Bridging Science and Policy for Evidence-Based Action on Plastic Pollution in the East Asian Seas and Beyond

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Abstract

This policy brief discusses how the Global Partnership on Plastic Pollution and Marine Litter (GPML) Digital Platform and the East Asian Seas Regional Node of the GPML can be leveraged to strengthen the science-policy interface, connect scientists and policy makers, and foster more frequent and productive interactions at national, regional, and global levels. Such platforms allow stakeholders to make the most of scientific evidence to address knowledge gaps and policy priorities on marine plastic litter for more effective action.

Outline of Issues

The East Asian Seas have unparalleled marine diversity, featuring the world's largest coral reef, mangrove, and seagrass areas, which support high productivity. Marine plastic litter has emerged as a major challenge. Countries in Asia produce over half of the world's plastic for global consumption and are a major contributor to plastic waste generation. Plastic pollution threatens ecosystems, health, and economies, calling for urgent and evidence-based action, in the region and globally.

Participating countries of the Coordinating Body on the Seas of East Asia (COBSEA) have recognized the need for concerted action to address this transboundary issue, by adopting the COBSEA Regional Action Plan on Marine Litter (RAP MALI) in 2019. The Association of Southeast Asian Nations (ASEAN) adopted a similar Regional Action Plan for Combating Marine Debris in 2021. Yet, data on sources, flows and impacts of plastic pollution in the region is limited and a significant gap remains between scientific research and policy making. Scientific evidence on marine plastic pollution in the region has not been effectively translated into policies and actions.

The Coordinating Body on the Seas of East Asia (COBSEA) is a regional intergovernmental mechanism and one of 18 Regional Seas programmes. It is the decision-making body for the East Asian Seas Action Plan, bringing together nine countries – Cambodia, China, Indonesia, Republic of Korea, Malaysia, the Philippines, Thailand, Singapore and Viet Nam – in protection and sustainable development of the marine and coastal environment. COBSEA focuses on marine pollution, ecosystem-based marine and coastal planning and management, and ocean governance. The COBSEA Secretariat is hosted by Thailand in Bangkok and administered by UNEP. www.cobsea.org

At global level, stakeholders have called for an improved science-policy interface and guidance, as highlighted in multilateral decisions and resolutions:

United Nations Environment Programme (UNEP) Governing Council decision 27/2:

"Decides that the governing body of the United Nations Environment Programme will promote a strong science policy interface by reviewing the state of the environment…." (UNEP 2014a p. 17).

United Nations Environment Assembly resolution 5/14 entitled "End plastic pollution: Towards an international legally binding instrument":

"Stressing the urgent need to strengthen the science-policy interface at all levels, improve understanding of the global impact of plastic pollution on the environment, and promote effective and progressive action at the local, regional and global levels…." (UNEP 2022 p. 2)

Indeed, access to scientific evidence allows decision makers to understand the problems accurately and identify policy options. A strong science-policy interface is key for evidence-based decision-making and progress tracking on plastic pollution.

The United Nations Environment Programme (UNEP) and the Coordinating Body on the Seas of East Asia (COBSEA) are addressing this gap through the Global Partnership on Plastic Pollution and Marine Litter (GPML) and its Regional Nodes. The Global Digital Platform of the GPML and Regional Node platforms aim *inter alia* to connect scientists and policy makers, to make data and scientific research accessible, and to foster networking and partnerships at national, regional, and global levels.

GPML and Regional Nodes

The GPML is a **multi-stakeholder** partnership that brings together all actors working to address marine litter and plastic pollution. By providing a unique global mechanism to share knowledge and experience, partners can work together to create and advance solutions to this pressing global issue.

The GPML Global Digital Platform drives transformation and supports the work of the GPML Action Tracks. The Digital Platform is multi-stakeholder and partly open source, compiling and crowdsourcing different resources, integrating data and connecting stakeholders to guide action on addressing the global problem of marine litter and plastic pollution.

The GPML Digital Platform supports the work of the **GPML Action Tracks 1: Science-Policy Linkages** to bridge science, innovation and policy by promoting effective communication and understanding. Through its Global Digital Platform, GPML provides a permanent, active and effective multi-stakeholder forum to promote communication and understanding on science, innovation and policy developments regarding marine litter and plastic pollution.

Regional Nodes of the GPML provide regional platforms for knowledge and data sharing and multi-stakeholder networking. They aim to support and promote efforts to address marine litter at the regional level, strengthening knowledge management and enhancing cooperation between regions and globally in support of the GPML's objectives. Regional Nodes facilitate streamlining of regional activities, policies, and data, leading to a more harmonized input to global discussions. They also facilitate information exchange between relevant stakeholders in their region.

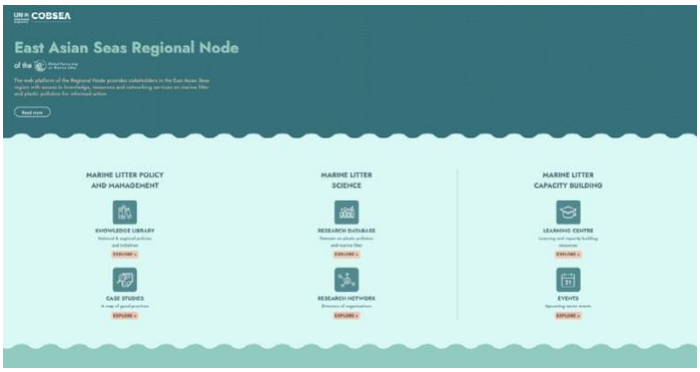
Figure 1. Stakeholders and data resources available on GPML Global Digital Platform

Source: GPML Digital Platform

East Asian Seas Regional Node of the GPML

The COBSEA RAP MALI acknowledges that multi-stakeholder coordination, regional knowledge-sharing and networking, and science-policy dialogue are key for evidence-based action. The East Asian Seas Regional Node of the GPML was established by countries in 2022 as a regional marine litter **knowledge management** and **networking hub** to support achievement of the RAP MALI. The Node supports knowledge sharing along three pillars: policies and good practices, research and science, and capacity building. The web platform of the COBSEA Regional Node is connected to the Global Digital Platform and curates regional resources and data layers.

Figure 2. Web platform of the East Asian Seas Regional Node of the GPML



Source: COBSEA

The Node platform includes a unique **Regional Plastic Pollution Research Database and Inventory** for the ASEAN+3 region. The Database was developed in partnership with the National University of Singapore with funding from the SEA circular project implemented jointly by COBSEA and UNEP with support from the Government of Sweden. Building on and expanding an initial scoping of marine litter research conducted by COBSEA and NUS in 2019/2020, the Database provides access to over 700 peer reviewed publications, research data and visualizations on plastic pollution and marine litter from the wider East Asian Seas region, across disciplines and languages. It facilitates access to research data to inform decision-making and address knowledge gaps and policy priorities.

The Database is maintained through the **Regional Research Network** of the Node, which catalyses collaborative research on marine litter academic and research institutions in the region and can be

leveraged to share relevant findings with decision makers through the COBSEA Working Group on Marine Litter (WGML). The Regional Research Network is a network of research scientists from research institutions in the East Asian Seas Region that come together to share findings on marine litter and plastic pollution research and develop a regional understanding of knowledge and gaps. The Network is interdisciplinary and promotes collaborative research to inform policy priorities with science-based information and address knowledge needs.

The Regional Node and its web platform will be developed further in a phased approach, based on stakeholder needs, and provides a collaborative mechanism to enhance knowledge and bridge the science-policy divide for effective action.

Conclusions

Despite mounting evidence of the impacts of plastic pollution, the disconnect between policy and science remains globally and in the region. This policy brief presents the Global Digital Platform and the East Asian Seas Regional Node of the GPML as mechanisms to improve the science-policy interface and address knowledge gaps and policy priorities on marine plastic litter. Such platforms promote evidence-based policy making by connecting decision makers with the research community, by promoting access to robust data, and by translating scientific research for policy interventions.

At global level, the GPML Digital Platform will continue to support the implementation of the historic **UNEA 5.2 Resolution 5/14** "End plastic pollution: Towards an internationally legally binding instrument", by upscaling its digital space and encouraging global stakeholders to share information and collaborate. The Global Digital Platform will continue to promote the strong science-policy linkages by fostering an active and effective multi-stakeholder interaction.

The East Asian Seas Regional Node will enable impactful application of science in policy making in the region and will strengthen networking and partnerships across stakeholders. In future, the Node platform can be used by governments, researchers, and civil society to share data on plastic leakage, flows, and impacts. The Research Database of the Regional Node will continue to be expanded and updated in collaboration with the Regional Research Network. These resources will support robust monitoring and assessment of marine litter trends, impacts, and the development, and support tracking and evaluation of policy and management interventions against national, regional, and global goals.

Science, research, technology and innovation are all critical components to make progress towards the Sustainable Development Goals and an international instrument on plastic pollution. However, a strong science-policy interface is necessary to bridge the gap between knowledge and action. The Global Digital Platform and the East Asian Seas Regional Node enable stakeholders to make the most of scientific evidence to address knowledge gaps and policy priorities on marine plastic litter through data and research enhancement. These existing platforms can be leveraged by development partners and regional bodies such as ASEAN to share knowledge and expand collaborative action based on best available evidence.

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