- Community-based fisheries and ecotourism development: Club of Coastal Community for Sustainable Development was established in North and South Hoa Hiep Communes in Da Nang based on the Tho Quang Commune model, which promotes the direct participation of local communities and civil society in coastal resource management and alternative livelihood development.
- Pollution reduction and solid waste management: Mapping of the distribution of pollution sources in Cat Ba Island in Haiphong was developed, including the plan for reducing marine plastics in 2019-2020 in Cat Hai District in Cat Ba Island. The map generated with a scale of 1:10,000 shows the locations of mariculture activities, fish ports, reclamation areas, residential, mineral exploitation, mangrove forest, planned area for aquaculture, etc. Cat Ba Island is a national marine park and a UNESCO Man and Biosphere Reserve.
- Integrated environmental monitoring: A technical working group was established in Da Nang to assess the results of marine and island environmental pollution control activities, including identifying recommendations for developing, implementing and sustaining the reporting system as required by the Law on Marine Resources and Environment. A set of indicators for pollution control assessment was developed. A technical working group for the development and piloting of a biological monitoring program (BMP) for the Da Nang coastal area was implemented last May 2019 through which three sampling surveys have been conducted. This program supplements the integrated environmental biological monitoring pilot program.



ICM COVERAGE

37.9%

OF REGION'S COASTLINE COVERED BY ICM

This is far greater than the regional target set by the East Asian Seas Ministerial Compact in Da Nang of 25% of the region's coastline to be covered by ICM in 2021.



- In line with ICM implementation and scaling up, capacity building activities have been conducted from late 2014 to end of 2019. A total of 138 trainings and workshops have been conducted (including workshops at EAS Congress 2018).
- The PEMSEA Network of Local Governments (PNLG) implementing ICM has grown to 50 members with two associate members by end of 2019. The online tracking system for PNLG to monitor local progress contributing to SDGs 6, 11, 13, and 14 is operational.
- The PEMSEA Network of Learning Centers (PNLC) providing support to countries as well as local governments on various technical and capacity building activities (including ICM trainings) have reached a total of 18 members by end of 2019.
- The PEMSEA Network of Young Leaders (PNYL), which was established in line with the PEMSEA Youth Program, is currently composed of 70 members from 13 countries.

CHINA

LENGTH OF ICM COASTLINE: 10,457.48 km
ICM COVERAGE (as of 2019):
32.7%

VIET NAM

LENGTH OF ICM COASTLINE: 1,608.35 km
ICM COVERAGE (as of 2019):
49.2%

THAILAND

LENGTH OF ICM COASTLINE: 567 km
ICM COVERAGE (as of 2019):
18%

CAMBODIA

LENGTH OF ICM COASTLINE: 440 km
ICM COVERAGE (as of 2019):
100%

SINGAPORE*

LENGTH OF ICM COASTLINE: 182.4 km
ICM COVERAGE (as of 2019):
100% * Coastline coverage is under integrated urban coastal management (IUCM).

INDONESIA

LENGTH OF ICM COASTLINE: 50,223.40 km
ICM COVERAGE (as of 2019):
52.8%



CAPACITY BUILDING
2014-2019

138 TRAININGS AND
WORKSHOPS

○ ESTABLISHED SITES ● INITIATING SITES

RO KOREA

LENGTH OF ICM COASTLINE: 11,915 km

ICM COVERAGE (as of 2019):

88.2%

DPR KOREA

LENGTH OF ICM COASTLINE: 127 km

ICM COVERAGE (as of 2019):

4.4%

JAPAN

LENGTH OF ICM COASTLINE: 494 km

ICM COVERAGE (as of 2019):

1.4%

PHILIPPINES

LENGTH OF ICM COASTLINE: 9,744 km

ICM COVERAGE (as of 2019):

26.9%

MALAYSIA

LENGTH OF ICM COASTLINE: 291 km

ICM COVERAGE (as of 2019):

5.7%

TIMOR-LESTE

LENGTH OF ICM COASTLINE: 235.2 km

ICM COVERAGE (as of 2019):

32%

NAVIGATE THE DETAILED **ICM MAP** AND EACH SITE'S INFORMATION USING OUR INTERACTIVE **SEAKB** WEBSITE

CLICK HERE



PEMSEA NETWORK OF LOCAL GOVERNMENTS

50 LOCAL GOVERNMENT PARTNERS



PEMSEA NETWORK OF LEARNING CENTERS

18 UNIVERSITY PARTNERS

35



PEMSEA NETWORK OF YOUNG LEADERS

70 MEMBERS FROM **13** COUNTRIES

Leveling Up of PEMSEA Certification in China, Philippines and Thailand

To aid the sustainability of PEMSEA's technical services through the delivery of products and services to partners, sponsoring organizations and collaborators, PEMSEA implemented the Integrated Coastal Management (ICM) System and Port Safety, Health and Environmental Management (PSHEM) System certifications. These certification services are provided by PEMSEA to local governments and port authorities and operators seeking a regionally recognized standard for sustainable management of coasts and port areas. ICM System and PSHEM System certification offers benefits to local governments and the ports sector including recognition for the application of best practices in ICM and PSHEM and assurance to stakeholders, businesses and investors of proper governance, therefore reducing risk in coastal areas. This will also enable the local governments and port authorities and operators to facilitate an assessment of their levels of progress and gauge how well they are doing in developing and implementing ICM or PSHEM; and provide a set of measurable indicators covering governance, stress reduction and impacts/benefits.

Photo by Chonburi Province, Thailand

ICM System Certification

In July of 2019, the ICM System Level 2 certification audit was conducted by the PEMSEA Resource Facility (PRF) in the City of Xiamen. The ICMS Level 2 audit result indicated that the established ICM system has been institutionalized and integrated in the main function of the local government of the City of Xiamen. The audit also confirmed Xiamen's successful implementation of sustainable development aspects in its programs and good practices that resulted in the reduction of environmental stress in the areas of marine environmental protection; disaster risk reduction; marine species conservation; water resource management; marine debris prevention; and aquaculture management.

To strengthen the sustainability of PEMSEA's certification services and delivery of ICM system audits, the PRF conducted capacity building activities in China to improve their ability to conduct ICM system certification audits on behalf of the PRF in local government units (LGUs) implementing the ICM System in China. The PRF assessed and certified eight local

ICM auditors in China. The certified auditors supported the PRF in the conduct of the ICMS Level 2 certification in Xiamen in July of 2019. The certified ICM Auditors also conducted the ICMS Level 2 certification audit of the ICM System of Dongying.

In the Philippines, the PRF conducted the ICM Code and ICM System series of training workshops (Phase 1 Project Planning and Initial Status Review (ISR); Phase 2 ICM System Strategic Planning; Phase 3 Development and Documentation and Implementation; and Phase 4 Review and Improvement) in the province of Bataan. The workshops were implemented to fulfill the request of the Provincial Government of Bataan for the provision of technical assistance and capacity development for the improvement of its ICM System to enable it to achieve the PEMSEA ICM System Level 2 certification. The provincial government of Bataan was able to improve its ICM System and implementation of on the ground sustainable development programs as well as prepare the required supporting documents and records for its ICM System Level 2 certification audit next year.



Photo by China PEMSEA Sustainable Coastal Management Cooperation Center (CPC)

PSHEMS Certification

The PRF conducted the PSHEMS Level 2 series of training workshops (Phase 1 PSHEMS Level 2 Initial Status Review; Phase 2 Performance Planning; and Phase 3 Development and Documentation and Implementation) in Bangkok Port and Laem Chabang Port in Thailand. The workshops are part of the preparation of Bangkok Port and Laem Chabang Port for their respective PEMSEA-PSHEMS Level 2 certification. The consistent implementation of the PSHEMS integrated management system in Bangkok Port and Laem Chabang Port was confirmed through the monitoring reports summary of 2019 and previous years. The monitoring results indicated consistent fulfilment of regulatory requirements; reduction of accidental spills; and increase in green cover by both Bangkok Port and Laem Chabang Port. Through the implementation of its PSHEMS and management

interventions, Laem Chabang Port was awarded as one of the APEC Port Services Network (APSN) Green Ports 2019, while Bangkok Port received the award a year earlier.

As a testament to the contribution of the PSHEMS in Bangkok Port and Laem Chabang Port Authority and a number of port operators in Laem Chabang Port, the Port Authority of Thailand (PAT) prepared the endorsement letter for PEMSEA-PSHEM Code as voluntary standard for ports in Thailand. The endorsement letter was forwarded to the PAT Board for review prior to submission to the Ministry of Transport of Thailand.

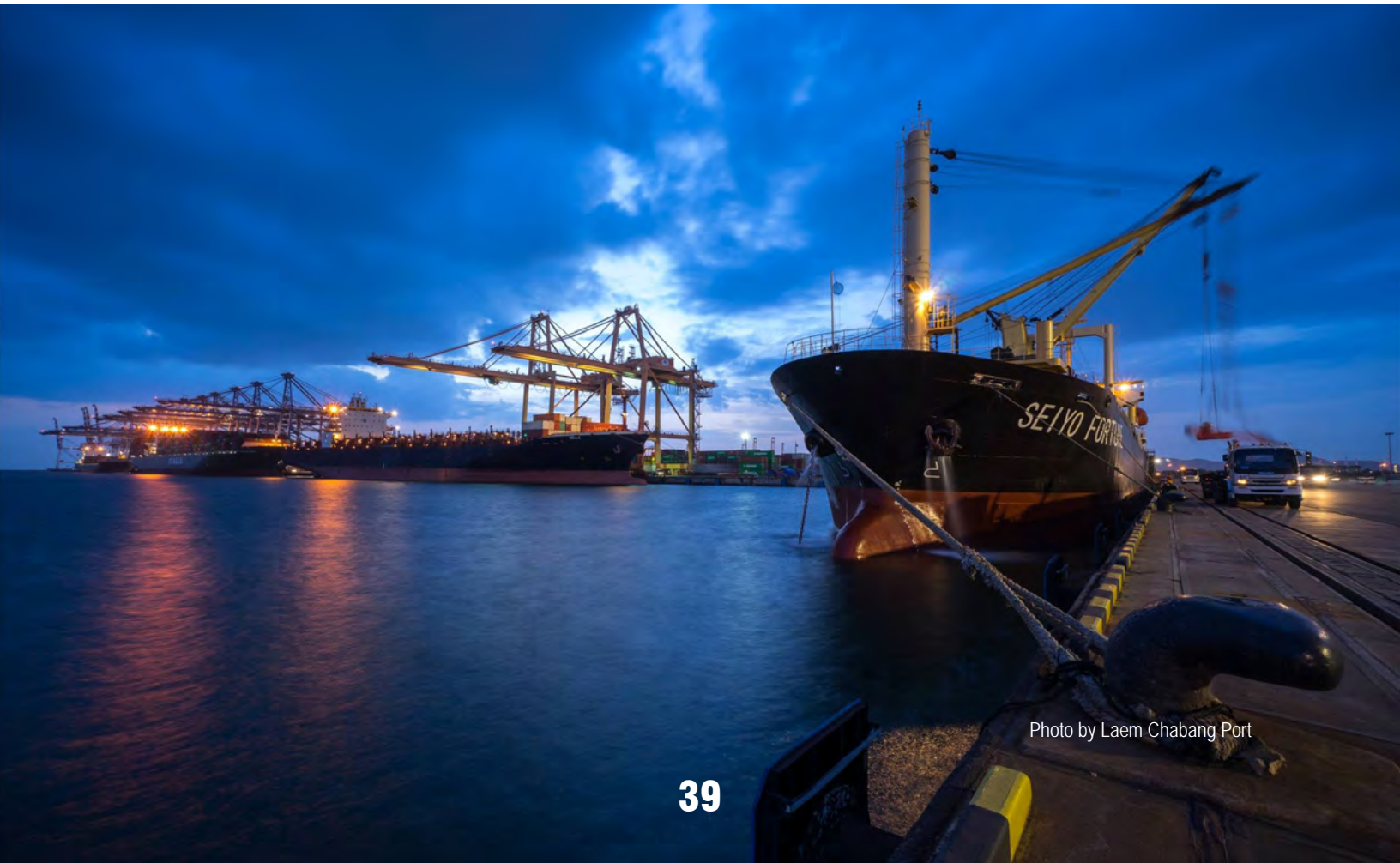


Photo by Laem Chabang Port

CREATING BIGGER IMPACTS FOR OCEAN HEALTH





PEMSEA's non-country partners and collaborators embarked on a series of activities to address the issues of marine litter, marine biodiversity, and the blue economy in support of SDS-SEA's implementation. Here's a rundown of our collaborators and non-country partners' efforts in 2019 to collectively create bigger impacts for ocean health:

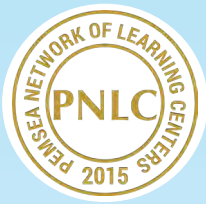


Photo by PEMSEA/J. Laabs



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

launched the Marine Debris Initiative, which called upon PNLG members to share practical experiences and strengthen inter-local government cooperation and collaboration to help address marine debris pollution. The initiative aims to establish and improve coordination mechanisms for marine debris prevention and increase financial support for marine waste prevention and control.



PEMSEA Network of Learning Centers (PNLC) collaborated with the Coastal and Ocean Management Institute of Xiamen University and PNLG for the first PNLG-PNLC joint learning session in an effort to promote exchange of information, techniques and best practices among local governments and ICM practitioners in ocean and coastal management.

Aiming to increase the awareness of environmental policymakers and managers in coastal management and sustainable development, the joint session involved a series of lectures on ICM principles, framework, processes and tools, and was participated in by eight countries and 28 local government officials.



Yellow Sea Large Marine Ecosystem (YSLME) conducted its 3rd Science Conference in July 2019, with a special session that focused on addressing the challenges of marine litter and microplastics in the YSLME. The roadmap of the regional coordination mechanism for the YSLME was agreed upon by China and RO Korea, and the implementation of the Strategic Action Programme (SAP) of YSLME was reviewed with the participation of various stakeholders. This laid a solid foundation for updating the SAP for the sustainable governance of the YSLME up to 2030.





ASEAN Centre for Biodiversity (ACB) is developing a joint project proposal with PEMSEA on “Effectively Managing an Ecological Network of Marine Protected Areas in the Large Marine Ecosystems” for submission to GEF and UNDP under the GEF 8 replenishment fund. The project will support the participating governments’ efforts in effectively managing marine protected areas (MPAs) and establishing MPA networks within the following Large Marine Ecosystems (LMEs): the Bay of Bengal, the Gulf of Thailand and the South China Sea, the Sulu-Celebes Seas, and the Indonesian Sea. The specific sites where the project will be implemented are selected based on the following criteria: the existence of land to sea connections, the presence of important bird flyways (i.e., flyway network sites in the East Asian-Australasian Flyway), and the existence of high connectivity of Indo-Pacific seagrass fish assemblages with mangrove and coral reef habitats, transboundary area of sea turtle migration, and protected areas that are declared as ASEAN Heritage Parks.

Tools that will be applied include ecosystems-based management approaches of the LMEs to be complemented by integrated coastal management (ICM) mechanisms, including area-based tools such as marine spatial planning and various biodiversity conservation actions at the regional, national and local levels.





National Marine Biodiversity Institute of Korea (MABIK) is focused on documenting and managing marine biological resources for research and scientific purposes. In 2019, it conducted a survey of Korea’s outermost islands and discovered one new species and seven new-recorded species in ROK waters. This has increased its collection to 9,199 species as specimens, genetic resources, extracts, etc. in its repository by 2019. Marine Biotechnology is a newly emerging field and it is believed to have huge potential for growth. Global Industry Analysts, Inc. (GIA) estimates the global market for Marine Biotechnology will reach US\$6.1 billion by 2025. The Government of ROK is making a significant investment in this area through MABIK.



Plymouth Marine Laboratory (PML) researchers progressed on the “Addressing Challenges of Coastal Communities through Ocean Research for Developing Economies” (ACCORD) project, which includes partners in Cambodia and Viet Nam. ACCORD aims to increase understanding of mechanisms and processes that determine the potential sensitivity or resilience of marine ecosystems to globally and locally induced environmental change. The kick-off meeting (Viet Nam, June 2019) included the signing of a Memorandum of Understanding (MoU) between PML and Da Nang Department of Natural Resources and Environment (DONRE) and an agreement on capacity building plans. Training on field sampling, analyses and data collection took place at PML (October 2019) with staff from the Da Nang Agency of Seas and Islands and DONRE Center for Monitoring. Further training will include a socioeconomic valuation of Da Nang Bay and proposal development for long-term coastal and ocean monitoring.

An MoU for the ACCORD Project in Kep was signed (May 2019) between the Cambodia Ministry of Environment and PML, focusing on underlying biogeochemical processes and nutrient dynamics causing algal blooms towards supporting improved environmental planning, management and monitoring. A first field survey, involving Ministry representatives, local personnel and an NGO from Kep Province, was conducted in July 2019.

The three-year “Economics of Marine Plastic Pollution: What are the Benefits of International Cooperation?” project started in 2019, aiming to inspire international action to tackle marine plastic pollution.

The ongoing project “Pathways of Dispersal for Cholera and Solution Tools” has researchers from Japan, the UK and India investigating environmental reservoirs and transmission pathways of the bacterial cholera pathogen in the northern Indian Ocean using in-situ, satellite and model observations. Knowledge will be used to develop risk maps for cholera outbreaks under changing climate conditions and help towards reducing the threat of this waterborne disease on human health plus contribute to addressing SDG14.

At the recent UN Climate Change meeting (UNFCCC COP25), PML highlighted the Global Ocean Acidification-Observing Network, for which it coordinates the North East Atlantic Hub and sits on the Executive Council, as well as the Blue Communities project and the research capacity it has been developing in the case study sites of Palawan (Philippines), Taka Bonerate (Indonesia) and Cu Lao Cham (Viet Nam).



IPIECA: In 2019, IPIECA released an updated guide on oil spill preparedness and response. The document offers an introductory overview of the broad topics of oil spill preparedness and response and provides signposting and hyperlinks to the full range of guidance materials, detailed reports and technical support documents in the IPIECA-IOGP oil spill Good Practice Guide series. This document can be downloaded (free) from the IPIECA website at: <http://www.ipieca.org/>.



Ocean Policy Research Institute (OPRI) undertakes interdisciplinary research on blue economy including integrated coastal management and blue carbon. OPRI hosted the Umigomi (marine litter) Zero International Symposium and the Japan-China High Level Roundtable on the Environment to address marine litter issues on 17 June 2019. OPRI is one of the active PEMSEA non-country partners that participates in global ocean governance conferences such as the Our Ocean Conference (OOC) in Oslo, International Symposium on Fisheries Sustainability at FAO, the Oceans Action Day at UNFCCC/COP25 in Madrid, and the Friends of Ocean Action meetings in Davos. OPRI also signed the RISE UP Blue Call to Action, which provides policy recommendations for the 2020 UN Ocean Conference.



International Union for Conservation of Nature (IUCN): Under its global plastics programme “Closing the Plastic Tap,” the Marine Plastics and Coastal Communities (MARPLASTICCs) Initiative launched the “Review of plastic footprint methodology: Laying the foundation for the development of a standardized plastic footprint measurement tool” (<https://portals.iucn.org/library/node/48510>) at the World Water Week held in Sweden in August. This new report underscores the importance of a standardized methodology to assess the amount of plastic leaking into oceans and ways to measure its harm to ecosystems and human health.

In addition, two pilot community Plastics Circular Economy Projects in Thailand and Viet Nam had been established. The projects aim to reduce the amount of plastics leaking into the environment through a social enterprise approach focused on community-based segregation, recycling and upcycling of collected plastic wastes. Also conducted in both countries was the pilot-testing of the IUCN-UNEP-developed National Guidance for Plastic Pollution Hotspotting and Shaping Action methodology, which is designed to support countries in identifying key plastic hotspots, prioritizing key areas of intervention and supporting governments converging towards instruments to implement the interventions.



Korea Marine Environment Management Corporation (KOEM): In 2019, KOEM held a series of capacity building trainings and knowledge exchange workshops, namely, marine litter monitoring based on Korea’s experiences and how these can be transferred in Indonesia; a water analysis training with PEMSEA that introduced Korea’s marine environment



monitoring system, conduct of on-site practice, and sea water quality analysis education; a joint workshop with China to deal with harmful marine organisms (e.g., jellyfish) that cause environmental damage from mass outbreaks; a capacity building workshop on establishing the foundations of integrated coastal zone management and oil spill response for Vietnamese officials; and a 3rd phase training course on sustainable management of coastal and marine environment for officials of Cambodia held in Jeju Island. The objective of the above activities is to foster shared learnings to build human capacity and improve the use of tools and technologies in the region as part of the partnership agreement to implement the shared strategy of SDS-SEA in the region.



Korea Maritime Institute (KMI) organized the Asian Regional Workshop on Promoting Marine Spatial Planning and Integrated Management for Sustainable Development of Coastal and Marine Areas in partnership with PEMSEA in October 2019. Aimed at identifying priority issues and challenges and strengthening MSP implementation in the region, the workshop brought together 24 experts from PEMSEA's country and non-country partners who were involved in designing and adapting the implementation of marine spatial planning in their respective countries. The results of the workshop are expected to help inform countries' positions and perspectives in enhancing the effective implementation of MSP and other integrated planning tools on ocean governance and management in the region.



Korea Institute of Ocean Science and Technology (KIOST): With the growing issue of microplastics in the region, representatives from PEMSEA partner countries gathered in Busan, RO Korea for the International Symposium on Marine Microplastics. Key experts from KIOST discussed their scientific perspectives and approaches to solving the microplastics problem in Asia. In July, KIOST developed the "KIOST Earth System Model" for projecting future climate change and other related scenarios. Rounding up its activities was its publication of "Our Sustainable Ocean," a guidebook on the UN's Sustainable Development Goals (SDGs).



Oil Spill Response Limited (OSRL) had an eventful year within Asia Pacific. As a trusted technical partner of government agencies, OSRL supported national efforts in oil spill preparedness through a series of discrete projects.

- Lao PDR - OSRL worked closely with the Department of Waterways (DoW) to mitigate impacts of oil spills in the Mekong River
- Philippines – As an advisor, OSRL attended MARPOLEX, a biennial marine pollution exercise that convenes relevant agencies from the Philippines, Indonesia and Japan
- Myanmar – OSRL supported the Department of Marine Administration (DMA) in an oil spill capability analysis of the ports and terminals along the Yangon River
- Australia - OSRL jointly developed and delivered the Subsea Well Source Control Workshop with the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)

Within industry, OSRL strives to foster cooperation between stakeholders for a more effective and efficient response.

- OSRL developed and facilitated discussion on the Personnel Assistance Framework for application among Tier 2 response organizations from the Regional Industry Technical Advisory Group (RITAG)



Northwest Pacific Action Plan (NOWPAP): Focusing on the issues of marine pollution and marine biodiversity, NOWPAP participated in several joint activities with PEMSEA. These activities included a regional training workshop held in Korea on marine debris; designing a roadmap for the development of the Regional Action Plan on Marine and Coastal Biodiversity; and organizing a marine litter management workshop in China. To further advance monitoring of microplastics pollution in the region, NOWPAP mobilized regional scientists to discuss harmonized monitoring methods and published a Regional Synthesis Report on the Development of the NOWPAP Ecological Quality Objective (EcoQO) targets aligned with SDG indicators (Phase 1). A copy of the report can be accessed here: (http://pomrac.nowpap.org/Pub/DOC/FPM16/16Inf4_Regional%20synthesis%20on%20NOWPAP%20EcoQO%20targets,%20phase%201.pdf)



International Environmental Management of Enclosed Coastal Seas Center (EMECS)

organized/co-organized three international seminars on marine environmental conservation in 2019. They were held to discuss how the sustainability of marine ecosystems around the world should be evaluated and to introduce the current condition of and countermeasures against emerging issues, such as ocean acidification, microplastics, eutrophication and so on. EMECS is set to host the EMECS13 Conference in September 2020 in the UK and has started the call for abstracts. EMECS13 brings together a global multi-disciplinary community of researchers, educators and practitioners to address issues of outstanding importance in science (both natural and social) and the management of estuaries and coastal seas in a rapidly changing world.



United Nations
Educational, Scientific and
Cultural Organization



Intergovernmental
Oceanographic
Commission

IOC Sub-Commission for the Western Pacific (IOC-WESTPAC) jointly organized with

PEMSEA the First Workshop of the WESTPAC Ocean Oxygen Network (O2NE) to facilitate interactions among researchers and help inform policymakers on the issue of deoxygenation in the open ocean and coastal waters. IOC-WESTPAC also addressed the issue of marine debris through its active sponsorship and support to the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP), an advisory body that advises the UN system on the scientific aspects of marine environmental protection.



IW:LEARN held a series of activities, trainings and meetings participated by PEMSEA in 2019.

These included two regional meetings such as the Asia Pacific Network Meeting in February and the CLME+ Partnership Forum in September. The networking visits between PEMSEA and the CLME+ were facilitated under the Intercolaborative Opportunities (ICO) grant program of IW:LEARN that was concluded in 2019. Furthermore, the Data and Information Management Meeting held in Paris was echoed in the Asian region through the Regional Workshop on DIM, jointly organized with PEMSEA and participated by representatives from various GEF Large Marine Ecosystem (LME) projects in the region. Held at the Regional Capacity Center for Clean Seas (RC3S) in Bali, Indonesia in December 2019, the workshop is a key step in facilitating a more harmonious data and information management system, with improved capacity to report progress and results across the many LME action programmes in the region aligned to UN SDGs.



KNOWLEDGE SERVICES

PEMSEA HAS DEVELOPED A COMPREHENSIVE SET OF KNOWLEDGE PRODUCTS AND CAPACITY DEVELOPMENT SERVICES FOCUSED ON INTEGRATED COASTAL MANAGEMENT (ICM) AND PORT SAFETY, HEALTH AND ENVIRONMENTAL MANAGEMENT SYSTEM (PSHEMS).



- Physical and electronic libraries with an extensive collection of coastal and ocean governance publications and thousands of titles covering ICM
- Best practices, codes and guidelines for governance, management and State of the Coasts reporting
- National and regional training workshops on a variety of topics including ICM, coastal-use zoning, marine spatial planning, vulnerability/risk assessment, ecosystem service valuation, ecosystem approach to fisheries management and integrated river basin and coastal area management
- A regional network of learning centers, composed of thought leaders and marine scientists from prestigious academic institutions and research organizations, providing customized technical support and advice
- Internships, fellowships, training-of-trainers and study tour programs

REGIONAL WORKSHOPS

9 TOTAL NUMBER OF REGIONAL WORKSHOPS

10 NUMBER OF PARTICIPATING COUNTRIES

CAMBODIA, CHINA, INDONESIA, LAO PDR, PHILIPPINES, RO KOREA, SINGAPORE, THAILAND, TIMOR-LESTE AND VIET NAM

PUBLICATIONS



Investing to reduce plastic pollution in South and Southeast Asia: A Handbook for Action (with Circulate Capital and Ocean Conservancy)



A review of intergovernmental collaboration in ecosystem-based governance of the large marine ecosystems of East Asia



Enabling Blue Economy Investment for Sustainable Development in the Seas of East Asia



NATIONAL WORKSHOPS AND SITE LEVEL CONSULTATIONS

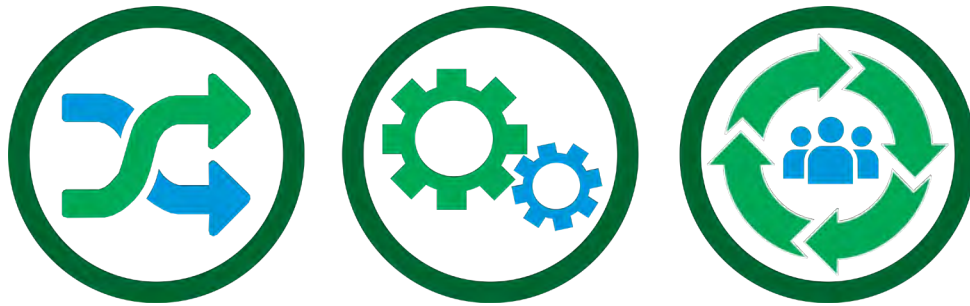
1,415 TOTAL NUMBER OF PARTICIPANTS

2:3 GENDER RATIO: 598 OUT OF 1,415 REPRESENTATIVES AT NATIONAL AND SITE LEVEL CONSULTATIONS WERE WOMEN



WELCOMING CHANGE AND CONTINUITY IN PEMSEA





The year saw a number of transitions and leadership changes within the PEMSEA family. Aimed at accelerating collective action towards maintaining the region’s healthy coasts and oceans, these key staff movements involved the selection of new Executive Committee members, appointment of new project managers, and honoring of an exceptional municipal government for its 25-year implementation of ICM.

In addition, a new PEMSEA Regional Center of Excellence (RCOE) has been designated with specialization on climate change adaptation and disaster risk reduction. These exciting changes in PEMSEA’s organizational structure promise that our work on the ground will enjoy continuity and sustainability in the years to come.

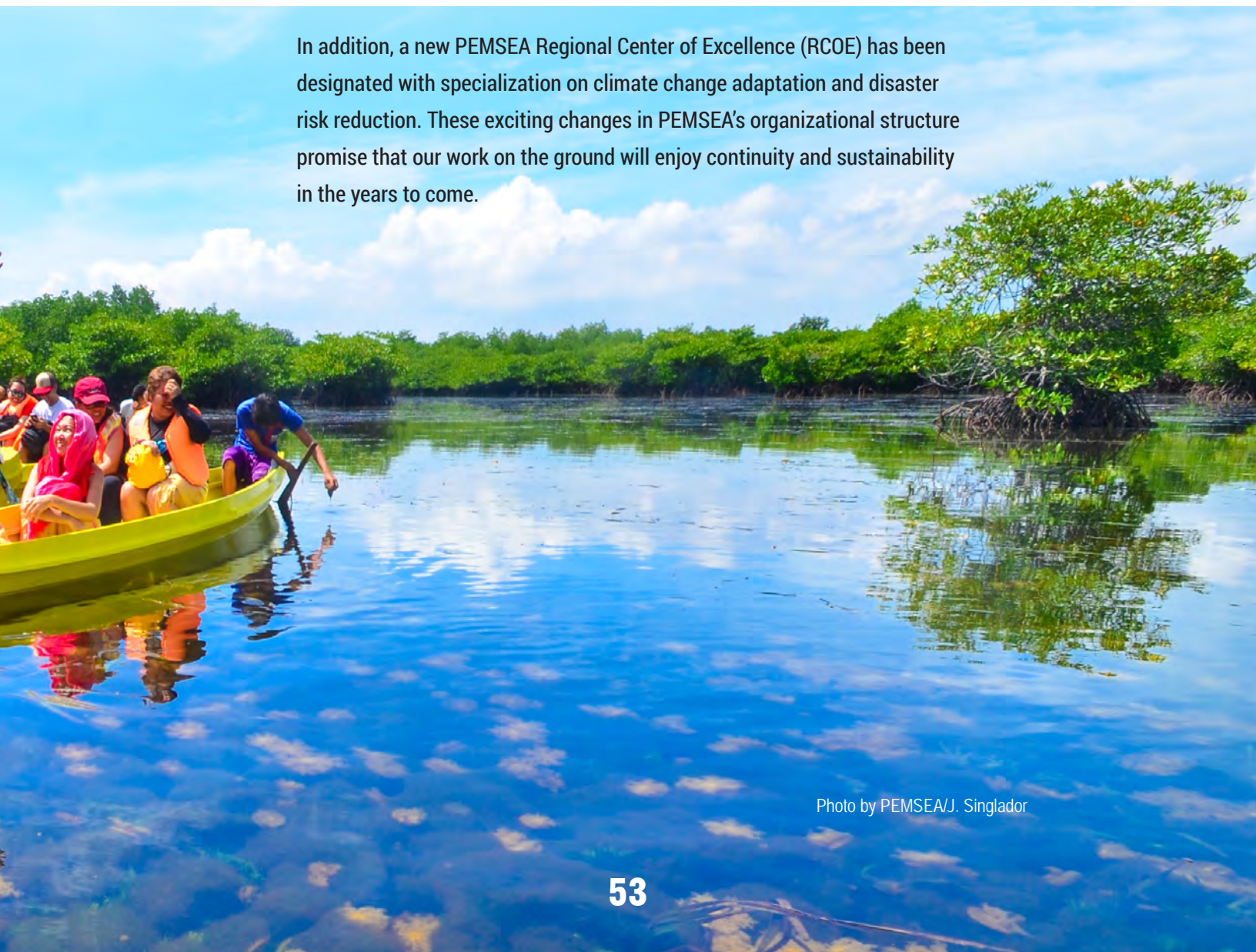


Photo by PEMSEA/J. Singlador



New EAS Executive Committee Chairs & Co-Chairs



Mr. Arief Yuwono
(Indonesia)
Council Chair

Arief Yuwono is currently the Special Expert to the Minister for Foreign Cooperation, the Ministry of Environment and Forestry (MOEF), Republic of Indonesia. For over 30 years, he held several positions covering a wide range of responsibilities. Most recently he served as the Executive Secretary; the Deputy Minister for Environmental Degradation Control and Climate Change; and the Special Advisor to the Minister for Energy at MOEF.



Dr. Vu Thanh Ca
(Viet Nam)
**Intergovernmental
Session Chair**

Dr. Ca is the Principal Lecturer at the Hanoi University of Natural Resources and Environment, and former Director of the Department of International Cooperation and Science Technology of Viet Nam. His research interests include coastal and ocean natural hazard management and mitigation, climate change impact, risk and vulnerability assessment and adaptation measure development, and integrated coastal management.



Dr. Jae Ryoung Oh
(RO Korea)
**Technical Session
Chair**

Dr. Oh has worked on international cooperation and research focused on coastal and marine environmental management for 35 years. He is currently the Adviser of the International Cooperation Department at Korea Institute of Ocean Science and Technology (KIOST).



Dr. Vann Monyneath
(Cambodia)
Council Co-Chair

Dr. Monyneath is the Deputy Secretary General of Cambodia's National Council for Sustainable Development, as well as the Deputy Secretary General of the National Committee for Coastal Management and Development. He has extensive work experience on coastal management issues, coordinating and managing coastal and marine environment and resource management programs, and climate adaptation and resilience programs.



Ms. Chen Yue
(China)
**Intergovernmental
Session Co-Chair**

Ms. Chen is the Acting Director-General of the Department of International Cooperation, Ministry of Natural Resources of the People's Republic of China. She leads the department in formulating and implementing strategies and plans for international cooperation in the field of natural resources and marine issues including marine scientific research, marine ecosystem conservation, marine environment monitoring and disaster mitigation, blue economy, and ocean policy.



Dr. Keita Furukawa
(Japan)
**Technical Session
Co-Chair**

Dr. Furukawa has more than 30 years of experience with marine and coastal environmental research and coastal ecosystem restoration project implementation. This includes work within governmental institutions, along with ocean policy studies at the Ocean Policy Research Institute of the Sasakawa Peace Foundation (OPRI-SPF).





New Project Managers

Two highly experienced staff have been appointed to key posts as Project Managers.



Ms. Nancy Bermas is the new Project Manager for the GEF/UNDP Project on Scaling Up the Implementation of the Sustainable Development Strategy for the Seas of East Asia (SDS-SEA)

and the Chief Technical Adviser of the PEMSEA Resource Facility. In her new role, Ms. Bermas will lead the SDS-SEA Project Team and provide technical and management services to countries, local governments, and other partners and collaborating organizations. Ms. Bermas has been with PEMSEA for more than 20 years. She previously served as the Senior Integrated Coastal Management (ICM) Specialist, and was heavily involved in the development and implementation of ICM capacity building programs at the regional, national, and local levels.



Mr. Handoko Adi Susanto is the new Regional Project Manager for the GEF/UNDP/PEMSEA Project on Implementation of the Arafura and Timor Seas Regional and National Strategic Action Programs Phase II (ATSEA-2). Mr.

Handoko has more than 15 years of experience working with USAID projects and environmental NGOs such as The Nature Conservancy, Wildlife Conservation Society and RARE-Indonesia. He also spent a year at Conservation International as a marine management advisor and trainer for the Democratic Republic of Timor-Leste on the Coral Triangle Support Partnership (USAID-CTSP) program. Mr. Handoko's areas of expertise include integrated coastal management, planning and management of marine protected areas, policy development and stakeholder consultation and community engagement.



Xiamen Municipal Government gets PEMSEA Leadership Award

PEMSEA has conferred the Leadership Award to the Xiamen Municipal Government for its valuable contribution in upholding the mission and vision of the PEMSEA Network of Local Governments for Sustainable Coastal Development (PNLG) and implementing ICM programs for the past 25 years.

Xiamen has been the host of the PNLG Secretariat since the latter's establishment in 2006. It was also cited for its leadership in showcasing and demonstrating the relevance of ICM in addressing complex, emerging and evolving challenges to sustainable development at the local level. The Leadership Award acknowledged Xiamen's commitment to strengthening local governance in providing timely management interventions and for advocating coastal and marine innovations.



The city, located at the southeast coastline of the People's Republic of China, is one of the country's Special Economic Zones. Through the ICM program, Xiamen has successfully developed a coordinating mechanism for coastal and marine management, established a legislative framework, implemented functional sea-use zonation and strengthened integrated enforcement of marine management.

The ICM program in Xiamen has helped revitalize Yundang Lake and rehabilitate Wuyuan Bay. It also helped turn coastlines into a public resort by relocating seaside roads inland; protected Xiamen's seas by moving the factories out of Gulangyu Islands and turning it into a scenic spot; and improved the city's functional zoning schemes by transferring the cage and oyster farms out of navigational channels.



PEMSEA designates IGES as Regional Center of Excellence

In 2019, the PEMSEA Resource Facility (PRF) designated the Institute for Global Environmental Strategies (IGES) in Japan as its third Regional Center of Excellence (RCOE), focusing on Climate Change Adaptation (CCA) and Disaster Risk Reduction (DRR). IGES was formed in April 1998 under an initiative of the Japanese government to establish an institute to conduct practical and innovative policy research. Their work covers coastal hazard mitigation and climate change adaptation, climate change risk/vulnerability assessments, CCA effectiveness metrics, and mainstreaming CCA and DRR into policies and plans.

The EAS Partnership Council approved the concept and designation process for PEMSEA's RCOE Program in 2008. This has enabled PEMSEA to work with partners that have achieved internationally recognized scientific excellence and have competencies that add value to SDS-SEA implementation through capacity building, cutting edge research and technical assistance.

IGES joins the Centre for Marine Environmental Research and Innovative Technology (MERIT), PEMSEA's first RCOE, an Area of Excellence in Hong Kong focusing on marine pollution; and the Marine Science Institute of the University of the Philippines (UP-MSI), the second RCOE, which focuses on Coral Reef Research and Marine Protected Area Management.

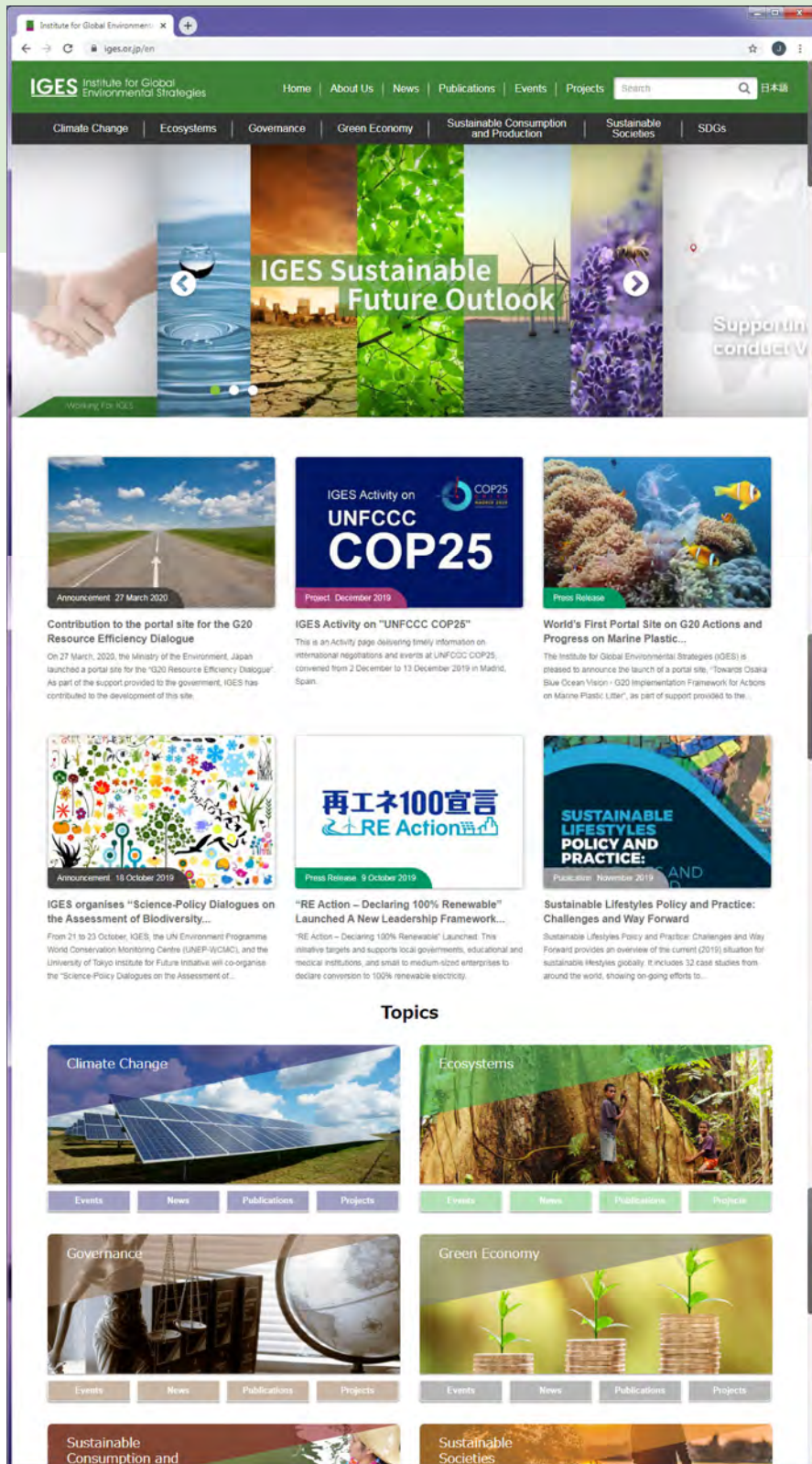


Photo by PEMSEA/R. Loreno

NEW PROJECTS AND PARTNERS

Plans are in place for PEMSEA to broaden its reach by working beyond ocean and environment bodies to include engagements with the transport, fisheries and climate change sectors. In 2019, PEMSEA also focused on expanding its work geographically and with new projects and partners to tackle the pressing issues of marine litter, microplastics and marine debris.

The **ASEAN-Norwegian Cooperation Project on Local Capacity Building for Reducing Plastic Pollution in the ASEAN Region (ASEANO)** under the Norwegian-ASEAN Regional Integration Programme aims to strengthen collaboration in the ASEAN region to reduce plastic pollution, disseminate and share knowledge between countries, and



Photo by PEMSEA/J. Dacaymat



contribute to meeting sound reduction targets both nationally and regionally. In particular, the project will determine the driving forces behind plastic pollution and evaluate its implications to economy, development, environment, and human well-being, with focus on local municipality/city level sustainability. Cost-effective and standardized methods of monitoring plastic waste in rivers will be developed, including targeted responses based on the identified key sources of plastic leakage. The project will initially focus on selected pilot catchments in Indonesia and the Philippines, with plans of expanding to other ASEAN countries, including Viet Nam.

The ASEANO Project will be implemented from 2019 to 2022 by the Norwegian Institute for Water Research (NIVA), in coordination



Photo by PEMSEA/J. Dacaymat



Photo by PEMSEA/J. Dacaymat

with the Centre for Southeast Asian Studies (CSEAS) and PEMSEA, under the purview of the ASEAN Working Group on Coastal and Marine Environment (AWGCME), ASEAN Senior Officials on Environment (ASOEN) and their Norwegian counterparts.

Another project that aims to manage marine and fisheries resources, this time in the Arafura and Timor Seas (ATSEA), formally kicked off with a Project Inception Workshop and First Regional Steering Committee Meeting in Indonesia last November 2019. The **GEF/UNDP Project on Implementation of Arafura and Timor Seas Regional and National Strategic Programs: Second Phase of the Arafura-Timor Seas Ecosystem Action Program (ATSEA-2)** is a regional partnership involving four littoral countries: Indonesia, Timor-Leste, Papua New Guinea and Australia.

The workshop discussed how country partners, UNDP, PEMSEA and other stakeholders can widen multi-stakeholder participation

ARAFURA AND TIMOR SEAS REGION



and in-country and cross-country collaboration further in support of ATSEA-2's project implementation. The first Regional Steering Committee (RSC) meeting also adopted the 2020 project work plan and budget, and reviewed and adopted the Terms of Reference of the RSC.

The ATSEA-2 project provides a vital forum for bringing the littoral nations of the Arafura and Timor Seas to work on transboundary marine issues such as marine pollution and overfishing through the formulation, inter-governmental adoption, and initial implementation of a regional Strategic Action Plan or SAP.

Moreover, in partnership with the **Coca-Cola Foundation and Caritas Diocese of Imus Foundation, Inc.**, PEMSEA has initiated a **Plastic Wastes Recycling Project in Cavite Province, Philippines**. The project aims to provide practical and sustainable solutions in the handling and disposal of recyclables and residual wastes, initially by converting plastic wastes into

armchairs and tables that can be distributed to public schools and other dioceses.

This project will have four major components: (1) establishment of a plastic recycling facility, (2) capacity building of local personnel and communities, (3) information/education campaigns and knowledge sharing on solid waste management and circular economy, and (4) enhancement of livelihood opportunities for the target communities.

Target beneficiaries for the project's initial phase of implementation will be the five communities where Caritas Diocese of Imus Foundation is currently implementing their SEARCHDev (Sustaining Empowered and Resilient Communities through Holistic Development) Programme (10-B, Cavite City; San Rafael 3, Noveleta; B. Pulido, General Mariano Alvarez; San Jose, Tagaytay City; and Bucana, Ternate). PEMSEA's long-standing partnership with Cavite started in 2004 when the province became one of PEMSEA's ICM sites.

PEMSEA AND THE DECADE OF OCEAN SCIENCE



The Seas of East Asia face a very fluid and dynamic future. The region will be subject to multiple challenges and opportunities that are expected to influence a new generation of policies and innovations across shifting baselines.

PEMSEA's Post-2020 Futures Report Strategy aims to set the stage and the course for PEMSEA to respond actively and effectively to the challenges and opportunities that the Seas of East Asia will face. Based on forecasts, the biggest challenges post-2020 include climate change, overexploitation of marine resources, marine pollution and ocean-based trade and industry.



Photo by PEMSEA/J.A. Cabiles

PEMSEA intends to strengthen its position as a major international body for East Asia that provides solutions for sustainable seas in the region post-2020. As the partnership looks to a complex future ahead, PEMSEA will pursue closer cooperation with partners and stakeholders in strengthening ocean and coastal governance, in the application of new and emerging technologies, and in engaging with the private sector.

The UN's proclamation during the General Assembly on 5 December 2017 of the Decade of Ocean Science for Sustainable Development (2021-2030) designates the next ten years for mobilizing ocean stakeholders worldwide to ensure ocean science can fully support countries in achieving their 2030 Agenda for Sustainable Development. Here, there is an opportunity for PEMSEA's country and non-country partners to bridge the science-policy and action interface by organizing dialogues among scientists and local government partners through the joint PNLC-PNLG forum.

In September 2019, PEMSEA organized an Experts Meeting on the state of research and policy on microplastics in the East Asian Region and the first meeting of the IOC-WESTPAC Working Group on deoxygenation in November 2019 in Manila, Philippines.

Photo by PEMSEA/J. Alegre

Taking advantage of the opportunities provided by the preparation of the Implementation Plan for the Decade of Ocean Science for Sustainable Development (2021-2030) in support of the UN SDGs, PEMSEA actively pursued the review of the SDS-SEA to determine how the key recommendations and scientific priorities identified at the Regional Planning Workshop for the North Pacific and Western Pacific Marginal Seas (RPW-NPWPMS) towards the Decade of Ocean Science can help sharpen the SDS-SEA's research and development (R & D) priorities.

The RPW-NPWPMS, which aimed to build dialogues among various ocean stakeholders in the region, focused on the co-development of solution-oriented research strategies to address the six societal outcomes for the Decade. Identified by the IOC Sub-Commission for the Western Pacific (IOC-WESTPAC) during the 11th EAS Partnership Council Meeting in Surabaya, Indonesia, these are: (1) a clean ocean; (2) a healthy and resilient ocean; (3) a predicted ocean; (4) a safe ocean; (5) a sustainably harvested and productive ocean; and (6) a transparent and accessible ocean.

Aside from the SDS-SEA Implementation Plan 2018-2022, the recommendation and scientific priorities identified from RPW-NPWPMS can also help hone the R & D priorities of the following PEMSEA projects in support of the Decade's societal outcomes:

PEMSEA supports the preparation process of the UN Decade of Ocean Science by participating during the stakeholder consultations and contributing in the dissemination of the objectives and target outcomes of the Decade. Specifically, with funding support from the Ministry of Oceans and Fisheries, Republic of Korea (MOF ROK).

Looking forward, 2020 has been touted as a Super Year for the Ocean, but many of the UN SDGs and other targets will be missed. The situation in coastal marine ecosystems around the world is dire, as stressed by recent reports released by the UN Intergovernmental Panel on Climate Change and the UN Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services and PEMSEA's EAS Futures Report.

Hence, urgent action is needed to ensure the resilience of our oceans in the face of the climate emergency, beginning with the restoration of marine biodiversity. PEMSEA is now in the early stages of preparing for the 2021 East Asian Seas (EAS) Congress to bring the issue of marine pollution to the core of the political agenda and make healthy oceans a reality. Future plans for the organization also include operationalizing PEMSEA's post-2020 strategy, particularly in ensuring PEMSEA's financial sustainability in the years to come.

Plans and Projects	Decade of Ocean Science Societal Outcomes					
	A clean ocean	A healthy and resilient ocean	A predicted ocean	A safe ocean	A sustainably harvested and productive ocean	A transparent and accessible ocean
Sustainable Development Strategy for the Seas of East Asia Implementation Plan (SDS-SEA IP 2018-2022)	✓	✓	✓	✓	✓	✓
Arafura and Timor Seas Regional and National Strategic Action Programs (ATSEA 2 Project)		✓			✓	✓
Integrated River Basin Management (IRBM Project)	✓			✓		✓
Greenhouse gases in the Context of Maritime Transport Emissions (IKI Project)	✓	✓				✓
ASEAN Norwegian Cooperation project on local capacity building for reducing plastic pollution in the ASEAN Region (ASEANO Project)	✓					✓
Effectively managing an ecological network of marine protected areas in the large marine ecosystems in the ASEAN Region (ASEAN ENMAPS)		✓			✓	✓



OUR ORGANIZATION

EXECUTIVE COMMITTEE

Chair: **Mr. Arief Yuwono**
Council Chair, East Asian Seas Partnership Council, PEMSEA

Members: **Dr. Vu Thanh Ca**, Intergovernmental Session Chair, EAS Partnership Council, PEMSEA
Dr. Jae Ryoung Oh, Technical Session Chair, EAS Partnership Council, PEMSEA
Dr. Vann Momyneath, Council Co-Chair, EAS Partnership Council, PEMSEA
Ms. Chen Yue, Intergovernmental Session Co-Chair, EAS Partnership Council, PEMSEA
Dr. Keita Furukawa, Technical Session Co-Chair, EAS Partnership Council, PEMSEA

EAST ASIAN SEAS PARTNERSHIP COUNCIL

COUNTRY PARTNERS

Cambodia

Mr. Long Rithirak, Deputy Director General, Ministry of Environment

China

Ms. Chen Yue, Director-General, International Cooperation Department, State Oceanic Administration (as of October 2018)

DPR Korea

Mr. Kwang-Jin Jong, Director, General Bureau for Cooperation with International Organizations (GBCIO)

Indonesia

Mr. M. R. Karliansyah, Director General, Environmental Pollution and Degradation Control, Ministry of Environment and Forestry

Japan

Mr. Yasufumi Onishi, Director, International Ocean Affairs, Ocean Policy Division, Policy Bureau, Ministry of Land, Infrastructure, Transport and Tourism

Lao PDR

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

RO Korea

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

Philippines

Atty. Analiza Rebuelta-Teh, Undersecretary, Climate Change Service and Mining Concerns, Department of Environment and Natural Resources

Singapore

Mr. Hazri Hassan, Director, International Policy Division, Ministry of Environment and Water Resources

Timor-Leste

Mr. Acacio Guterres, Director General, Fisheries, Ministry of Agriculture and Fisheries

Viet Nam

Hon. Vu Si Tuan, Deputy Administrator, Viet Nam Administration of Seas and Islands, Ministry of Natural Resources and Environment

NON-COUNTRY PARTNERS

ASEAN Centre for Biodiversity (ACB)
 Coastal Management Center (CMC)
 Conservation International (CI) Philippines
 International Environmental Management of Enclosed Coastal Seas (EMECS)
 International Ocean Institute (IOI)
 International Union for Conservation of Nature and Natural Resources (IUCN)–Asia Regional Office (ARO)
 IOC Sub-Commission for the Western Pacific (IOC/WESTPAC)
 Korea Environment Institute (KEI)
 Korea Institute of Ocean Science and Technology (KIOST)
 Korea Marine Environment Management Corporation (KOEM)
 Korea Maritime Institute (KMI)
 National Marine Biodiversity Institute of Korea (MABIK)
 Northwest Pacific Action Plan (NOWPAP)
 The Ocean Policy Research Institute (OPRI)
 Oil Spill Response (OSR)
 Plymouth Marine Laboratory
 PEMSEA Network of Local Governments for Sustainable Coastal Development (PNLG)
 IPIECA (originally International Petroleum Industry Environmental Conservation Association)
 UNDP/GEF Small Grants Programme
 UNDP/GEF Yellow Sea Large Marine Ecosystem (YSLME) Project
 UNEP Global Programme of Action (UNEP/GPA)

PEMSEA RESOURCE FACILITY STAFF

Gonzales, Elma Aimee	Executive Director
Bacay, Jose Gerald	Administrative Assistant
Bell, Thomas	Science and Communications Officer
Bermas, Nancy	Chief Technical Adviser/Project Manager for SDS-SEA
Bonga, Danilo	Senior Technical Assistant
Bresemann, Nadine	Strategy Development Specialist for Maritime Transport and Port Operations
Cardinal, Renato	Programme Manager/Certification Officer
Cabayán, Diwata	Executive Assistant
Corpuz, Rodante	IT Specialist
Dacaymat, Arsenio	IT Assistant
dela Peña, Mary Ann	Finance Specialist
Diwa, Johanna	Capacity Development Manager
Dulay, Jonel	Senior Graphic Artist
Gutierrez, Anthony	Driver
Josue, Rachel C.	HR/Admin Associate
Mariano, Marlene	Finance Clerk
Merina, Elsie	Programme/Admin Associate
Narcise, Cristine Ingrid	ICM Specialist/Country Manager (Indonesia, Thailand and Timor-Leste)
Nepomuceno, Ma. Concepcion	Office Assistant
Padayao, Daisy	ICM Specialist/Country Manager (Cambodia and Lao PDR)
Paigao, Almary Joyce	Communications Assistant
Sison, Regina	Finance Assistant
Vasquez, Vida Isabel	Secretariat Assistant



2019 FINANCIAL SUMMARY

Receipts

Total receipts in 2019 amounted to \$2.5M, which was slightly lower than the \$3.1M generated in 2018. Multilaterals and other grants represent 64% of the total receipts in 2019, the bulk of which came from GEF/UNDP. Government contributions and grants from country partners represent 33% of the total receipts. The decrease in gross receipts is due to the decrease in the budget of the UNDP/GEF-funded SDS-SEA project because of the no cost project extension from August 2019 - August 2020.

The committed funding for 2019 (i.e., deferred grants) amounted to \$1,148,066, a 25% increase from 2018.

Expenses

Expenses in 2019 totaled \$2.6M, a 30% decrease from 2018. Project expenses (combined direct and indirect expenses) reached \$2.2M, representing 87% of the total expenses for 2019. The direct expenses for the projects amounted to \$2M.

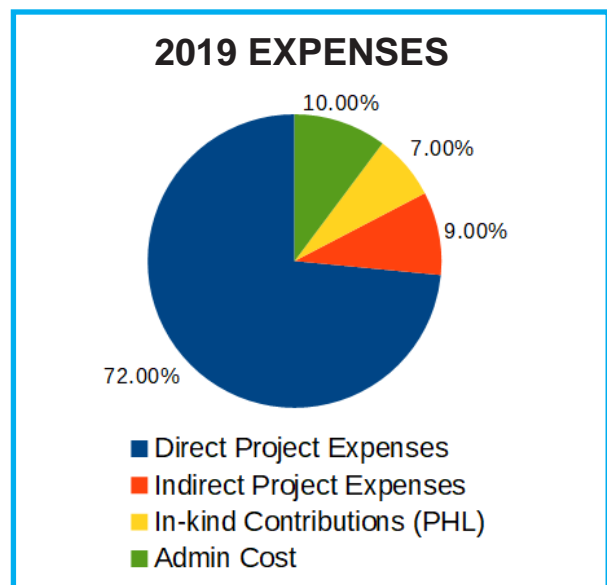
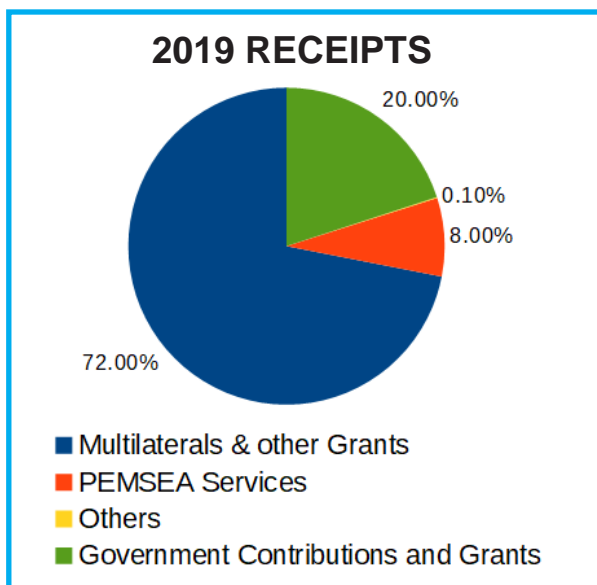
Administrative expenses represented 13% of the total expenses for 2019. The 13% can be broken down into: 5% for administrative cost and 8% for in-kind contribution provided by the Philippine Government (for office space and utilities). Personnel and consultancy expenses amounted to 37% of the total expenses for 2019.

Total Assets

PEMSEA's total assets increased by 8%, which is mainly attributable to the 13% increase in cash in 2019 and the 25% increase in commitments from countries under deferred grant.

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	
	2019	2018
CURRENT ASSETS		
Cash	2,882,978	2,546,680
Receivable	14,577	94,955
Total current assets	2,897,555	2,641,635
NON CURRENT ASSETS		
FA at Fair value	171,265	155,032
Property & Equipment - net	17,976	25,952
Other non-current assets	74,996	91,797
Total non-current assets	264,237	272,782
TOTAL ASSETS	3,161,792	2,914,417

LIABILITIES AND FUND BALANCE	31 December	
	2019	2018
CURRENT LIABILITIES		
Accounts Payable and Accrued Expenses	376,349	366,885
Deferred Grant	1,148,066	915,032
Total current liabilities	1,524,415	1,281,917
NON CURRENT LIABILITIES		
Defined contribution liability	94,532	102,636
Retirement benefit obligation	83,659	35,158
Total non-current liabilities	178,191	137,794
TOTAL LIABILITIES	1,702,606	1,419,711
EQUITY		
Fund Balance	1,471,666	1,495,703
Employee benefit reserve	(24,593)	3,123
Fair value reserve	12,113	(4,120)
Total equity	1,459,186	1,494,706
TOTAL LIABILITIES AND EQUITY	3,161,792	2,914,417

Statement of Receipts and Expenses (in US\$)

	31 December	
	2019	2018
RECEIPTS		
Government Contributions and grants	857,822	619,207
Multilaterals and other grants	1,652,956	2,247,572
PEMSEA Services	76,175	263,116
Others	4,094	3,284
TOTAL RECEIPTS	2,591,047	3,133,178
EXPENSES		
Direct project expenses		
Personnel	569,544	733,521
Consultancy	156,203	408,664
Subcontract	926,855	1,069,745
Travel and meeting	149,069	239,523
Training	228,111	270,790
Other Direct Costs	6,1997	71,998
Total direct project expenses	2,091,779	2,794,241
Indirect project expenses		
Personnel	157,616	217,642
Consultancy	-	53,171
Travel and meeting	24,230	9,316
Overhead	8,027	49,493
Total indirect project expenses	189,872	329,622
Administrative cost		
Personnel	60,981	87,034
Consultancy	22,185	214,113
Travel and meeting	23,644	68,535
Overhead	226,623	261,942
Total administrative cost	333,433	631,623
TOTAL EXPENSES	2,615,084	3,755,486
EXCESS (DEFICIENCY) OF RECEIPTS OVER EXPENSES	(24,037)	(622,308)
OTHER COMPREHENSIVE LOSS		
Items that will not be reclassified subsequently to receipts or expenses		
Remeasurements gain/loss on retirement benefit obligation	(27,714)	5,826
Fair value loss on FA at FVOCI	16,233	(31,258)
TOTAL COMPREHENSIVE INCOME	(35,518)	(647,740)



Partnerships in Environmental Management for the Seas of East Asia (PEMSEA) is an intergovernmental organization operating in East Asia to foster and sustain healthy and resilient oceans, coasts, communities and economies across the region. Through integrated coastal management solutions and partnerships, PEMSEA works with local and national governments, international development organizations, companies, investors and research institutions towards the development of coasts and oceans in East Asia.

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