

Legal and Policy Guidance on Addressing Marine Litter in the Philippines

Gap Analysis and Needs Assessment





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ABBREVIATIONS

ADB	Asian Development Bank	IRR	Implementing Rules and Regulations
AMS	ASEAN Member States	KOICA	Korea International Cooperation Agency
ASEAN	Association of Southeast Asian Nations	LGU	Local Government Unit
AWGCME	ASEAN Working Group on Coastal and Marine Environment	LLDA	Laguna Lake Development Authority
CE	Circular Economy	MC	Memorandum Circular
COBSEA	Coordinating Body on the Seas of East Asia	MFARMC	Municipal Fisheries and Aquatic Resources Management Council
CSO	Civil Society Organization	MPA	Marine Protected Area
DA	Department of Agriculture	MRF	Materials Recovery Facility
DENR	Department of Environment and Natural Resources	NCAC	National Consumer Affairs Council
DENR-BMB	Department of Environment and Natural Resources - Biodiversity Management Bureau	NCCAP	National Climate Change Action Plan
DENR-EMB	Department of Environment and Natural Resources - Environmental Management Bureau	NEAP	Non-Environmentally Acceptable Products
DepEd	Department of Education	NEDA	National Economic Development Authority
DICT	Department of Information and Communications Technology	NFARMC	National Fisheries and Aquatic Resources Management Council
DILG	Department of Interior and Local Government	NGO	Non-government Organization
DOH	Department of Health	NPOA ML	National Plan of Action on Marine Litter
DOLE	Department of Labor and Employment	NSWMC	National Solid Waste
DOST	Department of Science and Technology	NSWMS	Management Commission National Solid Waste
DTI	Department of Trade and Industry	PA	Management Strategy Protected Area
EO	Executive Order	PAP4SCP	Philippine Action Plan for Sustainable Consumption and Production
EPR	Extended Producers Responsibility	PBSAP	Philippine Biodiversity Strategy and Action Plan
FARMC	Fisheries and Aquatic Resources Management Council	PCG	Philippine Coast Guard
GDP	Gross Domestic Product	PDP	Philippine Development Plan
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH	R and D	Research and Development
GLOC	Global Conference on Land-Ocean Connections	RA	Republic Act
GPML	Global Partnership on Marine Litter	SC	Sustainable Consumption and Production
GPA	Global Programme of Action	SEC	Securities and Exchange Commission
HB	House Bill	SEI	Stockholm Environment Institute
ICM	Integrated Coastal Management	SLF	Sanitary Landfill
IFARMC	Integrated Fisheries and Aquatic Resources Management Council	SSTSWM	Sustainable Science and Technology Solid Waste Management Road Map
IGR3	Third Intergovernmental Review	SUP	Single-use Plastic
IRA	Internal Revenue Allotment	SWM	Solid Waste Management
		TWG	Technical Working Group
		UNEP	United Nations Environment Programme
		USD	US Dollars

EXECUTIVE SUMMARY

This report was prepared by the United Nations Environment Programme (UNEP) and the Coordinating Body for the Seas of East Asia (COBSEA) Secretariat to provide legal guidance to COBSEA member countries requesting assistance on tackling marine litter. This assessment has been carried out at the request of the Philippine Government through the Department of Environment and Natural Resources. The main objective is to conduct a gap analysis and assessment of marine litter related legal frameworks in the Philippines, within the context of the issue in the East Seas region. The outcome is a set of recommendations on interventions for the development and/or strengthening of laws and policies on marine litter (land and sea-based sources, with a focus on plastics), to align with global efforts and best practices on the issue.

Marine litter is one of the most insidious forms of ocean pollution. Most of it originates on land and about 80% is comprised of plastic waste. Plastics are the largest, most harmful and most persistent fraction of marine litter, accounting for at least 85% of total marine waste. Accumulation of plastic wastes in the marine ecosystem is growing rapidly given production and consumption patterns, particularly of single-use plastics. In addition, unsustainable plastic waste management practices, particularly of land-based sources are recognized as the main cause of marine plastic pollution.

For their part, countries in East and Southeast Asia have developed platforms for cooperation on sustainable coastal and marine management, with an increasing focus on the problem of marine litter in recent years. Notably, ASEAN Member States adopted the 2019 Bangkok Declaration on Combating Marine Debris in the ASEAN Region, as well as a subsequent Regional Action Plan for Combating Marine Debris 2021-2025, seeking to enhance international and regional coordination on

actions responding to marine plastic pollution. The 1981 East Asian Seas Action Plan also serves as a platform for regional cooperation, including on the Regional Action Plan on Marine Litter adopted in 2019.

The Philippines' rich natural resources provide for many communities and are vital to the country's growth. However, the natural environment is also faced with multiple pressures that may compromise national development. One of these perennial challenges is related to solid waste management. Waste generation is increasing yearly due to a rising population and an improving economy resulting in increased spending and consumption. This problem is compounded by the lack of waste management infrastructure and inadequacy of waste facilities due to constraints in funding and manpower, and the poorly implemented regulations for the recyclables market.

The Philippines has a very comprehensive set of national policies on solid waste management and pollution. Likewise, specific regulations and issuances from individual government agencies provide for permitting requirements and regulatory protocols, as well as voluntary actions from particular industries. Adding to these are numerous local-level ordinances that also seek to reduce certain types of waste, such as single-use plastic packaging, at source.

An analysis of the Philippine legal and policy framework on marine litter shows that there is a comprehensive legal and policy landscape on waste management, but gaps remain in relation to marine litter specifically. It was also observed that there are proposals in the pipeline which move towards circularity, and may also serve to address marine litter directly. However, crucial implementation gaps and the incomplete and out of date information hinder progress.

The following table summarizes legal and policy gaps and barriers which need to be addressed in order to effectively tackle marine litter. The report also presents a comprehensive list of recommended actions to address the gaps, remove the barriers and help the country in its efforts at addressing marine litter.

	Mitigate waste leakage into the environment	Increase waste recovery and recycling	Create a sustainable plastic production and consumer society
Barrier/Gap			
Legal and Policy	<ul style="list-style-type: none"> Updating national plan and strategy on waste management Fast-tracking approval and implementation of NPOA on marine litter Addressing gaps in current legal framework 	<ul style="list-style-type: none"> Addressing misaligned and non-science based national targets on waste recovery and recycling Ensuring the availability of incentives and support for investments in waste recovery and recycling facilities 	<ul style="list-style-type: none"> Fast-tracking approval and roll-out of SCP Plan Crafting clear and viable upstream policies
Institutional	<ul style="list-style-type: none"> Clarifying mandates and responsibilities among government agencies Enhancing coordination between and among local government units 		
Capacity, Funding, and Resource	<ul style="list-style-type: none"> Building capacity of national government agencies Building capacity of local governments 	<ul style="list-style-type: none"> Mobilizing support for research and development, and new technology 	
Implementation and Enforcement	<ul style="list-style-type: none"> Improving policy implementation and enforcement 	<ul style="list-style-type: none"> Increasing accessible and functional recycling facilities 	<ul style="list-style-type: none"> Fast-tracking implementation of current initiatives Supporting research to establish clear baselines
Political, Societal, and Cultural	<ul style="list-style-type: none"> Addressing the negative impact of local politics in the implementation of waste management laws Giving formal recognition to informal waste sector workers 	<ul style="list-style-type: none"> Addressing the prevalence of throw-away/wasteful culture Strengthening programs to shift consumer behavior 	

Moving forward and taking into account the specific action points detailed in this report, a critical first step is to address the legal, policy and institutional barriers in the short-term. The government should continue its efforts at improving implementation and enforcement of existing laws and regulations. Current efforts towards a more sustainable and circular economy should be mainstreamed and pushed across all sectors of government and society. Lastly, in implementing these recommendations and action points, the government must ensure respect for people's human and environmental rights at all times, with particular consideration for the informal waste sector.



This report is part of a series of assessments conducted by the United Nations Environment Programme (UNEP) and the Coordinating Body for the Seas of East Asia (COBSEA) Secretariat to provide legal guidance to COBSEA member countries requesting assistance on tackling marine litter. This report has been initiated at the request of the Philippine Government through the Department of Environment and Natural Resources. The main objective was to conduct a gap analysis and assessment of marine litter related legal frameworks in the Philippines, within the context of the issue in the East Seas region. The outcome is a set of recommendations on interventions for the development and/or strengthening of laws and policies on marine litter (land and sea-based sources with a focus on plastics), to align with global efforts and best practices on the issue.

1 INTRODUCTION



Plastic pollution and juvenile fish by Naja Bertolt Jensen on Unsplash

A. The Marine Litter Crisis

The recently concluded United Nations Environment Assembly (UNEA) identified pollution as the third great environmental crisis of our times, along with climate change and biodiversity loss.¹ Pollution has also been recognized as one of the major drivers of biodiversity loss and ecosystems degradation,² with marine plastic pollution, in particular, negatively impacting more than 200 species, and endangering human food systems.³ As it is, the world is on a trajectory where waste generation will drastically outpace population growth by more than double by 2050.⁴

Marine litter is one of the most insidious forms of ocean pollution. Most of this originates on land and about 80% is comprised of plastic waste.⁵ Plastics are the largest, most harmful and most persistent fraction of marine litter, accounting for at least 85% of total marine waste.⁶ Plastics drifting in the ocean are highly concentrated in five subtropical gyres in the North Pacific, North Atlantic, South Pacific, South Atlantic, and Indian Ocean.

The World Bank estimates that 4.8 to 12.7 million tonnes of plastic enter the oceans annually, with 80%

of this total coming from Asia.⁷ Further projections see East Asia and the Pacific generating 602 million tonnes of waste per year by 2030, which increases to 714 million tonnes by 2050.⁸ Current overviews show that only 9% of this waste is recycled, with almost half at disposed of in landfills.⁹

Significant efforts have been initiated at the international, regional and national levels to address this problem. With the United Nations Environment Programme (UNEP)'s assistance, Member States have initiated work on a new global agreement or instrument

¹ See: United Nations Environment Programme. 2021. Making peace with nature: A scientific blueprint to tackle the climate, biodiversity and pollution emergencies - Key Messages and Executive Summary. https://wedocs.unep.org/xmliui/bitstream/handle/20.500.11822/34949/MPN_ESEN.pdf (accessed 12 March 2021)

² Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). 2019. The Global Assessment Report on Biodiversity and Ecosystem Services - Summary for Policymakers. Bonn, Germany: IPBES Secretariat, 12

³ Ibid. 13

⁴ See Kaza, Silpa, Lisa Yao, Perinaz Bhada-Tata, and Frank Van Woerden. 2018. What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050. (Washington DC: World Bank 2018) <https://openknowledge.worldbank.org/handle/10986/30317>. License: Creative Commons Attribution CC BY 3.0 IGO. CHECK FOOTNOTES FORMAT

⁵ Krushelnyska, Olha. 2018. Solving Marine Pollution: Successful models to reduce wastewater, agricultural runoff, and marine litter (Washington Dc: World Bank 2018) <https://documents1.worldbank.org/curated/en/651521537901259717/pdf/130154-WP-PUBLIC-SolvingMarinePollution.pdf>

⁶ United Nations Environment Programme. 2021. From Pollution to Solution A Global Assessment of Marine Litter and Plastic Pollution (Nairobi: UNEP 2021) <https://www.unep.org/resources/pollution-solution-global-assessment-marine-litter-and-plastic-pollution>

⁷ World Bank Group. 2021. Market Study for the Philippines: Plastics Circularity Opportunities and Barriers. (Washington DC: World Bank 2021) 12

⁸ Kaza et. al. (2018) 28

¹⁰ Ibid. 39

to provide a legal framework on marine litter, intending to facilitate national responses especially for those countries with limited resources and capacities.¹⁰ Already, there has been much support for a new legally binding international agreement on marine litter and microplastics, which "acknowledges differentiated situations and responsibilities, takes into account the lifecycle of plastic and which provides incentives and support where needed through technical assistance, financing and research."¹¹ Several potential elements for this agreement have been outlined, including global and national reduction targets, design standards, product phase-outs, and methodologies for monitoring.¹²

Major sources of marine litter

Land-based

- Wastes from dumpsites on the coast or river banks
- Rivers and floodwaters
- Industrial outfalls
- Discharge from stormwater drains
- Untreated municipal sewerage
- Littering of beaches and coastal recreation areas
- Tourism and recreational use of the coasts
- Fishing industry activities
- Ship-breaking yards
- Natural storm-related events

Sea-based

- Shipping and fishing activities
- Offshore mining and extraction
- Legal and illegal dumping at sea
- Abandoned, lost, discarded fishing gear
- Natural disasters

Source: *Krushelnyska (2018)*

The Marine Litter Crisis is a Plastic Crisis

Many studies point to the global demand for, and use of plastics as the main culprit for the increase in marine

litter and pollution. Accumulation of plastic wastes in the marine ecosystem is growing rapidly given production and consumption patterns, particularly of single-use plastics. In addition, unsustainable plastic waste management practices, particularly of land-based sources are recognized as the main cause of marine plastic pollution.¹³

Recent estimates of the amount of plastics drifting at sea, based on data collected from the five subtropical gyres, extensive coastal regions and closed seas showed more than 5 trillion plastic particles, with the smallest sizes also the most numerous.¹⁴ More particularly, the two smallest microplastic size classes combined account for over 90% of the global particle count, while macroplastics account for around 90% of the plastic pollution weight.¹⁵

This situation is compounded by existing waste management challenges across the world. These are especially pronounced in developing countries, many of which do not have the capacity, resources, and technology to deal with increasing waste generation. On the other hand, production and consumption patterns in the developed world increase the likelihood of waste being shipped to developing countries. According to UNEP:

"If national and local governments are unable to improve the regular service of waste collection, environmentally- friendly waste treatment and disposal systems and infrastructure, households often practice open burning or unmanaged disposal of waste. Open burning of plastic wastes contribute to air pollution due to toxic smoke, negatively affecting human health and the climate. Unmanaged disposal of plastic wastes leads to leakage of plastics into canals and rivers. Collected waste can also contribute to riverine and marine plastic pollution through leakage from waste transport, treatment, storage and landfills."¹⁶

¹⁰ See for example <https://www.plasticpollutiontreaty.org/>

¹¹ Global Partnership on Marine Litter (2020) Outcomes of the Townhall (organized 8 June 2020) <https://environmentassembly.unenvironment.org/turning-tide-marine-plastics-how-unea-5-can-be-turning-point-open-meeting>

¹² UNEP (2021) 6-7

¹³ UNEP (2019) 1.

¹⁴ Eriksen et al. 2014 "Plastic Pollution in the World's Oceans: More than 5 Trillion Plastic Pieces Weighing over 250,000 Tons Afloat at Sea" *PLoS One* 9 (12) <https://doi.org/10.1371/journal.pone.0111913>

¹⁵ Krushelnyska (2018) 7.

¹⁶ UNEP (2019). 1.

East Asia at the Epicenter of the Marine Litter Crisis

The level of contribution to plastic marine litter by a country or locality depends on the number of factors:¹⁷

- **Geography:** location of city and hydrology related to rivers, type of development, relative proximity of key polluters, topography, and water flow;
- **Environment:** presence and location of native vegetative filter strips, shape of receiving water body, flow rate of receiving body, and rainfall patterns;
- **Infrastructure:** type of stormwater collection system and the location of dams;
- **Institutional capacity and policies:** efficiency of waste collection and street cleaning services, extent of legislation and enforcement prohibiting littering, availability of proper waste treatment and disposal facilities, and presence and type of industry;

- **Demographics:** culture and degree of environmental concern, leading to proper use of waste disposal bins; and population density;
- **Economy:** income level and waste composition, with low-income communities generating larger percentages of organic wastes versus high-income communities generating larger percentages of inorganic wastes such as plastics.

All these factors considered, the East Asian region can be seen as a crucial region for tackling the marine litter and plastic waste crisis. World Bank data from 2016 shows the region accounting for 23% of global waste, at approximately 468 million tonnes per year. This figure is expected to increase to 714 million tonnes by 2050, still representing much of the region retaining the top spot.¹⁸ Statistics also show that East Asia and the Pacific region will continue to dominate global waste that leaks into the world's oceans.¹⁹

B. ASEAN and East Asia Efforts on Marine Litter

For their part, countries in East and Southeast Asia have developed platforms for cooperation on sustainable coastal and marine management, with an increasing focus on the problem of marine litter in recent years. Notably, ASEAN Member States adopted the 2019 Bangkok Declaration on Combating Marine Debris in the ASEAN Region, as well as a subsequent Regional Action Plan for Combating Marine Debris 2021-2025, seeking to enhance international and regional coordination on actions responding to marine plastic pollution.²⁰ The 1981 East Asian Seas Action Plan also serves a platform for regional cooperation, including on the Regional Action Plan on Marine Litter adopted in 2019.

These regional efforts that relate to marine litter are described in detail below.

East Asian Seas Action Plan

The East Asian Seas Action Plan was adopted in April 1981 and revised in 1994.²¹ The Coordinating Body on the Seas of East Asia (COBSEA) that oversees the implementation of, and is the sole decision making body for, the Action Plan.

Specifically, the Action Plan aimed at assessing the state of the marine environment that considers the effects of marine and land-based activities on environmental quality, and develop coordinating measures for the plan's successful implementation. Areas of focus include:²²

¹⁷ ORA, 2010 cited in Krushelnyska (2018).

¹⁸ See Kaza, Silpa, Lisa Yao, Perinaz Bhada-Tata, and Frank Van Woerden. 2018. "What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050." Overview booklet. World Bank, Washington, DC. License: Creative Commons Attribution CC BY 3.0 IGO.

¹⁹ See: Kaza et. al. (2018)

²⁰ ASEAN Regional Action Plan for Combating Marine Debris in the ASEAN Member States (2021-2025) SUMMARY, 2021 available at https://asean.org/storage/FINAL_210524-ASEAN-RAP-Summary_Ready-to-Publish_v1.pdf (accessed 14 July 2021)

²¹ See: <https://wedocs.unep.org/bitstream/handle/20.500.11822/29052/AP94.pdf?sequence=1&isAllowed=y>

²² UNEP. no date. "East Asian Seas." <https://www.unep.org/explore-topics/oceans-seas/what-we-do/working-regional-seas/regional-seas-programmes/east-asian#:~:text=Aimed%20at%20protecting%20the%20East,adopted%20in%20Apr%201981%20and>

- Long-term monitoring and environmental assessment;
- Utilization and protection of marine resources;
- Development and maintenance of monitoring and environmental assessment programmes;
- Management aspects of rehabilitation of vital ecosystems and restoration of ecologically or economically important species and communities;
- Quality assurance for pollution monitoring;
- Capacity building.

The current strategic directions for 2018-2022 focus on:²³

1. **Land-based pollution**, including actions to address the impacts of nutrients, sediments and wastewater, and marine litter and micro-plastics on marine and coastal environments;
2. **Marine and Coastal Planning and Management**, including actions to enhance and strengthen ecosystem-based marine and coastal planning and management. These focus on using the best available scientific evidence, and expansion of Marine Protected Areas (MPAs) and MPA networks in the COBSEA region.
3. **Governance, Resource Mobilization and Partnerships**, to provide an effective regional policy mechanism for the coastal and marine environment.

These priorities were reaffirmed in an East Asia Summit Leaders' Statement on Combating Marine Plastic Debris held in November 2018. Here, leaders agreed to take concrete actions in combating marine plastic debris, including by strengthening regional and international cooperation, exploring the possible development of a regional plan of action and guidelines, and promoting efforts to support the development of relevant national action plans.²⁴

Global Partnership on Marine Litter

The Global Partnership on Marine Litter (GPML)²⁵ was launched at the United Nations Conference on Sustainable Development (Rio+20) in June 2012. This was done in response to a request set out in the Manila Declaration on Furthering the Implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities.

The partnership is led by a Steering Committee, with UNEP serving as its secretariat.²⁶ The GPML provides a platform for cooperation and coordination, knowledge sharing and assessment, and collaboration between the private sector, civil society and NGOs and regional bodies to work towards reducing the leakage of plastics into the oceans, encouraging circular production cycles and minimizing waste generation.

Manila Declaration on Furthering the Implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities

The Manila Declaration was adopted by 381 government delegates to the Global Conference on Land-Ocean Connections (GLOC) and the Third Intergovernmental Review (IGR3) Meeting on the Implementation of the Global Programme of Action (GPA) for the Protection of the Marine Environment in 2012.²⁷

It was slated for implementation from 2012 to 2016, with 16 provisions seeking to contribute to the GPA's priority areas, particularly as regards marine litter, wastewater, pollution from fertilizer and biodiversity loss. Delegates also agreed to improve cooperation and coordination at all levels in dealing with issues related to oceans, coasts, islands and their associated watersheds. Integrated management, such as through "ridge to reef" approaches, were encouraged, in addition to continuous implementation of global and regional arrangements, agreements and programs for the protection of the marine and coastal environment.

²³ See <https://wedocs.unep.org/bitstream/handle/20.500.11822/30161/COBSEA2022.pdf?sequence=1&isAllowed=y>

²⁴ ASEAN. 2018. "East Asia Summit Leaders' Statement on Combating Marine Plastic Debris" (18 November 2018) <https://asean.org/east-asia-summit-leaders-statement-on-combating-marine-plastic-debris/>

²⁵ Global Partnership on Marine Litter. no date. "Who we are." <https://www.gpmlitter.org/>

²⁶ <https://www.unep.org/explore-topics/oceans-seas/what-we-do/addressing-land-based-pollution/global-partnership-marine>

²⁷ Official Gazette of the Republic of the Philippines. 2012. "International community adopts Manila Declaration for protection of marine environment" (27 January 2012) <https://www.officialgazette.gov.ph/2012/01/27/international-community-adopts-manila-declaration-for-protection-of-marine-environment/>

COBSEA Regional Action Plan on Marine Litter

At the 24th Intergovernmental Meeting of the COBSEA in June 2019, participating countries adopted the revised Regional Action Plan on Marine Litter to guide action on marine litter in the East Asian Seas region.²⁸ The overall goal of the COBSEA Regional Action Plan on Marine Litter is to consolidate, coordinate, and facilitate cooperation, and implement the necessary environmental policies, strategies and measures for sustainable, integrated management of marine litter in the East Asian Seas region.

ASEAN Joint Declaration on Hazardous Chemicals and Wastes Management

In 2017, the ASEAN Member States (AMS) agreed to strengthen their cooperation and coordination towards the establishment of environmentally sound systems for the management of hazardous chemicals and wastes, including through measures in waste prevention, reduction, reuse, recycling and recovery.²⁹ It included a call to establish networks between the AMS to improve the supervision of trade in hazardous chemicals and wastes, and enhance information exchange to prevent the illegal traffic of these wastes into the ASEAN territory.

ASEAN Working Group on Coastal and Marine Environment (AWGCME)

The AWGCME was established to foster the conservation and sustainable management of coastal and marine ecosystems while highlighting their importance as resources of livelihood for the ASEAN region. It is mandated to ensure that ASEAN's coastal and marine environment are sustainably managed; representative ecosystems, pristine areas and species are protected; economic activities are sustainably managed; and public awareness of the coastal and marine environ-

ment instilled. It also acts as a consultative forum to promote coordination and collaboration among relevant ASEAN and other regional marine-related initiatives.³⁰

The working group's program areas are:

- Key Coastal and Marine Area Conservation;
- Tanker Desludging and Oil Spill Reduction;
- Endangered Coastal and Marine Species Conservation;
- Coastal and Marine Pollution Mitigation;
- ASEAN CSR Network Proposal on Multi-Stakeholder Partnerships to Tackle Marine Plastics;
- Coastal and Marine Invasive Alien Species;
- Climate Change Issues and Impacts in Coastal Areas; and
- Integrated Coastal Management and Marine Spatial Planning.

Bangkok Declaration on Combating Marine Debris in the ASEAN Region

ASEAN member states adopted this Declaration in 2019. They committed to strengthen national-level and collaborative actions to prevent and reduce marine debris, particularly from land-based activities.³¹

More recently, in May 2021, the ASEAN Regional Action Plan for Combating Marine Debris was also launched.³² Drawing from inputs from the AMS and other regional stakeholders, the Regional Action Plan proposes an integrated approach to address marine plastic pollution in the region over the next five years, or from 2021-2025. Fourteen actions are identified for key stages of the value chain, with the end of reducing inputs into the system, enhancing collection and minimizing leakage, and creating value for waste reuse.³³

²⁸ COBSEA. 2019. Regional Action Plan on Marine Litter (Bangkok: UNEP and COBSEA 2019) <https://www.unep.org/cobsea/resources/policy-and-strategy/cobsea-regional-action-plan-marine-litter-2019-rap-mali>

²⁹ ASEAN Joint Declaration on Hazardous Chemicals and Waste Management (26 April 2017) https://asean.org/wp-content/uploads/2017/11/Annex-2_Joint-Declaration-HCWM-Adopted-by-AMME.pdf

³⁰ ASEAN. no date. "ASEAN Cooperation on Coastal and Marine Environment." <https://environment.asean.org/awgcme/>

³¹ ASEAN. Bangkok Declaration on Combating Marine Debris in the ASEAN Region (22 June 2019) <https://asean.org/bangkok-declaration-on-combating-marine-debris-in-asean-region/>

³² ASEAN. 2021. ASEAN Regional Action Plan for Combating Marine Debris in the ASEAN Member States (Jakarta: ASEAN Secretariat 2021) https://asean.org/wp-content/uploads/2021/05/FINAL_210524-ASEAN-Regional-Action-Plan_Ready-to-Publish_v2.pdf

³³ ASEAN. 2021. "Launch of the ASEAN Regional Action Plan for Combating Marine Debris in the ASEAN Member States 2021-2025" (28 May 2021) <https://asean.org/launch-of-the-asean-regional-action-plan-for-combating-marine-debris-in-the-asean-member-states-2021-2025/>

C. Report Methodology

The research team extensively coordinated with national focal point agencies in the Philippines. Aside from desk research, consultations were held with stakeholders from government agencies, civil society and non-government organizations, international and multilateral development partners. The list of stakeholders consulted is attached as **Annex A**.

The framework for this gap analysis and assessment draws from the 2019 report from UNEP and the Institute for Global Environmental Strategies (IGES) titled *Strategies to Reduce Marine Plastic Pollution from Land-based Sources in Low and Middle Income Countries*. This report identified strategic measures for the short, medium and long-term, as follows:

- **Short term** - Mitigate plastic waste leakage into the environment, including by preventing plastic littering, improving plastic waste collection and transportation and improving plastic disposal sites;
- **Medium term** - Increase plastic waste recover and recycling, including by introducing plastic waste separation at source and using appropriate technologies for plastics waste treatment and energy recovery; and
- **Long term** - Establish sustainable plastic production and consumer society, through eco-design and sustainable lifestyles.³⁴

These three strategic time frames are further analysed under five types of policy interventions, namely **regulatory, economic, technology, data or information** and **voluntary**.³⁵

This report builds on this framework by expanding its scope to both land and sea-based sources of marine litter. The three strategic actions are maintained but are considered as ongoing phases of work, acknowledging that policies and programs on these efforts are being developed and implemented contemporaneously.

The report also considers as a cross-cutting theme for analysis the human rights and gender dimensions of the marine litter crisis.³⁶ A human rights-based approach compels duty bearers to prevent marine litter from causing any harm as they are accountable to citizens and people as rights holders.³⁷ This will also help ensure that related rights such as access to information, public participation, and availability of remedies is ensured by the state and other stakeholders in the plastics value chain.

The five identified interventions are likewise retained, with the recognition that policy measures to address the issue of marine litter may not always fall squarely within the mandate of environmental agencies. Rather, these may also include efforts from other sectors that contribute toward each of the strategic actions.

³⁴ UNEP and IGES. 2019. *Strategies to Reduce Marine Plastic Pollution from Land-based Sources in Low and Middle Income Countries*. 13. https://wedocs.unep.org/bitstream/handle/20.500.11822/31555/Marine_Plastic_Pollution.pdf?sequence=1&isAllowed=y

³⁵ Ibid. 13

³⁶ The report takes guidance from United Nations Environment Programme, Coordinating Body on the Seas of East Asia, and Stockholm Environment Institute, 2019. *Marine plastic litter in East Asian Seas: Gender, human rights and economic dimensions*. Bangkok: UNEP.

³⁷ Ibid. 12

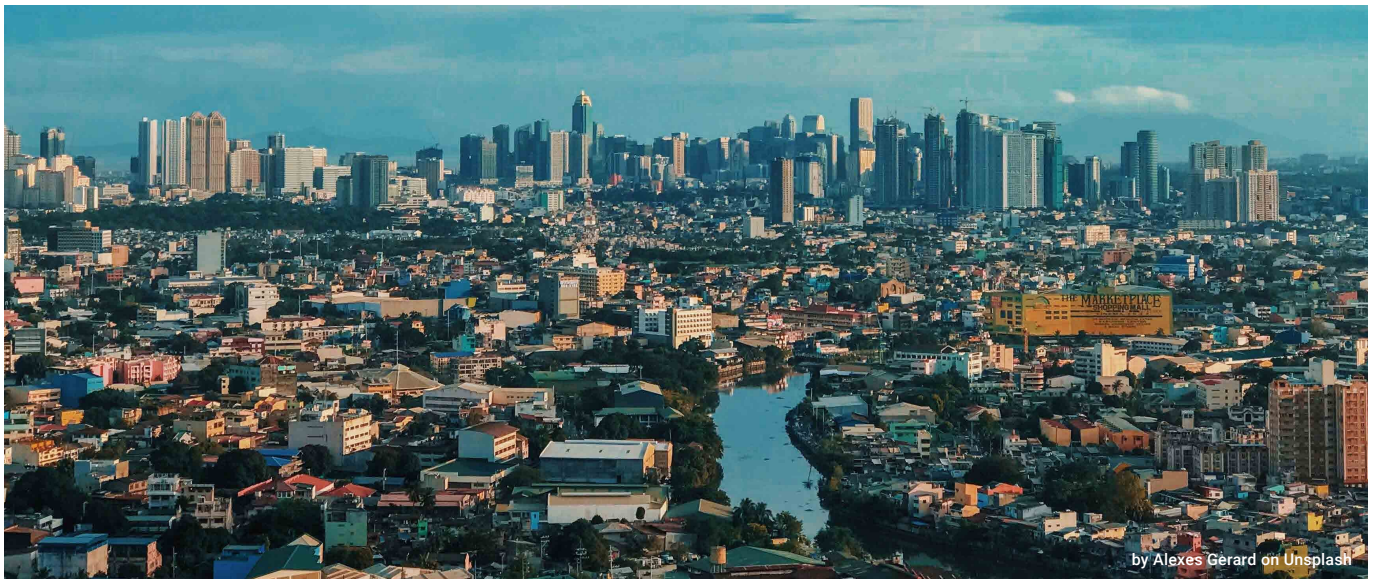
GAP ANALYSIS FRAMEWORK: ■ FOCUS AREAS | ■ POLICY INTERVENTIONS | ■ KEY ELEMENTS

Guide questions were developed for each focus area and policy intervention, to better inform the data gathering and analysis. These questions are attached for information in **Annex B**.

	Mitigate waste leakage into the environment
	1. Regulatory
	Policies that address the issue of marine litter overtly, whether these specifically pertain to solid waste management, or to the adoption of more sustainable practices in general
	2. Economic
	Policies that prescribe fiscal incentives or disincentives, including tax or duty deductions or exemptions, penalties, levies and other charges.
	Increase waste recovery and recycling
	3. Technology
	Policies that support research and development of alternative products and new technology.erging issues.
	4. Data or Information
	Policies that support the updating of relevant data, establishment of baselines, and studies on emerging issues.
	Creating sustainable plastic production and consumer society
	5. Voluntary
	Policies that include actions which are not obligatory, and policy language that is less prescriptive and more engaging.

Based on this analytical framework, the report is structured as follows: the country analysis begins with an overview of the socio-economic and environmental context, including relevant solid waste management statistics. This is followed by a discussion on the national legal framework, and national action plans and programs related to solid waste management and marine litter. Using the gap analysis and assessment framework and methodology, the findings and observations are presented along with an assessment of the gaps and barriers identified. Thereafter a menu of recommended actions is outlined, based on each gap and barrier identified.

2 THE PHILIPPINES



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Socio-Economic and Environmental Context

Based on its latest census, the Philippines is a country of 109,581,085 people.³⁸ Of this number, 47.4% live in urbanized areas around the country.³⁹ The 2018 Family Income and Expenditure Survey also showed a poverty incidence of 16.7% of the population.⁴⁰

In 2020, the Philippines's GDP was valued at around 361.49 billion US Dollars (USD), with GDP per capita at around USD 2980.02. First quarter data from 2021 shows that the GDP has decreased by 4.0% since the end of the fourth quarter of 2020. The service, industry and agriculture sectors are the main contributors to the national economy, accounting for 57, 31 and 12% of the total, respectively.⁴¹

The Philippines' rich natural resources provide for many communities and are vital to the country's growth. However, the natural environment is also faced with multiple pressures that may compromise national development. One of these perennial challenges is related to solid waste management.

Solid Waste Management Statistics

The Department of Environment and Natural Resources (DENR) had initially pegged the national waste generation for 2020 at 21,425,676 tonnes, with more than 3 million tonnes of this total coming from the major urban centers in Metro Manila.⁴² The COVID-19 health crisis has significantly inflated these estimates. Waste generation for the second half of 2020 was reported at 362,000 tonnes, four times higher than the total for 2019.⁴³ The pandemic particularly saw a surge in hazardous medical wastes - as of April 2021, the DENR reported that 52,000 tonnes of hospital waste had been generated, and only 14,000 tonnes were treated for safe disposal.⁴⁴

Outside of these new developments, more than half, or 56.7%, of the waste generated nationally comes from residential sources. Other sources include commercial areas (contributing 27.1%), institutions (contributing 12.1%) and industrial

³⁸ See: World Bank Open Data, <https://data.worldbank.org/>

³⁹ Ibid.

⁴⁰ Philippine Statistics Authority, "Updated 2015 and 2018 Full Year Official Poverty Statistics," <https://psa.gov.ph/poverty-press-releases/nid/162559>

⁴¹ World Bank, World Bank Open Data, <https://data.worldbank.org/>

⁴² Department of Environment and Natural Resources - Environmental Management Bureau, Compliance Updates - Ecological Solid Waste Management (RA 9003) 2019 <https://emb.gov.ph/wp-content/uploads/2019/11/Compliance-Updates-as-of-October-2019.pdf> (accessed August 5, 2021).

⁴³ Arra Perez, "DENR: PH generated 362,000 metric tons of waste in 2020, 4x higher vs 2019," ABS-CBN News (June 18, 2021) <https://news.abs-cbn.com/news/06/18/21/ph-generates-362000-metric-tons-waste-2020>.

⁴⁴ CNN Philippines Staff, "DENR: 52,000 metric tons of hospital waste generated amid the pandemic," CNN Philippines (April 14, 2021) <https://cnnphilippines.com/news/2021/4/14/hospital-waste-piles-up-pandemic.html>.

activities and the manufacturing sector (contributing 4.1%).⁴⁵ More than half of waste generated is biodegradable, at 52.3%, followed by recyclable materials, at 27.78%. Most of these recyclables are plastic wastes.⁴⁶

This problem is compounded by the lack of waste management infrastructure in the country. According to the latest DENR statistics, there are only 237 sanitary landfills nationwide to service the 1,634 cities and municipalities in the country; and only 11,625 materials recovery facilities (MRFs) to cater to over 42,000 barangays (villages).⁴⁷ SWM is “constantly challenged by the increasing amount of waste with the limited resources and infrastructures in place. Some of the major challenges include inadequacy of waste facilities due to constraints in funding and manpower, and the poorly implemented regulations for the recyclables market”.⁴⁸

There are concerns that a large proportion of waste will end up in waterways and oceans, given recent studies that list the Philippines among the world's third largest contributor to ocean plastic pollution.

Poor waste management also placed the Philippines as the third largest contributor of plastic waste with an estimated 0.75 million metric tonnes of mismanaged plastic entering the ocean every year.⁴⁹



A recent study that conducted a plastic material flow analysis also showed that of the 2,150 thousand tonnes of plastic consumed in the country, only 9% is recycled, and 35% is leaked into the open environment.⁵⁰

Another issue adding to an already complex situation is that of waste trade. A report from Greenpeace Southeast Asia showed that from 4,650 and 4,267 tonnes in 2016 and 2017 respectively, plastic waste imports to the Philippines ballooned to 11,761 tonnes in 2018, with most were exports coming from Japan, the United States, Taiwan, Indonesia and Hong Kong.⁵¹ In the last two years, illegal waste imports have made headlines in the Philippines. With the present administration's position that “the Philippines will not be a dumping ground for other countries,” both the government and the public at large have begun to pay close attention when shipments of waste are discovered. Illegal waste shipments from Japan, Canada, Australia, South Korea, and Hong Kong have been documented,⁵² but there are fears more may have slipped past government authorities.

National Regulatory Framework

The Philippines has a very comprehensive set of national policies on solid waste management and pollution. Apart from Republic Act (RA) 9003, or the Solid Waste Management Act of 2000, and RA 6969, or the Toxic and Hazardous Substances Act of 1990, regulatory bodies, prohibitions, penalties are also provided for under other environmental laws.

Likewise, specific regulations and issuances from individual government provide for permitting requirements and regulatory protocols, as well as voluntary actions from particular industries. While these are targeted in their scope, they undoubtedly have implications for solid waste management and pollution control, particularly in the medium and long term.

Adding to these are numerous local-level ordinances that also seek to reduce certain types of waste, such as single-use plastic packaging, at source. This hews

45 Department of Environment and Natural Resources - Environmental Management Bureau, National Solid Waste Management Status Report 2008-2018, 1. <https://emb.gov.ph/wp-content/uploads/2019/08/National-Solid-Waste-Management-Status-Report-2008-2018.pdf>

46 Ibid. 1-2

47 DENR-EMB. 2021. Solid Waste Management Statistics. <https://emb.gov.ph/solid-waste-management-data/> (accessed 16 May 2021).

48 WWF-Philippines. 2020. EPR Scheme Assessment for Plastic Packaging Waste in the Philippines. WWF: Quezon City.

49 See: Jenna Jambeck, Geyer, R. & Wilcox, C. et al. “Plastic waste inputs from land into the ocean.” *Science* 347 6223 (2015).

50 See: WWF-Philippines. 2020. EPR Scheme Assessment for Plastic Packaging Waste in the Philippines. WWF: Quezon City.

51 Greenpeace Southeast Asia (GPSEA). 2018. Southeast Asia's Struggle Against the Plastic Waste Trade.5.

52 See Gregorio Rafael P. Bueta. 2020. Waste Trade and the Philippines: How Local and Global Policy Instruments Can Stop the Tide of Foreign Waste Dumping in the Country.

closely to the national approach to solid waste management, i.e. the devolution of functions to local government units at the provincial, city or municipal and village (barangay) levels. Local governments are primarily responsible for the implementation of the Solid Waste Management Act within their areas of jurisdiction. Segregation and collection of biodegradable, compostable and reusable wastes is specifically delegated to the village level, and non-recyclable materials and special wastes are administered by cities or municipalities.⁵³

Philippine environmental policies are generally considered progressive, and, at least on paper, ambitious. These represent the country's compliance with Multilateral Environmental Agreements, and often incorporate the principles and standards in these international policies.

Relevant legal frameworks and policies are summarized in the following table:

Laws on Waste Management

LEGEND: LAW DESCRIPTION RELEVANT PROVISIONS

LAW	DESCRIPTION	RELEVANT PROVISIONS
RA 6969 - Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 Implementing Rules and Regulations - DENR Administrative Order 29 (1992)	<p>This law covers the importation, manufacture, processing, handling, storage, transportation, sale, distribution, use and disposal of all unregulated chemical substances and mixtures in the Philippines, as well as the entry, transit and disposal of hazardous and nuclear wastes (Sec. 3).</p> <p>The law's definition of hazardous substances include those which have long-term environmental impacts, such as "resistance to detoxification process such as biodegradation, the potential to pollute underground or surface waters (Sec. 5f)." The IRR adds a definition for inert wastes, or those which "when placed in a landfill are not reasonably expected not to undergo any physical, chemical, and/or biological changes to such an extent as to cause pollution or hazard to public health and safety (IRR Sec. 6.9)."</p>	<p>Regulatory</p> <ul style="list-style-type: none"> The DENR is mandated to monitor the manufacture and use of chemicals in the country, especially those which have potential impacts on human health and the environment. This mandate also includes monitoring and preventing the entry and transit of hazardous and nuclear wastes into the country (Sec. 6). The IRR specifies an "order of preference" for the proper management of hazardous wastes, as follows: 1) minimization of generation of hazardous waste; 2) recycling and reuse; 3) treatment to render hazardous wastes harmless and 4) landfill of inert residues. These add that hazardous waste should be managed in a manner that avoids pollution, danger to public health and safety, harm to flora and fauna and limitations to beneficial use of the environment (IRR Sec. 24.2). An Inter-agency Technical Advisory Council is created to assist the DENR in carrying out its mandate (Sec. 7). Prohibited acts include the causing, aiding or facilitating, the importation, entry, transit or storage of hazardous and nuclear wastes within the country (Sec. 13). This is considered a criminal offense (IRR Sec. 42). <p>Economic</p> <ul style="list-style-type: none"> Penalties for violations of this act range from imprisonment of 12 to 20 years, as well as fines including Php 500,000 in exemplary damages. The proceeds, instruments and tools used for the entry, transit or storage shall also be forfeited in favor of the government. The person or firm responsible for the illegal importation is also obliged to send back the prohibited wastes (Sec. 14). The IRR are explicit that waste generators shall be responsible for the proper management and disposal of hazardous wastes, as well as bearing the attendant costs for its storage, treatment and disposal (IRR Sec 24.2). <p>Data</p> <ul style="list-style-type: none"> As a general rule, the public shall have access to records, reports or information concerning chemical substances and mixtures including safety data submitted and data on emission or discharge into the environment (Sec. 12).

RA 9003 - Ecological Solid Waste Management Act of 2000 Implementing Rules and Regulations - DENR Administrative Order 34 (2001)

Regulatory

- The National Solid Waste Management Commission (NSWMC) is established, with members from government agencies, local government leagues and representatives from civil society and the private sector (Sec. 4). The NSWMC is tasked with overseeing local government plans, assisting local governments with solid waste management programs, and formulating and updating a list of non-environmentally acceptable materials, among others (Sec. 5)
- Local governments are given primarily responsibility over implementation of the law within their jurisdictions. Segregation and collection of biodegradable, compostable and reusable wastes is specifically delegated to the village level, non-recyclable materials and special wastes are administered by cities or municipalities (Sec. 10).
- Provincial Solid Waste Management Boards are established to develop provincial solid waste management plans, recommend environmental measures and coordinate the efforts of component cities and municipalities, among others (Sec. 11).
- Within 5 years from the passage of the law, local governments should have diverted at least 25% of all solid waste from waste disposal facilities through re-use, recycling, and composting activities and other resource recovery activities. This target should increase every three years (Sec. 20).
- The DTI is mandated to formulate and implement an eco-labeling program for recycling and re-use of packaging materials and products (Sec. 27).
- A list of Non-Environmentally Acceptable Products (NEAP) should have been prepared, and subsequently prohibited according to a set schedule (subject to the availability of cost-effective alternatives) (Sec. 29). These products shall include products or packaging that are unsafe in production, use, post-consumer use, or that produce or release harmful products (IRR Rule III Sec. 1).
- Prohibited acts include littering, throwing, dumping of waste in public places, causing or permitting the collection of non-segregated wastes, open dumping or burying of waste in flood prone areas, construction or operation of landfills or any waste disposal facility in critical water ecosystems, among others (Sec. 48).

Economic

- Section 45 specifically pertains to incentives for individuals, private organizations and NGOs with projects, technologies, processes and techniques or activities in re-use, recycling and reduction. These may be fiscal incentives, such as tax and duty exemptions or credits, or non-fiscal, such as simplified permitting processes. Government financial institutions are also enjoined to accord high priority to extend financial services to individuals, enterprises, or private entities engaged in solid waste management (Sec. 45).
- The National Solid Waste Management Fund is created to finance products, facilities, and technologies for proper

solid waste management, incentives, research, awareness raising, monitoring and enforcement activities (Sec. 46).

- Penalties for violations vary, ranging from minimal (Php 300 to Php 1000), to higher fines (Php 10,000 to Php 1 million) for more severe offenses (Sec. 49).

Technology

- Local government solid waste management plans shall define the methods and the facilities required to process solid waste, including the use of appropriate and accepted technologies (Sec. 17).

Data

- A National Ecology Center is established under the NSWMC to facilitate training and education, establish a solid waste management information database, and conduct pilot modeling, among others (Sec. 7).
- The DENR and other concerned agencies shall publish an updated National Solid Waste Management Status Report every two years (Sec. 15).
- The DTI and other concerned agencies and sectors should have developed a publish a study of existing markets for processing and purchasing recyclable materials and the potential steps necessary to expand these markets (Sec. 26).
- The DENR is mandated to encourage, cooperate in and assist in research on solid waste management, particularly its impacts, new technologies and methods and alternative uses for collected waste (Sec. 54).
- The IRR further specifies areas for research for government agencies (IRR Rule XXI Sec.1):
 - DOH: health impacts of solid waste on scavengers, garbage collectors and personnel in SWM programs;
 - DENR: community-based SWM initiatives, economic instruments for SWM;
 - DOST: alternative uses for non-recyclable materials, new methods for solid waste collection, disposal, processing and materials recovery.

Voluntary

- The National Ecology Center is directed to assist local governments to set up and implement reclamation programs or buy back centers in coordination with manufacturers, recyclers and generators (Sec. 28).
- Local government solid waste management plans shall indicate measures which the private sector may participate in, particularly as regards the development of technology. This participation may be incentivized by fiscal or non-fiscal incentives (Sec. 17).
- The IRR enjoins all government agencies and offices to ensure the implementation of waste management programs within their work premises, including through policies for environmentally friendly purchasing (IRR Rule XXI Sec. 3).

**RA 8970 - An Act Prohibiting the Manufacture, Importation, Distribution and Sale of Laundry and Industrial Detergents containing Hard Surfactants
Implementing Rules and Regulations - DTI Administrative Order 02 (2001)**

This law prohibits the manufacture, importation, distribution and sale of detergents made with surfactants of low biodegradability, and provides incentives for manufacturers that use natural ingredients.

Regulatory

- The Bureau of Product Standards is charged with updating relevant national standards, and monitoring imported and locally-manufactured detergents to ensure that these are free from hard surfactants (Sec. 4)

Economic

- Administrative sanctions, fines and cancellation of licenses to operate and/or Product Standards Quality Marks may be imposed on manufacturers, importers, distributors and sellers of detergents that are found to contain hard surfactants (Sec. 5).
- Penalties may be imposed on individuals, or corporations through their officers or managers who

knew, or should have known of, the commission on the offense (Sec. 6).

- The Board of Investments may grant fiscal incentives to local producers or manufacturers who develop or modernize their processing plants to produce natural and biodegradable surfactants (Sec. 8).

Data

- As a general rule, the public shall have access to records, reports or information concerning chemical substances and mixtures including safety data submitted and data on emission or discharge into the environment (Sec. 12).

Relevant Provisions in other Environmental Laws

Presidential Decree 979 (1976)

This issuance identifies prohibited acts constituting marine pollution, corresponding penalties for these, and mechanisms for enforcement and implementation.

Regulatory

- Prohibited acts constituting marine pollution include: discharging or dumping
- Exceptions may be allowed in cases of emergencies, unavoidable accidents, or where the dumping is the only way of avoiding danger or threats to human lives or property, or if there is a probability that the damage from the dumping will be less than what would otherwise occur (Sec. 4).
- The National Pollution Control Commission⁵⁴ is charged with the promulgation and updating of regulations on marine pollution and the discharge of effluents.

- The Philippine Coast Guard is given the task of enforcement, and shall also promulgate its own rules in line with those from the NPCC (Sec. 5,6). The PCG shall also develop its capacities for containment and recovery of spilled oil (Sec. 8).

Economic

- Penalties for the prohibited activities include fines and/or imprisonment, as well as other administrative penalties that the PCG may provide (Sec. 7).

⁵⁴ The National Pollution Control Commission was abolished, and its functions integrated into the DENR-EMB, by virtue of EO 192 (1987), which reorganized the Department.

Presidential Decree 1067 (1976) - Water Code of the Philippines

This law sets out principles and a framework for the appropriation, control and conservation of the country's water resources, and related land rights (Art. 2).

Regulatory

- The National Water Resources Council⁵⁵ is charged with overseeing the utilization, exploitation, development, conservation and protection of water resources (Art. 3d).
- All persons, including government agencies, are required to secure a water permit for the appropriation of water resources (Art. 12). These permits may be revoked upon findings of pollution, public nuisance or acts detrimental to public health and safety (Art. 29).
- The National Pollution Control Commission is empowered to approve and regulate projects that may introduce sewage, industrial waste, or any pollutant

into waters (Art. 75). They may also set the water quality standards (Art. 75), and regulate the use of fertilizers and pesticides that may pollute the water supply (Art. 78).

- Prohibited acts include the unauthorized establishment of waste disposal facilities near the water supply and the construction of works that may introduce sewage, industrial waste or other pollutants into the water supply (Art. 91).

Economic

- Penalties for the prohibited acts may include fines, imprisonment, or both (Art. 91).

Presidential Decree 1152 - Philippine Environment Code (1977)

This issuance sets out principles for various aspects of environmental management, including by setting out broad environment quality standards. Title V of the issuance specifically pertains to Waste Management.

Regulatory

- Waste management programs are required of all provinces, cities and municipalities. These shall provide for systems for safe and sanitary disposal of waste, among others (Sec. 43).

- Dumping waste into the seas or other bodies of water is prohibited, unless this is done to avoid imminent danger to life or property, subject to rules promulgated by the Philippine Coast Guard and National Pollution Control Commission (Sec. 49).

Proclamation No. 470 (2003)

This issuance declares the third Saturday of September as the annual International Coastal Clean Up day.

Voluntary

- This issuance does not create specific mandates or obligations, but it does underscore the importance of partnerships between government, environment groups and citizens, as well as the need to remind Filipino citizens of the problem of marine debris.

⁵⁵ The National Water Resources Council was reorganized and renamed as the National Water Resources Board, following EO 124-A (1987).

**RA 9275 - Clean Water Act of 2004
Implementing Rules and Regulations - DENR Administrative Order 10 (2005)**

This law provides for processes and procedures to address water pollution, and establishes a national water quality management program (Sec. 2).

Regulatory

- Designated water quality management areas are administered by a multi-sectoral governing board, with representatives from national and local government, civil society and the private sector (Sec 5).
- Within each area, a multi-sectoral group shall monitor water quality and submit recommendations for the governing board to act upon (Sec 5).
- A National Water Quality Management Fund is established to finance clean ups, rehabilitation, research, enforcement and monitoring, rewards and incentives and information campaigns (Sec. 9). Guidelines on the use of this fund are set out in DENR AO 2013-15.
- The DENR is mandated to prepare and periodically review: a) water quality guidelines, b) effluent standards, and c) procedures for sampling and analysis of pollutants, as well as categories for: a) sources of water pollution and b) water bodies according to their usage (Sec. 19 e-j). The current water quality guidelines and general effluent standards are detailed in DENR AO 2016-08. An integrated water quality management framework has also been adopted through DENR AO 2013-08.
- Prohibited acts cover a range of activities that introduce various forms of pollutants into bodies of water. Prohibitions extend to cases wherein pollutants are washed into water bodies by tides or storms (Sec. 27 a), where the discharge may be due to gross negligence (Sec. 27 g), and where regulated

pollutants are discharged without the proper permits (Sec. 27 i).

Economic

- Project or program proponents are required to put up an Environmental Guarantee Fund as part of their Environmental Management Plan, to finance conservation of ecosystems and aquifers and clean up and rehabilitation of damaged areas (Sec. 15)
- Penalties for the prohibited activities range from fines of Php10,000 to 200,000, with provision for ramping up to account for inflation. Penalties are also imposed for willful or negligent failure to carry out clean up operations (Sec. 28).

Data

- The DENR is mandated to lead the preparation and periodic review and update of: a) a National Water Quality Status Report, b) an Integrated Water Quality Management Framework, c) 10-year Water Quality Management Area Action Plans for designated water management areas and d) a national groundwater vulnerability map (Sec. 19 a-d).

Voluntary

- DENR encourages owners or operators of facilities that discharge regulated effluents to adopt waste treatment and waste minimization technologies, if these are cost effective (Sec. 14).

RA No. 8749 Clean Air Act of 1999

This law provides for processes and procedures to address air pollution.

Regulatory

- Provides for "a general prohibition on the use of incineration and open burning for the disposal of waste" (Sec. 20).

<p>Executive Order No. 533 (2006)</p>	
<p>This issuance adopts Integrated Coastal Management (ICM) as a national strategy for the sustainable development of the country's coastal and marine resources, while also ensuring food security, poverty alleviation, livelihoods and disaster risk reduction (Sec. 1).</p>	
<p>Regulatory</p> <ul style="list-style-type: none"> The DENR is mandated to develop a national ICM program, in consultation with the concerned agencies, sectors, and stakeholders (Sec. 3). This program shall include mechanisms, strategies, capacity building and mainstreaming programmes and provisions for monitoring and incentives on various ICM practices, including integrated waste management of sewage, solid, hazardous, toxic and other wastes (Sec. 4). 	<ul style="list-style-type: none"> The national program shall guide local governments in the development and implementation of local ICM programs (Sec. 3). <p>Data</p> <ul style="list-style-type: none"> The DENR is mandated to establish, oversee and maintain a coastal and marine environmental information management system and network, in collaboration with other agencies, institutions and local governments (Sec. 8).
<p>RA 8550 (1998), as amended by RA 10654 (2015), or the Philippine Fisheries Code Implementing Rules and Regulations - DA Administrative Order 10 (2015)</p>	
<p>These laws regulate the national fisheries and aquatic resources, whether inland, coastal or offshore (RA 8550 Sec. 3), seeking to ensure that these are developed, utilized, managed and conserved rationally and sustainably (RA 10654 Sec. 2).</p>	
<p>Regulatory</p> <ul style="list-style-type: none"> Definition of aquatic pollution includes the dumping and disposal of waste and other marine litter, and other toxic and hazardous wastes. Deforestation, excessive use of chemical fertilizers and artificial fish feed and wetland conversion are also considered aquatic pollution (RA 8550, Sec. 4). Establishes multi-stakeholder Fisheries and Aquatic Resources Management Councils (FARMCs) at the following levels: <ul style="list-style-type: none"> National (NFARMC), to assist in the development of policies for the protection, management and sustainable development of fisheries and aquatic resources (RA 8550, Sec.70-2); 	<p>Municipal (MFARMC), to assist in local-level planning and policy-making and in the enforcement of fisheries laws in municipal waters (RA 8550, Sec. 73-4);</p> <p>Integrated (IFARMC), for bodies of water bounded by two or more municipalities or cities (RA 8550, Sec. 76-7).</p> <p>Economic</p> <ul style="list-style-type: none"> Penalties for aquatic pollution increased under RA 10654 (Sec. 107)
<p>RA 7586 (1992), as amended by RA 11038 (2018) - the Expanded National Integrated Protected Areas System (E-NIPAS) Act Implementing Rules and Regulations - DENR Administrative Order 05 (2019)</p>	
<p>These laws establish the Philippines' National Integrated Protected Areas System, composed of "ecologically rich and unique areas and biologically important public lands that are habitats of rare and threatened species of plants and animals, biogeographic zones and related ecosystems, whether terrestrial, wetland or marine (Sec. 2)."</p>	
<p>Regulatory</p> <ul style="list-style-type: none"> Prohibited acts within PAs, include dumping toxic and hazardous waste and littering and depositing refuse in the ground or bodies of water (RA 11038, Sec. 18). 	<p>Economic</p> <ul style="list-style-type: none"> Penalties for these prohibited acts, which may also apply to presidents or managers of corporations who participated in, or had actual knowledge of, the actions of their subordinates. These penalties apply in addition to any others provided for under relevant laws (Sec. 19).

Implementation, Enforcement and Monitoring

<p>RA 4850 (1966) LLDA Resolution 192 (2004) - Revised Rules, Regulations and Procedures Implementing RA 4850</p>	
<p>This law creates the Laguna Lake Development Authority (LLDA) and defines its powers and functions.</p>	
<p>Regulatory</p> <ul style="list-style-type: none"> The LLDA is mandated to oversee the development and growth of the Laguna Lake area. To this end, it is mandated to issue permits and collect for projects or activities that affect the lake, and impose safeguards for lake quality control and management. The LLDA is also directed to coordinate with other national government agencies to establish and enforce water quality standards for industrial, agricultural and municipal waste discharges into the lake (Sec. 4 n, k). <p>Economic</p> <ul style="list-style-type: none"> Compensation for damages to the water and aquatic resources of Laguna de Bay and its tributaries resulting 	<p>from failure to meet established water and effluent quality standards or from other wrongful act or omissions shall be awarded to the LLDA for water quality control and management (Sec. 4-A).</p> <p>Data</p> <ul style="list-style-type: none"> The LLDA is mandated to conduct studies on the improvement and maintenance of the desirable lake water quality, and regularly prepare a water quality management program, to be approved by NEDA and implemented with other government agencies (Sec. 4 p).
<p>RA 7160 (1991) - the Local Government Code</p>	
<p>Regulatory</p> <ul style="list-style-type: none"> Local governments shall exercise powers expressly granted, those necessarily implied there from, as well as powers necessary, appropriate, or incidental for its efficient and effective governance, and those which are essential to the promotion of the general welfare. This includes powers to enhance the right of the people to a balanced ecology (Sec. 16). Barangays are charged with the provision of services and facilities related to general hygiene and sanitation, beautification, and solid waste collection (Sec. 17 b1). Municipalities' responsibilities include the establishment of solid waste disposal systems or 	<p>environmental management systems and services or facilities related to general hygiene and sanitation (Sec. 17 b2).</p> <ul style="list-style-type: none"> National government agencies or government owned and controlled corporations planning or implementing projects or programs that may cause pollution must consult with local government units, NGOs and stakeholders (Sec. 26). <p>Economic</p> <ul style="list-style-type: none"> Machinery and equipment used for pollution control and environmental protection are exempt from payment of real property tax (Sec. 234).
<p>EO 186 (1994)</p>	
<p>This issuance reorganized the Cabinet Committee on the Law of the Sea and renamed it as the Cabinet Committee on Maritime and Ocean Affairs (Sec. 1).</p>	
<p>Regulatory</p> <ul style="list-style-type: none"> The Cabinet Committee is charged with policy formulation on concerns affecting implementing the UN Convention on the Law of the Sea and other maritime-related matters (Sec. 1). It is chaired by the Secretary of Foreign Affairs (Sec. 2). This Committee formulated the National Marine Policy in 1994. Pillar 4 of this policy focused on marine development and conservation, seeking to "protect coastal and marine resources against threats of pollution through an integrated coastal zone management network."⁵⁶ 	

EO 57 (2011)

This issuance establishes the National Coast Watch System (NCWS), as an inter-agency mechanism for coordinating approaches on maritime issues, particularly maritime security.

Regulatory

- The NCWS is tasked with (among others) exercising overall jurisdiction over policy-formulation, implementation and coordination with other government agencies, experts and organizations on all maritime issues affecting the country (Sec. 3).
- A National Coast Watch Center is established to (among others) coordinate maritime surveillance or response operations, support prosecution of offenders, and monitor the national maritime situation (Sec. 5).

RA 10863 - Customs Modernization and Tariff Act (2016)

This law seeks to enhance customs systems, processes and procedures, with a view toward facilitating trade, curtailing illegal activities and transparency and coordination in customs administration (Sec. 1).

Regulatory

- Reiterates the prohibition in RA 6969 on the importation of hazardous and nuclear wastes (Sec. 118 g).
- Other prohibited acts include dumping of garbage or slops over the sides of the vessel within three miles from the nearest coastline and dumping or causing to spread crude oil, kerosene, or gasoline in the bay or at the piers within three miles from the nearest coastline (Sec. 1429 b, c).

Economic

- Owners or operators of vessels found dumping garbage, slops, crude oil, kerosene or gasoline may be liable for a fine of Php 1 million to 10 million (Sec. 1429 b, c).
- Owners or operators of vessels found transporting hazardous waste in violation of RA 6969 shall also forfeit their vessel in favor of the government (Sec. 1429 f).

Private Sector Incentives**RA 7394 - Consumer Act of the Philippines (1992)
Implementing Rules and Regulations - DTI Administrative Order 02 (1993)**

This law establishes standards of conduct for businesses and industries, to protect the interests of consumers, particularly as regards their health and safety, against deceptive and unfair practices, provision of adequate information and participation in policy development (Art. 2)

Regulatory

- The concerned government departments (whether the DOH, DA or DTI) are mandated to establish quality and safety standards for product composition, contents, design, construction, finish and packaging (among others) (Art. 7).
- A multi-sectoral National Consumer Affairs Council is established, whose functions include undertaking a continuous information campaign for consumers (Sec. 153).
- Working with the NCAC, the DepEd is mandated to develop and adopt a consumer education program which shall include information on the social and environmental impacts of consumption (Art. 154).

**RA 10771 - Green Jobs Act of 2016
Implementing Rules and Regulations - DOLE Administrative Order 180 (2017)**

This law seeks to aid the country's sustainable development and transition to a green economy by supporting the creation of green jobs, or employment that contributes to preserving or restoring the quality of the environment (Sec. 4).

Regulatory

- Employment towards minimizing or avoiding the generation of all forms of waste and pollution are classified as green jobs. These must also be decent jobs that are productive, respect the rights of workers, deliver a fair income, provide security in the workplace and social protection for families, and promote social dialogue (Sec. 4).
- The DOLE is tasked with formulating a National Green Jobs Human Resource Development Plan, maintaining a green jobs database and facilitating skills training and capacity development, certification and technical assistance to the private sector (Sec. 6 a).
- The Climate Change Commission, in consultation with other agencies is tasked with developing and administering standards for the assessment and

certification of green goods and services, and green technologies and practices to guide the availment of incentives and ensuring green jobs content pursuant to the National Green Jobs Human Resource Development Plan (Sec 6 o).

Economic

- To generate and sustain certified green jobs, businesses may claim additional tax deductions equivalent to 50 percent of expenses for skills training and research development expenses and tax and duty free importation of capital equipment that are directly and exclusively used to promote green jobs. These apply in addition to the relevant incentives under other laws (Sec. 5)

**RA 11337 - Innovative Startup Act (2019)
Implementing Rules and Regulations - DOST DTI DICT Joint Administrative Order (2019)**

This law seeks to support and incentivize the creation of innovative businesses, which result in new and improved goods and services (Sec. 3).

Economic Technology

- Upon endorsement from national government agencies, local government units, or public academic institutions, startups and startup enablers may claim subsidies for permitting and operating expenses, and grants for research, development, training and expansion (Sec. 7).

National Action Plans and Programs

RA 9003 tasks local governments with preparing 10-year Local Solid Waste Management Action Plans, following the national framework developed by the NSWMC. These should emphasize programs for reuse, recycling and composting, will also identifying interventions for wastes which cannot be processed in these ways.⁵⁷ However, while the DENR-EMB reported that 1,610 local governments had submitted their plans in 2019, almost half of these were still pending the NSWMC's review and approval.⁵⁸

Moreover, although a National Solid Waste Management Strategy was prepared in 2012, this has not been updated since its lapse in 2016. At the time, the strategy outlined gaps, and corresponding objectives, actions, and partners for seven components and identified cross-cutting issues, as follows:

⁵⁷ RA 9003 Sec. 16

⁵⁸ Department of Environment and Natural Resources – Environmental Management Bureau, National Solid Waste Management Status Report at <https://emb.gov.ph/wp-content/uploads/2019/08/National-Solid-Waste-Management-Status-Report-2008-2018.pdf> (accessed 3 August 2021)

1. Bridging policy gaps and harmonizing policies;
2. Organizational development and enhanced inter-agency cooperation;
3. Sustainable Solid Waste Management financing;
4. Support for knowledge management on technology, innovation and research;
5. Creation of economic opportunities;
6. Compliance, monitoring, enforcement and recognition;
7. Capacity development, social marketing and advocacy; and
8. Cross-cutting issues, including good governance, care for vulnerable groups and reduction of disaster and climate risks.⁵⁹

While this strategy has not been updated, more recent sectoral plans on climate change, biodiversity and national development also devote sections and/or outcomes to addressing pollution, as follows:

- **In the National Climate Change Action Plan 2011-2028 (NCCAP)**, ecological solid waste management is an identified output area under the outcome on greening cities and municipalities. In this regard, the NCCAP targeted the establishment of programs under RA 9003 in all local government units by 2016, as well as the closure of waste disposal facilities in environmentally critical areas.⁶⁰
- **In the Philippine Development Plan 2017-2022 (PDP)** identifies targets toward "ensuring ecological integrity, and a clean and healthy environment."⁶¹ These include increasing the solid waste diversion rate by 80% in 2022, and increasing the percentage of healthcare waste managed by 100% within the same period.⁶² To achieve these, relevant strategies are strengthening enforcement and monitoring of environmental regulations, adoption of pollution abatement solutions, and implementing sustainable consumption and production.⁶³
- **In the Philippine Biodiversity Strategy and Action Plan (PBSAP)** is patterned after the 2010-2020 Aichi Biodiversity Targets, which include a target on reducing pollution. The PBSAP lists two direct interventions related to pollution - reducing sedimentation from land-based activities, and reducing pollution from aquaculture activities.⁶⁴ Bioremediation and phytoremediation are also proposed as technologies to address pollution in wetlands.⁶⁵ Amendments are also sought for RA 9003 and RA 6969.⁶⁶
- **The Coastal and Marine Ecosystem Management Program** focuses on the sustainable management of coral reefs, sea grass beds, mangrove stands, soft bottom areas (mudflats), plankton communities, and water quality of coastal areas. This program is pursuant to DENR Administrative Order 2016-26, which provides the basis for the country's Coastal and Marine Ecosystems Management Program.⁶⁷
- **The Sustainable Science and Technology Solid Waste Management (SSTSWM) Road Map** envisions a circular economy with a solid waste pollution-free environment.⁶⁸ To this end, the document outlines guide posts toward science and technology support for strengthening research and development of cost-effective prevention, control, and management of solid waste, the enforcement of guidelines and standards, and capacity for good environmental governance.

59 Department of Environment and Natural Resources – Environmental Management Bureau, National Solid Waste Management Strategy 2012-2016. <https://nswmc.emb.gov.ph/wp-content/uploads/2016/07/NSWM-Strategy-2012-2016.pdf> (accessed August 3, 2021)

60 Climate Change Commission, National Climate Change Action Plan 2011-2028 <http://climate.emb.gov.ph/wp-content/uploads/2016/06/NCCAP-1.pdf> (accessed 3 August 2021), 102.

61 National Economic Development Authority, Updated Philippine Development Plan 2017-2022 http://pdp.neda.gov.ph/wp-content/uploads/2021/07/7212021_Updated-PDP-2017-2022.pdf (accessed August 4, 2021), 342.

62 Ibid. 343

63 Ibid. 344

64 Department of Environment and Natural Resources, Philippine Biodiversity Strategy and Action Plan 2015-2028, 197-198

65 Ibid. 228

66 Ibid. 199

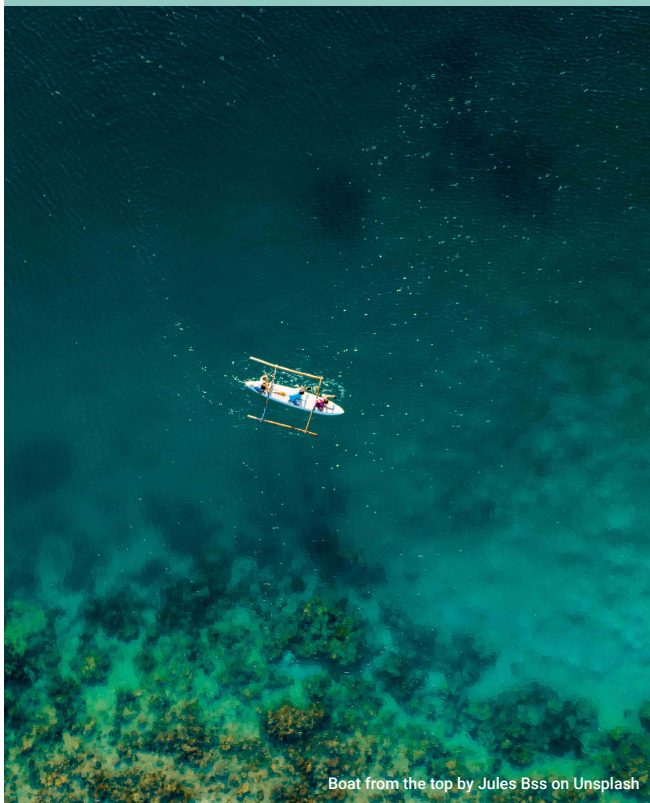
67 Department of Environment and Natural Resources, Biodiversity Management Bureau. no date. "Management of Coastal and Marine Resources." <https://bmb.gov.ph/index.php/major-programs/cmemp>

68 DOST-PCIEERD Presentation, 30 July 2021.

Other programs are also in development, which deal with specific issues around the broader challenge of solid waste management. The National Economic Development Authority (NEDA), for its part, has begun work on a national Action Plan for Sustainable Consumption and Production. This document seeks to incite behavior change, with outcomes focused on shifting the preferences of producers and consumers toward more sustainable goods and services. According to NEDA officials, this plan is slated for release in 2021.

In addition, work on a **National Plan of Action on Marine Litter (NPOA-ML)** has also begun under the DENR-EMB.

The **NPOA-ML** is a strategic document that will serve as a blueprint to enhance the country's efforts at resource and waste management, while foregrounding marine litter issues and the need to control additional leakage of waste into bodies of water. Its ultimate target is "zero waste in Philippine waters by 2040."



The DENR-EMB has described the NPOA-ML as a product of inter-agency collaboration, with active involvement of the private sector, civil society and academic institutions. The plan likewise follows the regional framework of the ASEAN and UNEP. It supports the overarching goal of "Zero waste to Philippine waters by 2040" to support the vision of "A Philippines free of marine litter through shared participation, responsibility, and accountability."

Marine litter prevention, reduction and management measures are divided between Programmatic and Cross-Cutting actions (see text box below). Lead and cooperating agencies are tasked to implement each strategy.

Programmatic Cluster of Actions

1. Establish science- and evidence-based baseline information on marine litter
2. Mainstream circular economy (CE) and sustainable consumption and production (SCP) initiatives
3. Enhance recovery and recycling coverage and markets
4. Prevent leakage from collected or disposed waste
5. Reduce maritime sources of marine litter
6. Manage litter that is already existing in the riverine and marine environments

Enabling/Cross-cutting Cluster of Actions

7. Enhance policy support and enforcement for marine litter prevention and management
8. Develop and implement strategic and targeted social marketing and communications campaigns using various media
9. Enable sufficient and cost-effective financing and other institutional resource requirements for the implementation of the NPOA-ML

Several rounds of public consultations have been conducted, and the plan is currently being finalized and awaiting approval. It is due for release in 2021.

Efforts in the Pipeline

There are also several notable efforts in the pipeline, geared toward addressing the issue of marine litter.

Prospective national policies

House Bill 9147 or the proposed SUP Plastic Products Regulation Act, proposes a two-pronged approach. First, it introduces a timeline for the phase out of single-use plastic products which are identified as "highly replaceable, low in recyclability and low in retrievability." The schedule would see products taken off the market within one or four years, in addition to implementing other interventions. Second, this policy seeks to strengthen producers and importers recovery programs to address the leakage of waste into the environment, and provide for tax incentives for enterprises engaged in waste recovery.⁶⁹

This bill has passed on final reading before the House of Representatives in July 2021. The Senate version of the bill remains pending before the Committee on Environment.⁷⁰

House Bill 7609, or the proposed Philippine Circular Economy Act of 2020 focuses on mainstreaming circular economy and sustainable consumption and production strategies. It is in light of this that it also calls for a phase out of single use plastics and the establishment of an EPR scheme, in addition to other measures to promote, support and incentivize efforts to develop a circular economy. This Bill was filed in September 2020 and is currently pending at the Committee level before the House of Representatives.

Foreign-assisted projects.

Efforts to curb marine litter, especially plastic waste, feature in several foreign-assisted projects at the DENR. Most are implemented in partnership with the DENR EMB and/or BMB, and focus on one or more priority localities.⁷¹

Notable among these are the efforts related to the NPOA-ML. This USD 3 million-funded project forms part of UN-Habitat's Healthy Oceans and Clean Cities Initiative. Apart from developing policy support for the NPOA-ML, this project also seeks to localize the plan in five pilot cities. The Korea International Cooperation Agency (KOICA) is also slated to support capacity building activities for national agencies and local governments on marine litter monitoring and response. Other projects concerning the broader issues of coastal and marine management, plastic pollution, and circular economies are further supported by the UNDP, GIZ and the ADB, among others.

⁶⁹ Dilbert Quetulio PowerPoint presentation, 30 July 2021

⁷⁰ Rambo Talabong, "House OKs bill banning single use plastics." Rappler (July 29, 2021). <https://www.rappler.com/nation/house-approves-bill-banning-single-use-plastics>

⁷¹ See: DENR-FASPS, "Pipeline Foreign Assisted Projects." (no date). <https://fasps.denr.gov.ph/index.php/projects/foreign-assisted-projects/pipeline-faps>

3 GAP ANALYSIS FINDINGS AND OBSERVATIONS

Guided by the Framework and Methodology in Annex B, the tables below present and assess the gap analysis framework in relation to existing laws, policies and measures, and those proposed or in the pipeline. The assessment will use the following criteria:

A. Policy Enacted, or Target Available and Up-to-Date

there is an existing policy and/or target and it is assessed as adequate to address the specific criteria.

B. Policy Enacted, or Target Available but Inadequate

there is an existing policy and/or target and it is assessed as inadequate due to outdated targets, poor implementation, or missing elements, among others.

C. Policy in the Pipeline, or Target Available, but not Up-to-Date





there are verified proposals to address the criteria; or targets are available but outdated.

D. No Policy or Information Available

it has been determined that there is no policy or proposal that deals with the specific criteria.

Summary of Findings and Observations

LEGEND:

	POLICY ENACTED, OR TARGET AVAILABLE AND UP-TO-DATE
	POLICY ENACTED, OR TARGET AVAILABLE BUT INADEQUATE
	POLICY IN THE PIPELINE, OR TARGET AVAILABLE, BUT NOT UP-TO-DATE
	NO POLICY OR INFORMATION AVAILABLE

MITIGATE WASTE LEAKAGE INTO THE ENVIRONMENT	
Regulatory	
National policies that regulate and monitor litter from land based sources	<p>RA 9003 prohibits and penalizes littering, throwing and dumping of waste</p> <p>RA 11038 prohibits and penalizes littering and dumping of waste in designated Protected Areas</p> <p>Phase out and closure of open dumps and sanitary landfills in aquifers, groundwater reservoirs and watersheds (RA 9003)</p>
National policies that regulate and monitor litter from sea based sources	<p>RA 6969 prohibits and penalizes the importation, entry, transit and storage of toxic and hazardous wastes</p> <p>RA 9275 prohibits and penalizes activities that introduce pollutants into bodies of water</p> <p>RA 8550 prohibits and penalizes aquatic pollution, which includes the dumping and disposal of marine litter</p> <p>RA 10863 prohibits and penalizes owners and operators vessels caught dumping waste</p>

Local policies that regulate and monitor litter from land and sea-based sources	Varied local ordinances in different cities, municipalities, and provinces; no national level guidance
National waste reduction target	Mandatory waste diversion target for local governments (RA 9003) Target for closure of open dump sites for solid waste (RA 9003)
National target for reduction of marine litter	May be indicated in the NPOA-ML
National targets reported regularly and accurately	No information on whether the mandatory waste diversion targets have been ramped up by, and/or have been met by local governments.
	Data on illegal dump sites and sanitary landfills available from 2021 but not detailed and disaggregated.
National agency mandated to implement waste management programs	DENR, with the NSWMC providing policy recommendations and oversight over local government units (RA 9003)
National agency specifically focused on marine litter	DENR-EMB, supporting the NSWMC (RA 9003 and IRR)
	DENR-BMB, implementing the Coastal and Marine Ecosystems Management Program (DENR AO 2016-26)
	National Coast Watch System, for coordinating policies and approaches on maritime issues (EO 57 2011)
Regulatory role of local governments identified	RA 9003 provides that local governments shall be primarily responsible for implementation ; Local Government Code of 1991
Economic	
National policies that prescribe prohibitions and penalties for littering	(see above)
National policies include specific prohibitions against/penalties for littering in marine and coastal environments	(see above for prohibited acts and penalties) Identified project proponents put up an Environmental Guarantee Fund to finance conservation of ecosystems and aquifers and clean up and rehabilitation of damaged areas (RA 9275).

Local policies that prohibit and penalize littering in marine and coastal environments	Varied local ordinances in different cities, municipalities, and provinces; no national level guidance
National policies that impose landfill use fees	See RA 9003
National policies that impose recycling fees	Proposed SUP Bill provides for EPR system with fees
National policies on EPR	Bills pending before the Senate and House of Representatives Varied local ordinances in different cities, municipalities, and provinces; no national level guidance
Local policies that impose fees for waste producers	Varied local ordinances in different cities, municipalities, and provinces; no national level guidance
National policies that impose levies and/or charges for particular plastic products	Bill on excise tax on SUP bags filed before the House of Representatives.
Local policies that impose levies and/or charges for particular plastic products	Bill on excise tax on SUP bags filed before the House of Representatives.
Technology	
National policies that mandate specific technology/ies to be used for mitigating waste leakage	May be indicated in the NPOA-ML
R&D efforts to address waste leakage into the environment (with sufficient policy and financial support)	DOST's Sustainable Science and Technology SWM Roadmap looks to develop alternatives for plastic packaging and technologies for up-cycling/recycling of plastics by 2023.
Data / Information	
National policies consider emerging issues and recent science on marine litter and its impacts	May be indicated in the NPOA-ML DOST's Sustainable Science and Technology SWM Roadmap looks to develop technology for the detection, measurement and treatment of microplastics and other marine litter by 2023

<p>National policies support public access to information on waste management, including pollution and waste leakage</p>	<p>RA 6969 allows access to records, reports and information on discharge of chemical substances into the environment</p> <p>National Solid Waste Management Status Report prepared and published every two years (RA 9003)</p> <p>National Water Quality Status Report periodically prepared and updated (RA 9275)</p>
<p>Voluntary</p>	
<p>National policies that encourage citizens participation in waste reduction and clean ups</p>	<p>RA 9003 provisions</p> <p>January as Zero Waste Month every year (via Presidential Proclamation)</p> <p>Presidential Proclamation No. 470 declares the third Sunday of September of each year as the International Coastal Clean-Up (ICC) Day in observance of the Global Coastal Clean-up celebrations</p>
<p>National policies that encourage private sector participation in waste reduction and clean ups</p>	<p>RA 9003 provisions</p> <p>January as Zero Waste Month every year (via Presidential Proclamation)</p> <p>Presidential Proclamation No. 470 declares the third Sunday of September of each year as the International Coastal Clean-Up (ICC) Day in observance of the Global Coastal Clean-up celebrations</p>
<p>National policies that encourage or incentivize reduction of marine litter specifically</p>	<p>(see above on Presidential Proclamation 470).</p>

INCREASE WASTE RECOVERY AND RECYCLING

Regulatory

<p>National targets for waste recovery and recycling</p>	<p>See PDP 2017-2021</p>
<p>National targets for waste recovery and recycling of marine litter</p>	<p>May be indicated in NPOA-ML</p>
<p>National policies that prescribe minimum recycled content standards</p>	<p>National eco-labeling program for recycling and re-use of packaging materials and products under the DTI (RA 9003)</p>

National policies that require waste segregation at source	See Sec. 21 of RA 9003
Economic	
National policies impose penalties prescribed for facilities and individuals who fail to segregate waste at source	Secs 48 (4) and (8) RA 9003
National policies provide incentives to facilities and individuals who segregate their waste	Section 45, RA 9003
National policies provide incentives related to recycling infrastructure and/or technology	Fiscal and non-fiscal incentives identified for individuals, private sector and NGOs with projects, technologies, processes and techniques or activities in re-use, recycling and reduction (RA 9003) Local government plans indicate fiscal or non-fiscal incentives for private organizations that participate in SWM efforts, particularly the development of technology (RA 9003)
National policy provides for incentives that specifically pertain to the recovery of marine litter	May be indicated in NPOA-ML
Technology	
National policies support research and development in waste recycling technology	Local government plans identify methods and facilities for processing solid waste, including appropriate technologies DENR to support research in new technologies and methods for waste management (RA 9003)
National policies support research and development in waste recovery technology	(see above) DOST's Sustainable Science and Technology SWM Roadmap looks to technologies for up-cycling/recycling DOST's Sustainable Science and Technology SWM Roadmap seeks to develop technologies for up-cycling/recycling of plastics by 2023, and help upgrade institutional capacities for sustainable SWM by 2024.
National policies support research and development for tracking additives in waste	
National policies that mandate product type composition for better recovery and recycling	Identification and phase out of non-environmentally acceptable products (RA 9003) Philippine national standards for plastics/SUPs. Note however, that these are currently not mandatory.

Data / Information	
National policies on mandatory reporting on waste recovery and recycling for government facilities and agencies	<p>NSWMC Resolutions for waste reduction in government agencies, but no mandatory reporting of statistics</p> <p>RA 9003 IRR on environmentally friendly purchasing in government offices</p>
National policies on mandatory reporting on waste recovery and recycling for local government units	Reporting to DILG but no data on compliance
National policies on mandatory reporting on waste recovery and recycling for the private sector	Publicly listed companies required to attach Sustainability Reports to their Annual Reports, which shall include data on their solid waste generation (SEC MC 4 2019)
Voluntary	
National policies encourage citizens participation in waste recovery and recycling	Sections 55 and 56, RA 9003
National policies encourage private sector participation in waste recovery and recycling	Sec. 57 of RA 9003
National policies encourage or incentivize recovery and recycling of marine litter specifically	

CREATING SUSTAINABLE PLASTIC PRODUCTION AND CONSUMER SOCIETY	
Regulatory	
National policies prescribe bans or phase outs for SUP shopping bags	Proposed Bill on SUP Regulation, which includes ban in SUPs
National policies prescribe bans or phase outs for takeaway food containers	NSWMC prepares a list of Non-Environmentally Acceptable Products (NEAP), to be phased out according to a set schedule (RA 9003). Plastic straws and stirrers have been identified as NEAPs (NSWMC Resolution 1428 2021).
National policies prescribe bans or phase outs for plastic from online retail	

Local policies prescribe similar bans or phase outs		Ordinances on SUP bag bans imposed in major cities, including Quezon City, Muntinlupa City, Batangas City, Bacolod City, and Antipolo City, among others.
National policies require the private sector to adopt more sustainable practices (including in SWM)		
National policies that mandate Extended Producers Responsibility		See SUP Bill
National policies that mandate Buy-back, offsetting or credit schemes		See SUP Bill
Economic		
National policies that provide fiscal incentives for the development of plastic alternatives		Fiscal and non-fiscal incentives identified for individuals, private sector and NGOs with projects, technologies, processes and techniques or activities in re-use, recycling and reduction (RA 9003) Businesses that promote green jobs may claim tax deductions for skills training and research development expenses and tax and duty free importation of capital equipment related to these green jobs (RA 10771)
Technology		
National policies that support R&D in plastic alternatives and use of natural and/or eco-friendly materials		Sections 7 and 54 of RA 9003 DOST's Sustainable Science and Technology SWM Roadmap looks to develop alternatives for plastic packaging by 2023
Data / Information		
Data on production, consumption, and disposal patterns of plastic products available		
Voluntary		
National policies encourage citizens participation in circular economies		The NCAC and DepEd consumer education program to include information on the social and environmental impacts of consumption (RA 7394) Environmental Awareness Act of 2008
National policies encourage private sector participation in circular economies		Sec. 57 of RA 9003

Based on the findings of summarized in the table above, the following key points have been observed.

1. There is a comprehensive legal and policy landscape on waste management, but gaps remain in relation to marine litter specifically

The Philippines has a comprehensive legal landscape that encompasses the range of strategic measures and interventions as regards solid waste management and pollution. The general solid waste management framework in RA 9003 is supported by numerous administrative issuances and provisions in other environmental laws in the areas of Protected Areas Management, fisheries, hazardous waste and customs management, among others. Between these, and the sectoral plans that include solid waste management components, the availability of national-level policy guidance and strategic direction is covered.

Institutional mechanisms at the national and local levels are also in place, with national level oversight from the DENR and NSWMC, and local government units mandated to carry out implementation and enforcement within their jurisdictions.

At present, these policies and issuances deal with marine litter issues broadly, and as such, these can be overlooked or passed over in favor of other priorities or concerns. Proposed legislation, and forthcoming plans and programs are expected to specifically address this by creating specific mechanisms and mandates. However, these are prospective, or in the case of the proposed legislation, not guaranteed. Moreover, while aspects of marine litter issues are addressed as part of the overall general waste management, this ad hoc inclusion of marine litter might arguably reduce the significance of the issue especially for an archipelagic country like the Philippines.

Nevertheless, the Philippine government recognizes that pollution of the marine environment is one of the critical issues in overall waste management. In this, the soon-to-be-released NPOA-ML is referred to by the Philippine government as its overall strategy to address marine litter. While it sharpens the focus on marine

litter, however, the strategies and programs of the NPOA-ML (based on information available as of the time of writing) still appear to utilize the existing legal frameworks and mandates of the government agencies and local governments for its implementation.

2. Proposals in the pipeline move towards circularity, and may also serve to address marine litter directly

There has been an increase in awareness of circularity and its associated concepts in recent years. This has been reflected in the support for, and efforts to craft proposals, policies, and legislative bills on these issues. Proposed legislative measures that can potentially improve the legal framework in this regard include those on EPR,⁷² regulation of single-use plastics,⁷³ and circular economy.⁷⁴

Sectoral Road Maps, such as the Sustainable Science and Technology Solid Waste Management Road Map and the Action Plan for Sustainable Consumption and Production, also provide more specific technical insight. These have been complemented by an increasing clamor for greater action on marine litter, and in particular, on plastic pollution.

3. Crucial implementation gaps and the incomplete and out of date information hinder progress

Despite the presence of legal mandates and progressive policies, critical gaps in the implementation and enforcement of key provisions significantly hinder progress to address marine litter. Consultations with government and other stakeholders confirmed that many laws and policies were not being fully implemented. Data and information gaps further limit the decision-making capacity of government officials and policy makers.

This was, in part, attributed to resource and institutional constraints. As an example, numerous policies and issuances translate into additional mandates and functions for the State and its bodies. Many of these are delegated to ad hoc multi-stakeholder and/or inter-

72 Senate Bill (SB) 1331, or Extended Producers Responsibility Act of 2020; and House Bill (HB) 6279 or An Act Mandating The Creation Of An Extended Producer Responsibility Scheme To Address Leakage Of Plastic Waste Into The Environment, And For Other Purposes

73 House Bill 9147 or the Single-use Plastic Products Regulation Act

74 House Bill 7609, entitled Philippine Circular Economy Act of 2020

agency bodies, usually with a Department assigned to provide overall coordination and Secretariat support. While this is one way of supporting broader sectoral and public participation in policy making, mainstreaming and oversight, it has contributed to implementation challenges. These will be discussed and detailed in the succeeding section.

Assessment of Gaps and Barriers

This section of the report will discuss in the detail the identified gaps and barriers based on the analysis of the existing legal and policy framework on marine litter.

	Mitigate waste leakage into the environment	Increase waste recovery and recycling	Create a sustainable plastic production and consumer society
Barrier/Gap			
Legal and Policy	<ul style="list-style-type: none"> Updating national plan and strategy on waste management Fast-tracking approval and implementation of NPOA on marine litter Addressing gaps in current legal framework 	<ul style="list-style-type: none"> Addressing misaligned and non-science based national targets on waste recovery and recycling Ensuring the availability of incentives and support for investments in waste recovery and recycling facilities 	<ul style="list-style-type: none"> Fast-tracking approval and roll-out of SCP Plan Crafting clear and viable upstream policies
Institutional	<ul style="list-style-type: none"> Clarifying mandates and responsibilities among government agencies Enhancing coordination between and among local government units 		
Capacity, Funding, and Resource	<ul style="list-style-type: none"> Building capacity of national government agencies Building capacity of local governments 	<ul style="list-style-type: none"> Mobilizing support for research and development, and new technology 	
Implementation and Enforcement	<ul style="list-style-type: none"> Improving policy implementation and enforcement 	<ul style="list-style-type: none"> Increasing accessible and functional recycling facilities 	<ul style="list-style-type: none"> Fast-tracking implementation of current initiatives Supporting research to establish clear baselines
Political, Societal, and Cultural	<ul style="list-style-type: none"> Addressing the negative impact of local politics in the implementation of waste management laws Giving formal recognition to informal waste sector workers 	<ul style="list-style-type: none"> Addressing the prevalence of throw-away/wasteful culture Strengthening programs to shift consumer behavior 	

Legal and Policy Gaps/Barriers

1. Updating the national plan and strategy on waste management

Having a detailed plan and strategy in place is an essential element of dealing with both broad waste management issues, and more specific challenges, such as marine litter. It is also important that this plan and strategy is updated regularly to meet changing needs, demands, conditions and circumstances. Changing demographics, increasing populations, rising urbanization, and shifting consumer habits and spending are just some of the factors which may the said plans and strategies.

The latest Philippine National Solid Waste Management Strategy (NSWMS) covered the period 2012 to 2016. As of this writing it has not been updated, although there are anecdotal reports of drafts having been prepared. In practice, the DENR and the NSWMC still refer to this outdated NSWMS as the reference point for solid waste management programs and policies. Although waste-related targets have been more recently updated in other government documents, such as the Philippine Development Plan 2017-2022, the lack of an updated NSWMS does not create an impetus for more concrete actions to tackle issues such as marine litter.

The absence of an updated national plan and strategy also impacts critical action needed in particular sectors and industries that impact marine litter. For example, key sectors, such as those listed below, have been identified as significant contributors to marine pollution.

These sectors have prepared action plans or roadmaps (some of which are discussed above) which incorporate some solid waste management targets and activities. One-off activities may have been undertaken by some movers in these industries, but these are disparate and do not come together under a coherent and current national strategy. It would be ideal for these related sectoral plans to be aligned and synergized with an up-to-date NSWMS. Even the proposed NPOA-ML could be subsumed under this document, which could also cover:

- **Transport and Trade** - The maritime industry and ports are now considered as significant sources of both land- and sea-based marine litter. Local efforts at tackling this are just getting underway.
- **Agriculture** – Ill-managed and poorly regulated agricultural practices can be sources of pollution of water bodies, due to the overuse of chemical and inorganic fertilizers, pesticides and herbicides, as well as the absence of alternatives for plastic agricultural products.
- **Tourism** – Save for some ecotourism initiatives, especially those in managed protected areas, tourist activities can drive increases in litter.
- **Industrial activities, construction, and extractives** – These are governed by existing environmental laws, local ordinances, and permitting systems, which consider their

impacts on the natural environment and in some cases, require that mitigating measures be undertaken. However, current plans and strategies do not always look into these activities as potential sources of marine litter.

2. Fast-tracking approval and implementation of NPOA-ML on marine litter

The approval and roll-out of the much-anticipated NPOA-ML could provide better clarity and direction of the Philippines' marine litter response. Government agencies, along with civil society and NGOs have been looking forward to the NPOA-ML, seen as a boost for efforts to tackle marine litter and waste management in the Philippines in general.

Nevertheless, effective implementation of NPOA-ML will require significant investments, support for capacity development and institution building. As currently drafted, the NPOA-ML will rely heavily on government agencies with existing relevant mandates, as it directs these units to come up with their own mechanisms for implementation to execute the action points assigned to them. In this, the agencies can only expect what budget and resources are already available.

This creates a situation wherein the execution of the NPOA-ML is dependent on the assigned government agency's existing capacities, personnel and resources. An updated national plan and strategy could ideally have anticipated this need, and sped up the NPOA-ML's roll out and implementation.

3. Addressing gaps in the current legal framework

The absence of a national policy or strategy on marine litter reflects gaps in the relevant legal framework. Nevertheless, these missing pieces of legislation can be prioritized and can easily contribute to addressing the issue:

- House Bill No. 9147, or the Single-Use Plastics Regulation Act
- House and Senate Bills on Extended Producers Responsibility (House Bill No. 6279 and Senate Bill No. 2425)

- House Bill No. 7609 or the Philippine Circular Economy Act
- House Bills on prevention of pollution from ships (House Bill No. 6217 and House Bill No. 2268)
- House Bill No. 0144 on Mandatory Environmental Insurance Coverage

These proposed policies include key provisions that address current drivers of marine litter and oceans pollution:

- **Phase-out of plastic use in online retailing** – Online retailing and stores have increased in use and popularity due to the COVID-19 pandemic, increasing amounts of unnecessary single-use plastic packaging from deliveries. The current set-up also leaves consumers with little choice in avoiding the unnecessary plastic use.⁷⁵
- **Incentives and programs that encourage the private sector to shift to sustainability** – There is a need to leverage private sector support and investments to shift towards sustainability, including by strengthening programmatic efforts to address issues such as waste management and marine litter. This is especially important in rolling-out mandatory programs, such as those on EPR.
- **Mandatory reporting of data on production, consumption and disposal patterns** – Credible and up to date information will help support government planning, programming, and decision-making. Data is critical to allow different stakeholders identify where interventions are needed, and how limited resources can be deployed.
- **Regulation and prohibition on the use of microplastics and other chemicals** – There is growing concern over the increase in and impact of microplastics. The scale of this problem was not contemplated by earlier laws,

such as RA 9003, at their inception. The prevalence and impacts of these pollutants within the country is unknown, although have already been reports of microplastics presence in several water bodies and critical ecosystems.⁷⁶

- **Program to support and manage the just transition covering informal waste sector workers** – Countries like the Philippines still rely on the informal waste sector (IWS) for a significant volume of waste management activities. This is particularly pronounced in less urban and rural areas. IWS workers also engage in sorting, recycling, and recovery activities via the network of junkshops which collect recyclables and scrap, which products are then sold to aggregators. There is currently insufficient data on their numbers and demographics, and their contributions to the waste sector, but it is without question that any program which will improve and modernize the waste management system should include measures for a just transition for IWS workers and communities.

4. Fast-tracking approval and roll-out of the Sustainable Consumption and Production Plan (PAP4SCP)

In the absence of an updated national plan and strategy on solid waste management, the PAP4SCP could provide some short to medium term measures to address underlying causes of marine litter. In particular, these could help stem the "throw-away culture," fuelled by unsustainable production patterns. This plan can also provide guidance on the necessary upstream policies and actions to reduce the waste production and leakage.

Nevertheless, it would be still be ideal for the PAP4SCP to be built into the overarching national strategy on waste management. This will streamline measures, and help avoid duplication and overlaps between different policies, guidance documents, mandates and functions

⁷⁵ See Chua, Jefferson. 2020. "Responsible E-shopping in the time of COVID," Greenpeace (10 November 2020) <https://www.greenpeace.org/philippines/story/10202/responsible-e-shopping-in-the-time-of-covid/>

⁷⁶ See Bucol, Lilibeth, et. al. 2020. "Microplastics in marine sediments and rabbitfish (*Siganus fuscescens*) from selected coastal areas of Negros Oriental, Philippines," *Marine Pollution Bulletin* vol. 150 (January 2020) <https://www.sciencedirect.com/science/article/abs/pii/S0025326X19308410>; Mongabay. 2020. "Philippine study finds microplastics inside a commonly consumed fish," Mongabay (23 January 2020) <https://news.mongabay.com/2020/01/philippine-study-finds-microplastics-inside-a-commonly-consumed-fish/>

5. Crafting clear and viable upstream policies

While numerous, current plans and programs lack clarity on how to tackle the marine litter crisis from the upstream, or at the production and consumption level.

Policies must make interventions at the different stages and levels of the plastic lifecycle. Many stakeholders have expressed concerns that simply focusing on downstream policies such as waste management infrastructure and recycling will not be enough to solve the problem. Waste generation will increase as grow, and eventually, the solid waste management system be hard pressed to cope. Given this, alternatives for plastics, through a shift in production and manufacturing systems and patterns, will complement downstream efforts.

Provisions in existing laws and policies that could contribute to upstream measures are likewise not being fully implemented. For example, RA 9003 requires the DENR and NSWMC to identify non-environmentally acceptable materials or products, for their eventual phase out and ban. However, progress in this regard has been slow, despite groups calling for SUPs and other heavily-polluting plastic items to be immediately put on the list. Likewise, RA 9003's provisions mandating the research and development of viable and natural alternatives to non-environmentally acceptable products have not been maximized.

6. National targets on waste recovery and recycling are misaligned and not science-based

As the NSWMS has not been reviewed, its targets for waste recovery and recycling are outdated as well. In 2000, RA 9003 set the mandatory waste diversion target for local governments at 25%, increasing every three years. Given this rate, the latest waste diversion target set by the DENR for 2020 is at 68%.

However, it is not clear whether this rate is reflective of current needs, resources and capacities. As such, LGUs are directed to target the waste diversion rate even if on-the-ground conditions make meeting the target unachievable in the short term.

The use of "waste diversion" itself is unclear and open to multiple interpretations. RA 9003 only defines these as "activities which reduce or eliminate the amount of solid waste in disposal facilities."⁷⁷ Moreover, although the law states that diversion can be done through re-use, recycling, and composting, no specific targets are set for these activities. Thus, it would appear as though waste is considered "diverted" if it does not reach the disposal facility, even if it did not reach a proper recycling or recovery facility.

7. Ensuring availability of incentives and support for investments in waste recovery and recycling facilities

Finance, from both public and private sources, is critical to establishing the needed waste management infrastructure. While general to effectively deal with marine litter. Generally, support for investments and incentives for investors are provided for under existing laws such as the Foreign Investment Code and the Green Jobs Act, these are broadly couched and do not specifically pertain to waste recovery and recycling facilities.

Local governments are thus left to their own devices. Some have been exploring options such as waste-to-energy facilities, but. However, this is only possible for large cities and municipalities whose budgets can accommodate these. Down the line, smaller and less-resourced areas are left behind, and many of these are coastal towns where waste leakage into the marine environment is a distinct possibility.

There are also examples of private sector companies and institutions initiating their own waste recovery and recycling programs. However, these various local government and private sector efforts are individual and disparate, resulting in disjointed, and ad-hoc stand-alone facilities. These are also more costly, and while initially appear to be helpful. they only minimally reduce marine liter in the long term.

Institutional Barriers

1. Clarifying mandates and responsibilities among government agencies

RA 9003 provides for the institutional framework for waste management in the Philippines. At the national level, the DENR serves as the lead agency and chairs the multi-sectoral NSWMC. This structure is replicated at the provincial and city/municipal level.

This set-up has been seen as complex and multi-layered, thereby hampering coordination between the national and local levels. Although the broad membership of the NSWMC and its local counterparts should allow for stakeholder consultation and public participation, there is no information on how well these mechanisms have met these intentions.

Moreover, the roles and responsibilities of other NSWMC members are not well defined. RA 9003 and its implementing rules and regulation only set out the powers and functions of DENR, and of the NSWMC as a body. The tasks of the other agencies, civil society and private sector representatives are left to the DENR and the Commission to determine.

Because of this, implementing agencies appear to consider many solid waste management functions discretionary, instead of mandatory. The onus of implementation is left to the DENR and the local governments. Any responsibilities and tasks assigned to other NSWMC members are ad-hoc and one-off, resulting in inconsistent implementation and incomplete gains.

These gaps around functions and mandates also results in overlapping functions and duplicated actions. Some examples of these can include:

- **Agricultural waste** – Despite the Department of Agriculture's broad mandate to oversee the industry, waste in rural areas, including those from farming, fisheries and related activities are still the primary responsibility of the DENR and local government concerned.
- **Research and Development** – The Department of Science and Technology is the government

lead for research and development, including where these are necessary for solid waste management actions. However, the DENR can also undertake its own research pursuant to its mandate under RA 9003. These studies should be informed by the NSWMS, but there is no data on whether any research was pursued during the period covered by the strategy,

- **Marine and Coastal Zones** – The DENR, through the Biodiversity Management Bureau oversees activities within declared marine protected areas. On the other hand, coastal zones within municipal waters, or those which are 15 kilometers from the shoreline, are under the jurisdiction of the respective local government units. Beyond that distance, the Philippine Coast Guard and the Bureau of Fisheries and Aquatic Resources have primary jurisdiction in relation to the enforcement of environmental laws.

2. Enhancing coordination between and among local government units

Although the institutional framework under RA 9003 includes provincial and city/municipal solid waste management boards, there is a marked lack of coordination among and between these local-level bodies. This observation is supported by the limited number of provincial and regional waste management initiatives, as well as in the limited number of local governments entering into clustering arrangements, other than those provided by law (such as the Metropolitan Manila Development Authority in the National Capital Region).

This results in a situation wherein adjacent LGUs might have different, and even conflicting, methods for solid waste management, and implementation of relevant laws. For example, one local government may impose a ban on SUPs, which is not in place in neighboring areas. This creates confusion for citizens and consumers, as well as simply displacing, instead of truly reducing waste. Cross-border implementation and enforcement pose additional challenges

Capacity, Funding, and Resource

1. Building capacity of national government agencies

Environmental groups observe that the NSWMC is underutilized, and has not been able to fulfill its mandates under RA 9003. Its secretariat is composed of personnel under the DENR-EMB, who have other duties and responsibilities outside of the support that they must provide. In other government agencies, waste management functions are also assigned as additional tasks to available personnel.

This lack of dedicated manpower has been attributed to the limited funding for waste management. The DENR has reported that over the last 10 years, it has only been allocated 1% of the national budget.⁷⁸ Although waste management is included in the ten priority programs of the DENR, only Php 1.07 billion was approved for it, from the agency's Php 23.59 billion total budget. Data on the solid waste management spending of other government agencies and local governments is unavailable or not easily accessible.

This also serves to illustrate the limited government capacities for data collection, monitoring and transparency. Although the DENR has improved its efforts for data collection and dissemination,⁷⁹ this has only covered information on facilities, projected waste generation, equipment provided, and approved or pending solid waste management plans. There is no guidance on how to use this data, or how the data might be disaggregated.

2. Building capacity of local governments

Under RA 9003, local governments are given the primary mandate of implementing waste management laws within their jurisdiction. However, for many local governments, especially those with limited human and financial resources, and without access to adequate technical assistance, this has not been easy.

Many local governments have expressed the need for support in crafting and implementing their local solid

waste management plans. But there is delay in this area as well - of the 1,716 SWM plans required of provinces and cities/municipalities, only 63.05% or 1,082 plans have so far been approved by the DENR. Another 558 are under review.⁸⁰ This long review process can render plans outdated before they have even begun implementation.

Moreover, many local governments rely on the technical support of the government and other stakeholders for developing and implementing the plans. Because these are not always available, many measures never leave the page. There are little to no consequences for this however, as the DENR has not presented any method for evaluating plans' effectiveness and implementation.

A recent Supreme Court ruling has increased the Internal Revenue Allotment (IRA) for local governments, or their share from national government revenues. While seemingly welcome, this creates additional challenges for local governments.⁸¹ Many local governments rely on the IRA for the bulk of their financial needs, but local officials must also be able to utilize these fresh funds efficiently, effectively and with accountability.⁸²

3. Mobilizing support for research and development, and new technology

Save for the new SSTWM Roadmap of the DOST, other initiatives to support research and development for solid waste management have been ad hoc and limited on a project basis. The SSTWM Road Map itself, although a welcome development, risks being a stand-alone document that is not aligned with the wider waste management goals and targets for the country. Without clear direction, there is no guarantee that any technology to be developed will be appropriate to identified needs.

Moreover, as with incentives and investments for waste recovery and recycling, financial and technical support for research and development is also hard to come by. RA 9003 has also not been maximized in this regard.

⁷⁸ DENR. 2021. "DENR proposes P25.29 billion budget for green growth recovery in 2022" (15 September 2021) <https://www.denr.gov.ph/index.php/news-events/press-releases/3232-denr-proposes-p25-29-b-budget-for-green-growth-recovery-in-2022> (accessed 1 November 2021)

⁷⁹ See: DENR-EMB "Solid Waste Management Data" <https://emb.gov.ph/solid-waste-management-data/>

⁸⁰ Ibid.

⁸¹ See: Mandanas et., al v. Ochoa et., al, G.R. No. 199802, 10 April 2019.

⁸² The World Bank. 2021. "Mandanas ruling provides opportunities for improving service delivery through enhanced decentralization" (10 June 2021) <https://www.worldbank.org/en/news/press-release/2021/06/10/philippines-mandanas-ruling-provides-opportunities-for-improving-service-delivery-through-enhanced-decentralization>

Implementation and Enforcement

1. Improving policy on implementation and enforcement

These implementation and enforcement challenges are observable in:

- The limited number of sanitary landfills in the entire country;
- Absence of a 10-year SWM Plan for several LGUs;
- Incomplete Materials Recovery Facility coverage;
- Continuing collection and improper disposal of unsorted waste;
- Delay in the identification of, and transition away from, non-environmentally acceptable packaging; and
- Continued entry of illegal waste shipments, including toxic and hazardous substances.



Real Talk by Hermes Rivera on Unsplash

Implementation and enforcement of environmental laws has been a continuing challenge for Philippine authorities. It has been observed that the Philippines has comprehensive and highly advanced laws to protect the environment and conserve natural resources, but these laws are poorly enforced because of financial and technical capacity limitations.⁸³

For solid waste management and pollution prevention, poor implementation of what are otherwise good laws is often cited as a significant barrier. For example, RA 9003, sets out fairly ambitious targets for waste diversion and rehabilitation of open dump sites. However, compliance with these goals has not been as expected. The law mandated the closure of all open dump sites within three years of its passage, or by 2004. However, this was not completed until May 2021, when the DENR reported the closure of the remaining 335 open dumps.⁸⁴ Progress on the mandatory waste diversion targets has been more difficult to track - although the NSWMC reported waste diversion of 68% in 2020, these projections are based on submitted local government plans and have yet to be verified.⁸⁵

These implementation challenges have been attributed to many factors, many of which cannot be addressed by policy interventions. While the devolution of solid waste management to local government units has resulted in some success stories and best practices, this has not been consistent across the country. "Investments and financial resources" are needed to establish comprehensive waste management programs, including facilities with appropriate technologies, but even with the incentives offered by current laws, these are not easy to come by.⁸⁶ Others struggle with administrative requirements, such as updating their solid waste management plans, and more broadly, with mainstreaming these across other local environmental and development plans and frameworks.⁸⁷ Local governments have also attributed their difficulties with waste collection and segregation to the lack of necessary and appropriate equipment, shortage of workers, and insufficient coordination with, and cooperation from, their constituents.⁸⁸

A preferred approach also involves the establishment of ad hoc multi-stakeholder bodies to provide policy guidance and/or oversight on specific aspects of waste management and environmental protection. While this allows for participation of civil society and the private sector, it is likely that many functions are duplicated, even as other areas of work are not given sufficient attention.

⁸³ La Vina, Antonio. 2012. *Philippine Law and Ecology: Volume I National Laws and Policies* (Quezon City: University of the Philippines College of Law 2012) 122.

⁸⁴ DENR, "DENR shuts down 100% of all illegally operating dumpsites nationwide" (23 May 2021) <https://www.denr.gov.ph/index.php/nes-events/press-releases/2606-denr-shuts-down-100-of-all-illegally-operating-dumpsites-nationwide>

⁸⁵ Department of Environment and Natural Resources - Environmental Management Bureau, National Solid Waste Management Status Report at <https://emb.gov.ph/wp-content/uploads/2019/08/National-Solid-Waste-Management-Status-Report-2008-2018.pdf> (accessed 3 August 2021). Also see: Mayuga, J. "The garbage conundrum," *Business Mirror* (10 January 2021) <https://businessmirror.com.ph/2021/01/10/the-garbage-conundrum/>.

⁸⁶ Domingo, Sonny and Arvie Joy Manejar, 2021. "An Analysis of Regulatory Policies on Solid Waste Management in the Philippines," Discussion Paper Series No. 2021-02 (Quezon City: Philippine Institute for Development Studies, January 2021), 34.

⁸⁷ *Ibid.* 32

⁸⁸ Department of Environment and Natural Resources - Environmental Management Bureau, National Solid Waste Management Status Report, 9. <https://emb.gov.ph/wp-content/uploads/2019/08/National-Solid-Waste-Management-Status-Report-2008-2018.pdf>.

These implementation gaps are often unaddressed; it is rare for public officials, whether from the national and local governments, to be held accountable for falling short of the mandates required by law. Advocates have ultimately attributed these gaps to a lack of political will, pointing out that the lack of funding and resources should not be made an excuse for failure to implement waste management laws.

2. Increasing accessible and functional recycling facilities

The absence of Materials Recovery Facilities results in the failure to properly divert waste that can otherwise be recycled, reused, or composted. From this, waste leaks into the environment, including critical marine ecosystems. This is compounded by the lack and inaccessibility of recycling facilities - a 2020 report notes that there are only five of these for the whole country.⁸⁹ Co-processing facilities, mostly from the cement industry, also re-use plastics as fuel, but these are also few and far between.

Anecdotally, some recyclers and aggregators have noted that it is cheaper into process and handle imported plastic waste than those from local sources. The cost of collection, sorting, and transport of recyclables is more expensive for domestic waste, especially when factoring in the need for proper sanitation, sorting and treatment.

This gap further results in compounded financial and non-financial costs. Recycling can be discouraged by the prohibitive costs for collection and transport of materials. Unsegregated or mixed waste adds to the maintenance and operating expenses for sanitary landfills.

Perhaps more concerning are the risks that are borne by the environment and human health. Incineration of waste (whether informally in backyards, or in planned Waste to Energy facilities) has been shown to have negative impacts on air quality. The informal waste sector is also exposed to health risks daily as they suffer dangerous working conditions.

3. Fast-tracking implementation of current initiatives

While there are many initiatives in the pipeline or under early implementation that address the issue of marine litter and waste management, there is a need to scale these up to see appreciable gains. Community based efforts are usually ad hoc and small scale, but may be expanded and replicated with support from the government and development partners.

4. Supporting research to establish clear baselines

While there is much research on the country's coastal and marine ecosystems, the Philippines is still without complete nationwide baseline data on the sources, extent and impacts of marine litter. Existing research tends to be area-specific, and as such, may not reflect the total national situation.

Once baselines are available, support must also be channeled to continuous monitoring of coastal and marine ecosystems to accurately track progress and adjust interventions as necessary. Civil society groups have lamented some policies or issuances do not appear to be grounded in the best possible science, though this might be attributed to the absence of credible data and transparency where it is available. Some of the issues that have been cited include unknowns, such as the carrying capacity of bodies of water, specific pollution sources, and technological means available to address waste issues.⁹⁰

5. Ensuring availability of disaggregated data and sector-specific research on marine litter impacts

The social and economic costs of pollution are often felt by vulnerable communities and sectors, and are not always clearly reflected in environmental policies and actions that seek to address the problem.⁹¹ This is in no small part to significant gaps in research and the absence of credible information on marine litter's impacts on specific sectors, such as women, artisanal fisherfolk, the informal waste sector and the youth.

89 Fernandez, Hannah. 2020. "Why plastic clogged Philippines must face up to dearth of waste disposal and recycling." *Eco Business* (10 June 2020) <https://www.eco-business.com/news/why-plastic-clogged-philippines-must-face-up-to-dearth-of-waste-disposal-and-recycling/>

90 La Vina (2012) 471

91 See: UNEP, COBSEA and SEI. 2019. *Marine plastic litter in East Asian Seas: Gender, human rights and economic dimensions* (Bangkok: UNEP 2019) https://www.sea-circular.org/wp-content/uploads/2019/11/SEI_SEA-circular-1.pdf (accessed 26 August 2021).

This is highlighted in a recent report from UNEP, COBSEA and SEI, which adopts a human rights-based approach in its analysis of the plastics lifecycle and the impacts of continuing plastics pollution. The report rightly observes that studies of this kind are "underexplored," and that further research is necessary to "strengthen the evidence base for more equitable and effective decision making on marine litter."⁹²

Provisions on research in the Philippines' solid waste management and pollution control laws are already limited, and are usually applied in relation to developing technological solutions and alternatives. Data that is critical to the crafting of a human rights based approach to the waste problem is sorely lacking.

For example, data on the informal waste sector, which is largely comprised of "women, children, the elderly and migrants," is limited, despite their significant role in the Philippines' waste management system.⁹³ Without a holistic understanding of this sector and its needs, solid waste management programs will be incomplete, unsustainable, and ultimately inequitable.

Political, Societal, and Cultural

1. Addressing the negative impacts of local politics in the implementation of waste management laws

Under the current legal framework, successful waste management and action on issues such as marine litter depends largely on the local government and its leadership. There have been many successful examples of this throughout the country.

However, local politics and the three year election cycle affect the sustainability of any gains that have been made. When political rivals displace each other, plans and programs can be disregarded or replaced in favor of other priorities and agendas. This results in a lack of continuity and oftentimes a waste of time, money, and resources, while also confusing the general public.

2. Giving formal recognition to informal waste sector workers

Despite the reliance of many local communities on the informal waste sector, little has been done to recognize their contribution on waste management in the Philippines. Many households still rely on the waste pickers and junk shops to dispose of their trash, including recyclables and discarded household items like electronics. Many of these workers, being in the informal sector, do not have benefits and other rights and privileges accorded to workers in the formal sector such as health and social security benefits. The hazardous conditions of their work aggravates this situation.

3. Addressing the prevalence of throw-away/wasteful culture

The prevalent throw-away and wasteful culture is partly by the kinds of products, materials, and packaging which manufacturers, producers, and retailers primarily offer to consumers. Despite majority of Filipinos favoring further regulation or a ban on SUPs,¹⁰⁵ the option to shift to better alternatives and towards circularity has not been pursued, whether by government or the private sector.

Single use sachets and multiple film packaging is still widely used, being the more convenient and affordable options. Alternatives such as refilling stations and recyclable/reusable containers have not been scaled up or widely supported, save for a few NGO and community efforts. The NSWMC and the National Ecology Center, tasked to give this kind of support, has not drawn up any concrete plans and programs to scale-up local initiatives.

4. Strengthening programs to shift consumer behavior

Regular information and education campaigns are mandated by proclamations related to waste management (i.e., January as Zero Waste Month; June as National Environment Month; and November as National Environmental Awareness Month). However, these are still focused on waste recovery, and not avoidance or prevention.

⁹² Ibid. 11

⁹³ See: Domingo and Manejar (2021) 32'

⁹⁴ Break Free From Plastic (2020) "7 out of 10 Filipinos favor a national single use plastics ban" (21 January 2020) <https://www.breakfreefromplastic.org/2020/01/21/7-out-of-10-filipinos-favor-a-national-single-use-plastics-ban-survey-reveals/>

Proposed Action Plan: A Menu of Specific Actions to Take

This section will outline specific recommended actions and interventions which can be undertaken to address the identified gaps and barriers.

Barrier/Gap/Issue	Recommendation/Action Point
Legal and Policy	
Updating national plan and strategy on waste management	<ul style="list-style-type: none"> • Conduct of a more in-depth and comprehensive policy assessment and mapping to provide an accurate view of how the solid waste management and pollution generally, and marine pollution more specifically, are actually addressed at different levels of governance • Immediate updating and release of the National Solid Waste Management Strategy, integrating the following existing documents, among others: <ul style="list-style-type: none"> - NPOA on Marine Litter - PAP4SCP - SSTSWM Road Map - NCCAP - Philippine Energy Plan And adding the following sectoral plans: <ul style="list-style-type: none"> - Agriculture (focus on run-offs) - Tourism (particularly eco-tourism activities) - Industrial activity (particularly construction and extractives) - Management and operations of protected areas • Focus on long-term planning through the updated NSWMS so that budgets of focal agencies can be identified and earmarked for waste management and marine litter related initiatives.
Fast-tracking approval and implementation of NPOA on marine litter	<ul style="list-style-type: none"> • Immediate release and implementation of the NPOA-ML <ul style="list-style-type: none"> - NPOA on Marine Littero - To be incorporated into the overall national solid waste management strategy
Addressing gaps in current legal framework	<ul style="list-style-type: none"> • Immediate approval of the following legislation: <ul style="list-style-type: none"> - SUP Regulation Bill - EPR bills - Circular Economy bill - Pollution from Ships bill - Mandatory environmental insurance coverage bill • Prepare draft bills or policies on the following: <ul style="list-style-type: none"> - Phase-out of plastic use in online retailing - Incentives and programs that encourage private sector shift to sustainability - Mandatory reporting of data on production, consumption and disposal patterns - Regulation and prohibition on the use of microplastics and other chemicals - Program to support and manage the just transition covering informal waste sector workers
Addressing misaligned and non-science based national targets on waste recovery and recycling	<ul style="list-style-type: none"> • Clarify definition of diversion under RA 9003 to ensure that recovery, recycling, and re-using are mandated • Improve data collection on waste generation and disposal at the barangay and local level as basis for waste diversion targets at the national and local level <ul style="list-style-type: none"> - Ensure alignment of local government waste diversion targets with national targets • Publish scientific and technical basis of waste diversion targets

	<ul style="list-style-type: none"> • Mandatory reporting of market information (i.e., production, distribution, sale, and recovery) by top plastic manufacturers and FMCG companies. • Identify recovery and recycling targets within the overall waste diversion targets (i.e., what percentage of waste diverted should be recovered and recycled) • Make requirements for eco-labelling by the DTI mandatory under Sec. 27 of RA 9003 <ul style="list-style-type: none"> - Align with the recovery and recycling targets - Develop mandatory Philippine National Standards for plastics, biodegradable materials, natural packaging, etc
<p>Ensuring the availability of incentives and support for investments in waste recovery and recycling facilities</p>	<ul style="list-style-type: none"> • Develop and implement a clear and concrete incentive and support program for waste recovery and recycling facilities pursuant to Chapter IV and Sec. 57 of RA 9003. <ul style="list-style-type: none"> - Expand and clarify the incentives under the Omnibus Investment Code, Foreign Investment Code, and Green Jobs Act. - Support the passage of bills rationalizing and consolidating government incentives. - Provide guidelines for potential public-private partnership (PPP) waste management projects, working with the Philippine PPP Center for LGU support. • Transparency in the utilization of the Solid Waste Management Fund under Sec. 46 of RA 9003. <ul style="list-style-type: none"> - Develop clear guidelines and mechanisms on how LGUs can access the fund. - Require local governments to publish solid waste management fees collected pursuant to RA 9003.
<p>Fast-tracking approval and roll-out of SCP Plan</p>	<ul style="list-style-type: none"> • Ensure alignment of PAP4SCP with the NSWMS, with particular focus on upstream policies and programs such as: <ul style="list-style-type: none"> - Institutionalizing natural capital accounting - Conduct of carrying and assimilating capacity assessments - Conduct of product life cycle analyses - Strengthening National Eco-labelling program - Pursue choice-editing and choice-influencing strategies
<p>Crafting clear and viable upstream policies</p>	<ul style="list-style-type: none"> • Full implementation of NPOA-ML and PAP4SCP provisions on upstream policies targeting <ul style="list-style-type: none"> - waste reduction - product design - change in consumer lifestyle and habits • Full implementation of Sec. 29 and 30 of RA 9003 on identification of non-environmentally acceptable products and prohibition of its use. • Develop and implement a clear program for upstream measures; revisiting provisions of RA 9003 which focuses on dealing with waste and not reducing and production and consumption
Institutional	
<p>Clarifying mandates and responsibilities among government agencies</p>	<ul style="list-style-type: none"> • Reassess membership of NSWMC <ul style="list-style-type: none"> - Include other agencies such as the Climate Change Commission, NEDA - Revise Section 4 of RA 9003 to mandate that the designated representative should be of a rank not lower than Assistant Secretary to ensure high-level decision making and immediate implementation - Consider creating and designating smaller technical working groups on specific areas of implementation, such as: <ul style="list-style-type: none"> > Data gathering, research and development > Financing, incentives, and capacity building support > Implementation and enforcement > Upstream policies and programs • Amend RA 9003 to clearly define the role and responsibility of each agency <ul style="list-style-type: none"> - To be guided by updated NSWMS and other plans and programs such as NPOA-ML, PAP4SCP, etc.

	<ul style="list-style-type: none"> • Mandatory development of action plans per member-agency aligned with the updated NSWMS <ul style="list-style-type: none"> - Under the assumption that TWGs will be designated and mandates will be clearly defined under an amended RA 9003
Enhancing coordination between and among local government units	<ul style="list-style-type: none"> • Implement the mandate of the NSWMC to coordinate the operations of local SWM boards at the provincial and city/municipal level <ul style="list-style-type: none"> - Develop a clear system for monitoring and feedback system with LGUs and local SWM boards • Capacitate the local leagues to institutionalize a mechanism for coordination and information-sharing among LGUs <ul style="list-style-type: none"> - Develop dedicated programs within the leagues for coordination among local governments and other local and community stakeholder
Capacity, Funding, and Resource	
Building capacity of national government agencies	<ul style="list-style-type: none"> • Strengthen and improve capacity of NSWMC, particularly its Secretariat, as main national focal agency <ul style="list-style-type: none"> - DENR to appoint and hire full-time staff dedicated to NSWMC functions (not ex-officio functions of EMB personnel) • NSWMC member agencies to appoint and designate staff for SWM related functions <ul style="list-style-type: none"> - Mandate an official of a rank not lower than Assistant Secretary for SWM functions (include in unit/division mandate the NSWMC and SWM-related responsibilities) • Increase national budget funding allocation for SWM functions <ul style="list-style-type: none"> - Institute a budget-tagging system for SWM expenditures of government agencies, including local government units - Regularly publish and disseminate budget information on accessible platforms for public consumption • Continuing capacity-building programs of government staff and officials <ul style="list-style-type: none"> - Focus on permanent civil-service employees for continuity • Improve system of data collection, monitoring, and information dissemination <ul style="list-style-type: none"> - Train other government officials, the academe, and research and policymakers on how to use the information
Building capacity of local governments	<ul style="list-style-type: none"> • Improve and scale-up existing programs to build capacity of local government units to implement SWM plans and programs <ul style="list-style-type: none"> - Continuous training program of local environment and natural resources officer and/or solid waste management focal • Immediate approval of submitted local SWM plans <ul style="list-style-type: none"> - Mandate and take action against those remaining LGUs which have not submitted their SWM plans - Systematic review of submitted and approved SWM plans to incorporate marine litter considerations (under the assumption of a new SWMS). • Program to assist LGUs in planning and programming of projects and activities in light of the Mandanas ruling. <ul style="list-style-type: none"> - Ensure implementation of Section 9 of Executive Order No. 138 (s. 2021) on Capacity Development by the Local Government Academy under the DILG includes SWM implementation and addressing marine litter.⁹⁵

⁹⁵ See <https://mirror.officialgazette.gov.ph/downloads/2021/06jun/20210601-EO-138-RRD.pdf>

<p>Mobilizing support for research and development, and new technology</p>	<ul style="list-style-type: none"> • Develop and implement a clear policy and roadmap for R&D support for new technologies to address marine litter <ul style="list-style-type: none"> - Use SSTWM Road Map as jump off point for wider SWM R&D policy - Clearly identify technologies that can be utilized in waste management; create a menu of options for local governments and waste system stakeholders <ul style="list-style-type: none"> > Product and packaging design and innovation > Appropriate treatment technologies > Suitable recycling and recovery techniques > Appropriate and proper disposal methodologies - Prioritize support for local inventors, researchers, and manufacturers of new SWM technologies and techniques • Develop and implement a clear and concrete incentive and support program for waste recovery and recycling facilities pursuant to Chapter IV and Sec. 57 of RA 9003.
Implementation and Enforcement	
<p>Improving policy implementation and enforcement</p>	<ul style="list-style-type: none"> • Improve and strengthen waste management laws enforcement and implementation <ul style="list-style-type: none"> - Enforce provisions on establishment of MRFs, SLFs, and proper storage and treatment facilities - Strict implementation of at-source segregation <ul style="list-style-type: none"> > Strictly penalize waste handlers who mix source-segregated waste > Strict enforcement of non-collection of unsorted, or improperly sorted waste - Hold local and national officials accountable for failure to implement the provisions of RA 9003, particularly those with no SWM plans - Enforce and implement various provisions of RA 9003 such as: <ul style="list-style-type: none"> > Functions of the National Ecology Center particularly on the solid waste management database and development of a national recycling network > Establishment of recycling and recovery facilities nationwide > Roll-out of the eco-labelling program > Identification and regular updating of the list of non-environmentally acceptable products • Improve coordination and cooperation among national government agencies and local governments in the enforcement of waste management laws on marine litter <ul style="list-style-type: none"> - Identify roles and responsibilities of law enforcement agencies that deal with marine litter (i.e, Maritime Police, Philippine Coast Guard, Philippine Ports Authority, the Bureau of Fisheries and Aquatic Resources, and Protected Areas Management Boards)
<p>Increasing accessible and functional recycling facilities</p>	<ul style="list-style-type: none"> • Full implementation of Sec. 31 of RA 9003 on Recycling Market Development • Establishment and roll-out of national recycling network <ul style="list-style-type: none"> - Disseminate information to local governments and the general public - Include network of informal waste sector workers such as junk shops and community organizations and cooperatives • Implementation of a mandatory EPR system <ul style="list-style-type: none"> - Initial focus on plastic waste and packaging • Encourage support from and coordinate efforts with the private sector to establish recycling facilities and implement EPR system
<p>Fast-tracking implementation of current initiatives</p>	<ul style="list-style-type: none"> • Streamline list of current initiatives and focus on priority areas and interventions • Align proposed projects and programs with an overall waste management strategy • Implement a donor coordination strategy and programming specifically on waste management and marine litter to avoid overlaps and inconsistencies • Support local and community initiatives which can easily be replicated in other areas

<p>Supporting research to establish clear baselines</p> <p>Ensuring availability of disaggregated data and sector-specific research on marine litter impacts</p>	<ul style="list-style-type: none"> • Expand and improve current solid waste management database <ul style="list-style-type: none"> - Make disaggregated data easily accessible - Promote the use of the database among waste management stakeholders • Conduct extensive policy and institutional assessment and stakeholder mapping to streamline functions and improve coordination • Coordinate with the academic community and local and international experts on conducting baseline studies on the waste situation in the country • Publish and disseminate these baseline studies, along with bases for policies and programs to be rolled-out • Ensure availability of disaggregated data on the waste sector which includes women, children, artisanal fisherfolk, and the informal waste sector.
Political, Societal, and Cultural	
<p>Addressing the negative impact of local politics in the implementation of waste management laws</p>	<ul style="list-style-type: none"> • National government to ensure continuity of approved local SWM Plans despite change in local leadership <ul style="list-style-type: none"> - Require prior approval of the NSWMC for any changes, revisions, or amendments • Increase citizen awareness of SWM Plan through information and education campaigns <ul style="list-style-type: none"> - Ensure public access to information on SWM plans, and public participation in the decision-making process • Improve capacity of local environment and natural resource officers and staff to ensure continuity despite leadership change <ul style="list-style-type: none"> - Encourage local governments to develop a database of institutional knowledge on SWM plans, programs, and implementation
<p>Giving formal recognition to informal waste sector workers</p>	<ul style="list-style-type: none"> • Conduct nationwide mapping and identification of informal waste sector workers (including community organizations, and junk shops) • Establish a system to formalize informal sector workers and provide minimum health and social security benefits • Ensure inclusion of informal waste sector workers in plans to transition to a circular economy
<p>Addressing the prevalence of throw-away/wasteful culture</p>	<ul style="list-style-type: none"> • Immediate roll-out and implementation of the PAP4SCP • Improve and increase information and education campaigns <ul style="list-style-type: none"> - Coordinate efforts with local governments and CSOs and NGOs, especially community organizations - Translate IEC materials into local dialects
<p>Strengthening programs to shift consumer behavior</p>	<ul style="list-style-type: none"> • Realign campaign to focus on changing consumption and consumer behavior and patterns, instead of proper waste disposal • Strengthen efforts at engaging the private sector on product re-design for more environmentally friendly and natural alternatives <ul style="list-style-type: none"> - Support research and development of natural and eco-friendly alternatives to materials such as plastics • Facilitate meaningful dialogue between NGOs/citizens and business groups/private sector players

4 CONCLUSION AND RECOMMENDATIONS FOR MOVING FORWARD

Marine litter is one of the major challenges for the Philippine waste management system. This not only affects the health and well-being of people and planet, but also the achievement other goals such as the SDGs and even climate-related targets in the Nationally Determined Contributions. The status quo seems bleak, and many issues, gaps and barriers have been identified. But the country's existing legal framework, along with the important proposals and initiatives in the pipeline, can serve as the foundation for meeting the challenge of marine litter in the Philippines.

Moving forward and taking into account the specific action points detailed in this Report, the following recommendations are given:

1. A critical first step is to **address the legal, policy and institutional barriers** in the short-term. Having these in place will help provide overall guidance for the different stakeholders in the waste management ecosystem. Roles and responsibilities will be clarified, which will help with the efficient and effective allocation of limited resources. The immediate roll-out and implementation of national plans and strategies – guided by an overall waste management approach – should also be prioritized.
2. The government should **continue its efforts at improving implementation and enforcement of existing laws and regulations**. Several provisions of major waste management laws have not been fully implemented. If done so, they will have direct and immediate benefits at addressing waste management issues and also that of marine litter. This should be supported by increasing interventions for capacity building, finance and other resources, especially for local governments who are at the front lines of the waste crisis.
3. Current **efforts towards a more sustainable and circular economy should be mainstreamed** across all sectors of government and society. There is an increasing awareness within policy and decision makers that this is a step in the right direction. At the same time, more people support a circular economy and are willing to shift consumer lifestyle and habits, with enough push and support. As a cross-cutting theme, a sustainable and circular economy will naturally address many of the challenges and root causes of marine litter in the Philippines. These efforts must be sustained even with changes in leadership so that the momentum can continue. Delaying further would only aggravate the waste and marine litter crisis, making solutions more difficult to achieve.
4. In implementing these recommendations and action points, **the government must ensure respect for people's human and environmental rights at all times**. Undoubtedly the waste crisis and marine litter disproportionately impacts those already vulnerable in society. Thus any efforts to tackle this issue should seriously consider its impact on these sectors. Not only should the process afford vulnerable groups an opportunity to be heard and to participate, it should also identify meaningful solutions which help reduce their vulnerability and improve their lives as members of society.

ANNEX A: AGENCIES, EXPERTS AND STAKEHOLDERS CONSULTED

1. Government Offices

DENR - BMB	Department of Environment and Natural Resources - Biodiversity Management Bureau
DENR - EMB	Department of Environment and Natural Resources - Environment Management Bureau
DILG - BLGS	Department of Interior and Local Government - Bureau of Local Government Supervision
DTI - CPAB	Department of Trade and Industry - Consumer Protection and Advocacy Bureau
DOST - ITDD	Department of Science and Technology - Industrial Technology Development Division
HOR	House of Representatives - Committee on Ecology
NEDA - ANRES	National Economic Development Authority - Agriculture, Natural Resources and Environment Staff

2. CSOs, NGOs and International Development Partners

ADB	Asian Development Bank
EcoWaste/IPEN	EcoWaste Coalition and the International Pollutants Elimination Network
GAIA	Global Alliance for Incinerator Alternatives
GIZ Philippines	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH - Philippines
GPSEA	Greenpeace Southeast Asia
makesense	Makesense Philippines
MEF	Mother Earth Foundation
OCEANA Philippines	Oceana Philippines
Pure Oceans	Pure Oceans
RARE Philippines	RARE Philippines
SPS	Save Philippine Seas
UP ILS	University of the Philippines - Institute of International Legal Studies
WWF Philippines	World Wide Fund for Nature Philippines

ANNEX B: Guide Questions for the Gap Analysis and Needs Assessment

	Mitigate Waste Leakage into the Environment	Increase Waste Recovery and Recycling	Creating Sustainable Plastic Production and Consumer Society
Regulatory	<p>Are there laws and/or policies that regulate and monitor litter from land and sea-based sources?</p> <ul style="list-style-type: none"> • National level • Local level <p>Is there a national waste reduction target?</p> <ul style="list-style-type: none"> • Specific target for marine litter? • Progress reported regularly and accurately? <p>Is there a national office/agency mandated to implement waste management programs?</p> <ul style="list-style-type: none"> • Role of local governments? 	<p>Are there national targets for waste recovery and recycling?</p> <ul style="list-style-type: none"> • Regularly updated? • Specific targets for marine litter? • How is this monitored and evaluated? <p>Are there national laws and/or policies that prescribe minimum recycled content standards?</p> <ul style="list-style-type: none"> • Monitoring and evaluation? <p>Are there national laws and/or policies that require waste segregation?</p> <ul style="list-style-type: none"> • Who enforces/monitors compliance 	<p>Are there laws and/or policies that prescribe bans or phase outs for particular plastic products and microplastics?</p> <ul style="list-style-type: none"> • National level • Local level <p>Are there national laws and/or policies that require the private sector to adopt more sustainable practices?</p> <ul style="list-style-type: none"> • extend to solid waste management? • implementation and enforcement? <p>Are there policies that mandate:</p> <ul style="list-style-type: none"> • Extended producers responsibility schemes? • Buy-back, offsetting or credit schemes? • Zero-waste programs?
Economic	<p>Are there laws and/or policies that prescribe prohibitions and penalties for littering?</p> <ul style="list-style-type: none"> • National level • Local level <p>Are there laws and/or policies that impose levies and charges on specific plastic products to reduce waste at source?</p> <ul style="list-style-type: none"> • National level • Local level <p>Are there national laws and/or policies that prescribe fees for waste producers?</p>	<p>Are there national laws and/or policies that prescribe economic incentives/disincentives related to waste segregation?</p> <ul style="list-style-type: none"> • penalties and incentives provided • individuals, establishments, and facilities <p>Are there national laws and/or policies that prescribe economic incentives related to waste recycling and waste recovery?</p> <ul style="list-style-type: none"> • Specific to marine litter? 	<p>Are there national laws and/or policies that provide fiscal incentives for the development of plastic alternatives</p>
Technology	<p>Are there laws and/or policies that mandate specific technology/ies to be used for mitigating waste leakage?</p> <p>Are there efforts at R&D to address waste leakage into the environment?</p> <ul style="list-style-type: none"> • Is there adequate policy and financial support? 	<p>Are there national laws and/or policies that support R&D in</p> <ul style="list-style-type: none"> • Waste recycling and recovery technology? • Tracking additives? • Tracking and preventing microplastics? <p>Are there laws and/or policies that mandate product type composition for better recovery and recycling?</p> <ul style="list-style-type: none"> • What products are covered? 	<p>Are there national laws and/or policies that support R&D in</p> <ul style="list-style-type: none"> • plastic alternatives? • Use of natural and/or eco-friendly materials? • Viable refilling options?
Data/Information	<p>Are waste data easily accessible and updated?</p> <ul style="list-style-type: none"> • Is there proper data collection methods and monitoring? <p>Do national policies consider emerging issues and recent science on marine litter and its impacts?</p>	<p>Are there national laws and/or policies on mandatory reporting on waste recovery and recycling for:</p> <ul style="list-style-type: none"> • Government agencies and offices • LGUs • Households • Private sector 	<p>Are data on production, consumption, and disposal patterns of plastic products available?</p> <ul style="list-style-type: none"> • Monitoring? • Evaluation and updating?
Voluntary	<p>Are there national laws and/or policies that encourage and/or incentivize stakeholders' efforts to clean up and/or reduce waste at source?</p> <ul style="list-style-type: none"> • Individuals • Civil society • Private sector <p>Are there laws and/or policies that encourage or incentivize reduction of marine litter specifically?</p>	<p>Are there national laws and/or policies that encourage and/or incentivize stakeholders' efforts in waste recovery and recycling?</p> <ul style="list-style-type: none"> • Individuals • Civil society • Private sector <p>Are there laws and/or policies that encourage or incentivize recovery or recycling of marine litter specifically?</p>	<p>Are there national laws and/or policies that encourage and/or incentivize stakeholders' efforts in sustainable plastic production and circular economies?</p> <ul style="list-style-type: none"> • Individuals • Civil society • Private sector



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