

Policy Brief

Regional Knowledge Sharing for Addressing Plastic Pollution

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Key Messages:

- Regional knowledge sharing is crucial for addressing shared environmental challenges like plastic pollution.
- It aids AMS in enhancing their capacities and bridging capability gaps, thus improving the region's readiness to tackle plastic pollution.
- Through regional knowledge sharing, AMS can identify common challenges, enabling the formulation of collective strategies and solutions.

Plastic pollution has emerged as a major environmental threat, particularly in the ASEAN region, where it impacts marine resources crucial to AMS economies. As AMS depend on marine ecosystems, plastic pollution poses significant risks to their ocean economies and biodiversity. This policy brief emphasises the importance of regional knowledge sharing as a strategy to effectively address plastic pollution. Drawing insights from initiatives such as the ASEAN Conference on Combating Plastic Pollution: Enhanced Synergies and Collaborative Actions to Combat Plastic Pollution (ACPP 2023), it argues that collaborative knowledge sharing enables AMS to coordinate actions, share best practices, and create harmonised responses to the challenges posed by plastic pollution in marine environments.

Plastic Pollution in ASEAN

Plastic, a lightweight, affordable, and versatile material, has become nearly ubiquitous. However, overconsumption and inadequate waste management have made plastic pollution one of the greatest threats to the environment. Mismanaged plastic waste that escapes into ecosystems, including marine environments, can harm wildlife, disrupt human activities, and negatively impact human health and social well-being (Secretariat of the Convention on Biological Diversity, 2016).

This issue is especially concerning for ASEAN Member States (AMS), which depend heavily on marine resources. Southeast Asian seas not only support a significant portion of the region's population but also drive economic growth through trade, fisheries, and tourism (Khalid, Ang, and Joni, 2009). Table 1 provides key statistics on the current state and economic value of coastal areas in AMS.

The situation is exacerbated by several factors:

- **Plastic pollution as a transboundary issue:** Plastic waste can travel from one place to another (IUCN, 2024) through natural processes like winds and currents or through trade and other human activities.
- **High levels of marine plastic generation and emissions:** Six AMS rank amongst the top ten global emitters of marine plastic waste annually entering oceans through rivers (Meijer et al., 2021).
- **Increased waste imports:** Since China's 2018 ban on importing certain types of waste, including plastic, several AMS have received plastic waste shipments from Japan, Europe, and the United States, amongst others (Mosbergen, 2019). Although some of these plastics are recycled and exported to China, the remaining waste accumulates in the ASEAN region.

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Table 1: Key Statistics on the State and Economic Potential of the Coastal Areas of AMS

Country	Coastline (km)	Coastal Population Size			GVA from Ocean Economic Activities		
		(thousand individuals)	(% of total population)	Year	(million US\$)	(% of total GDP)	Year
Indonesia	54,716	173,981	65	2018	188,456	20	2015
Philippines	36,289	65,038	62	2017	11,916	7	2016
Malaysia	4,675	18,960	60	2017	63,000	23	2015
Viet Nam	3,444	47,197	49	2018	7,816	4	2017
Thailand	3,219	15,410	23	2015	118,190	30	2015
Cambodia	443	1,094	7	2015	2,386	16	2015
Singapore	193	5,610	100	2017	21,700	7	2017
Brunei Darussalam	161	-	-	-	-	-	-

GDP = gross domestic product, GVA = gross value added.

Notes: Lao People’s Democratic Republic and Myanmar are not included in the table due to lack of data.

Sources: CIA (n.d.); National Parks Board Singapore and PEMSEA (2019); PEMSEA (2018); PEMSEA and Department of Environment and Natural Resources Philippines (2019); PEMSEA and DMCR Thailand (2019); PEMSEA and Ministry of Environment and Forestry Indonesia (2019); PEMSEA and Ministry of Environment Cambodia (2019); PEMSEA, VASI, and MONRE (2020).

- Limited capacity for waste management:** Many AMS face challenges in infrastructure, financial resources, and skilled personnel for managing plastic pollution, including data collection on plastic waste (Asokan, Abeynayaka, and Hotta, 2023). This data is essential for designing effective interventions to mitigate the issue.

In Asia, plastic pollution is estimated to cause an annual revenue loss of US\$0.2 to 2.3 billion in marine tourism, fisheries, and aquaculture sectors, with cleanup costs reaching US\$5.3 to 14 billion per year (Viool et al., 2019). Figure 1 highlights the economic impact of plastic pollution on AMS, showing that countries with higher gross value added (GVA) from ocean-related activities tend to suffer greater economic losses from plastic pollution. The six AMS identified as top plastic emitters (Meijer et al., 2021) also bear higher economic burdens, with cleanup costs accounting for over half of the total economic impact in five of the six countries.

Addressing plastic pollution, though challenging and costly, is essential for AMS to prevent further negative impacts on marine industries, which are crucial to the region’s economy and overall prosperity. Over the years, AMS have shown commitment through various policies and initiatives at local, national, and regional levels. However, more action is urgently needed, as the problem is expected to escalate. By 2040, annual plastic leakage into the environment is projected to reach 30 million tonnes – a 50% increase from current levels – with 9 million tonnes entering aquatic environments (OECD, 2023).

Regional Knowledge Sharing

Addressing plastic pollution challenges requires more than national efforts; a cooperative regional approach is essential. ASEAN has undertaken several regional knowledge-sharing initiatives that play a critical role in tackling shared issues like plastic pollution. Key examples include the Reduce, Reuse, and Recycle to Protect the Marine Environment and Coral Reefs (3RproMar) Project under Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, the Coordinating Body on the Seas of East Asia (COBSEA), Partnerships in Environmental Management for the Seas of East Asia (PEMSEA), the Regional Capacity Centre for Clean Seas (RC3S), and ERIA’s Regional Knowledge Centre for Marine Plastic Debris. These initiatives yield valuable outcomes, including guidance documents, knowledge repositories, and real-time discussions amongst regional stakeholders.

While knowledge exchange with countries outside ASEAN has benefits, AMS often find lessons from within the region particularly relevant due to similar socioeconomic and geopolitical contexts. Sharing experiences from past efforts within ASEAN can help AMS strengthen their capacities to reduce plastic waste generation, improve waste management, and prevent leakage into the environment. This approach also helps bridge capacity gaps between nations, thereby strengthening the region’s preparedness and capability to combat plastic pollution. Moreover, regional knowledge-sharing facilitates the identification of common challenges and the development of collective solutions and strategies.

Figure 1A: Economic Impact, GVA from Ocean Economic Activities, and Length of Coastline in AMS

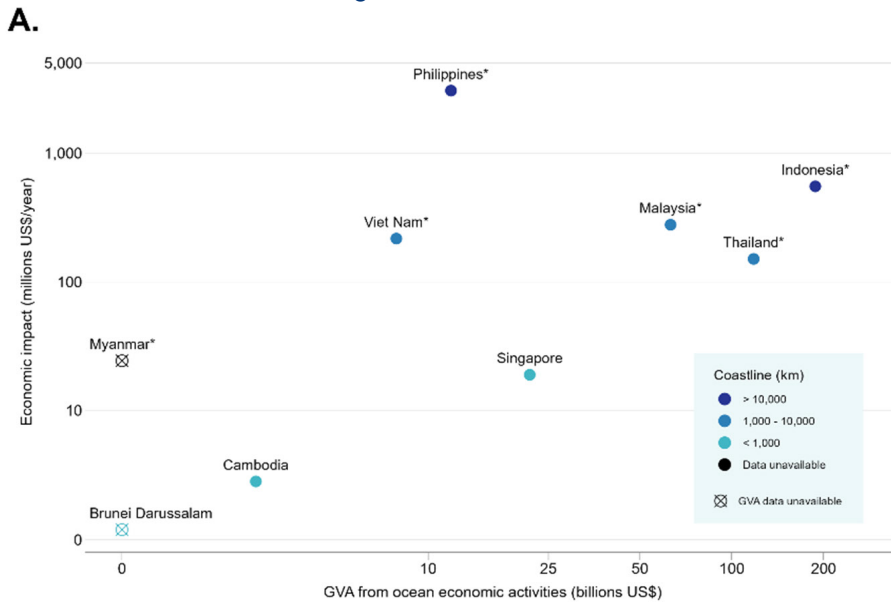
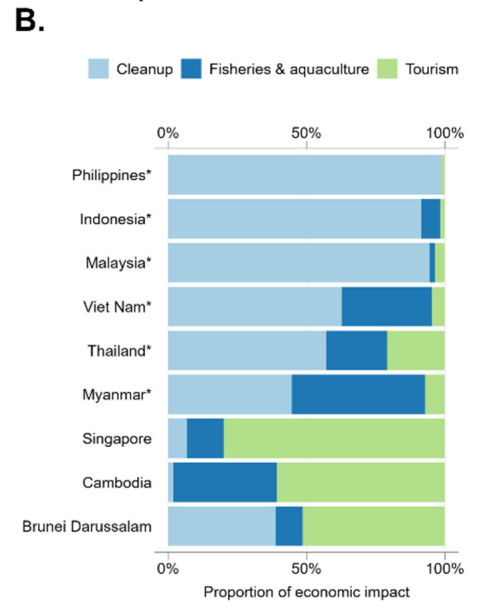


Figure 1B: Breakdown of Economic Impact in Each AMS



GVA = gross value added, AMS = ASEAN Member States.

Notes:

1. The annual economic impact in Figure 1A is the total sum of revenue loss to the tourism, fisheries, and aquaculture sectors and cleanup costs due to plastic pollution. Figure 1B provides a breakdown of the economic impact.
2. Countries with * are amongst the top ten largest plastic emitters to the ocean.
3. Lao People's Democratic Republic is not included in the graphs due to its status as a landlocked country.

Sources: Meijer et al. (2021); National Parks Board Singapore and PEMSEA (2019); PEMSEA (2018); PEMSEA and Department of Environment and Natural Resources Philippines (2019); PEMSEA and DMCR Thailand (2019); PEMSEA and Ministry of Environment and Forestry Indonesia (2019); PEMSEA and Ministry of Environment Cambodia (2019); PEMSEA, VASI, and MONRE (2020); The Ocean Cleanup (n.d.).

ACCPP 2023: Regional Knowledge Sharing for Formulating Regional Recommendations

Held in Jakarta on 17 October 2023, the ASEAN Conference on Combating Plastic Pollution (ACCPP 2023) exemplified an impactful regional knowledge-sharing session. The conference provided a platform for stakeholders across ASEAN to exchange insights and experiences in tackling plastic pollution. Through collaborative discussions, the participants identified existing challenges and proposed potential solutions for advancing a circular economy. Four key recommendations emerged from the conference discussions, summarised below and detailed in a report available online at eria.org.

The recommendations from ACCPP 2023 focus on four strategic intervention areas for advancing ongoing efforts to address plastic pollution. Each recommendation considers the full lifecycle of plastics and reflects a multi-stakeholder perspective.

1. Implement Technical Strategies Across the Plastic

A significant issue with plastic pollution stems from the linear production and consumption model, where plastics are produced, used, and disposed

of. Technical strategies should be implemented to shift towards a circular model where plastics are continuously reused, thereby reducing waste generation.

2. Engage Stakeholders Across the Entire Plastic Value Chain

Transitioning to a circular economy requires cooperation from multiple stakeholders, including governments, the private sector, researchers, the finance industry, and civil society. Effective communication strategies should be adopted to mobilise these groups and encourage their engagement in addressing plastic pollution across the plastic value chain.

3. Create Conditions for Financing and Investment in a Circular Economy

Moving towards a circular economy demands substantial financial resources to drive necessary structural and infrastructural changes. Supportive political and economic frameworks should be established to attract financing and investments, facilitating a successful transition.

4. Encourage AMS to Actively Participate in Global Plastic Treaty Negotiations

With the Global Plastic Treaty under negotiation and expected to conclude by late 2024, AMS have a unique opportunity to advocate for a treaty that reflects their needs and priorities. Strengthening the capacities of AMS representatives and coordinating regionally in advance of negotiations can enhance ASEAN's role in shaping the treaty.

Conclusion

This policy brief reviewed the challenges of plastic pollution in ASEAN, its economic impact, and the importance of regional knowledge sharing as a critical strategy. Using the ACCPP 2023 as an example, it illustrated the positive outcomes of regional collaboration and knowledge exchange. The recommendations from the conference serve to inspire regional stakeholders to leverage available resources and further engage in knowledge sharing to strengthen efforts in combatting plastic pollution.

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