



Technical Assistance Report

Project Number: 53068-001
Knowledge and Support Technical Assistance Cluster (C-KSTA)
December 2019

Promoting Action on Plastic Pollution from Source to Sea in Asia and the Pacific

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Asian Development Bank

ABBREVIATIONS

ADB	–	Asian Development Bank
ASEAN	–	Association of Southeast Asian Nations
DMC	–	developing member country
ISWM	–	integrated solid waste management
PRC	–	People's Republic of China
SDCC	–	Sustainable Development and Climate Change Department
SDG	–	Sustainable Development Goal
TA	–	technical assistance
US EPA	–	United States Environmental Protection Agency

NOTE

In this report, "\$" refers to United States dollars.

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CONTENTS

	Page
KNOWLEDGE AND SUPPORT TECHNICAL ASSISTANCE AT A GLANCE	
I. INTRODUCTION	1
II. ISSUES	1
III. JUSTIFICATION FOR CLUSTER MODALITY	3
IV. THE TECHNICAL ASSISTANCE CLUSTER	3
A. Impacts, Outcome, and Outputs	3
B. Cost and Financing	5
C. Implementation Arrangements	6
V. THE PRESIDENT'S DECISION	7
APPENDIXES	
1. Design and Monitoring Framework	8
2. Subproject Descriptions	11

KNOWLEDGE AND SUPPORT TECHNICAL ASSISTANCE AT A GLANCE

1. Basic Data		Project Number: 53068-001	
Project Name	Promoting Action on Plastic Pollution from Source to Sea in Asia and the Pacific	Department/Division	SDCC/SDTC-ENV
Nature of Activity	Capacity Development, Policy Advice, Research and Development	Executing Agency	Asian Development Bank
Modality	Cluster		
Country	REG (INO, MYA, PRC, THA, VIE)		
2. Sector		ADB Financing (\$ million)	
✓ Water and other urban infrastructure and services	Urban solid waste management		1.70
		Total	1.70
3. Operational Priorities		Climate Change Information	
✓ Addressing remaining poverty and reducing inequalities ✓ Accelerating progress in gender equality ✓ Tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability ✓ Making cities more livable ✓ Promoting rural development and food security ✓ Strengthening governance and institutional capacity ✓ Fostering regional cooperation and integration		Climate Change impact on the Project Low	
Sustainable Development Goals		Gender Equity and Mainstreaming	
SDG 11.6 SDG 12.4, 12.5 SDG 14.1		Some gender elements (SGE) ✓	
		Poverty Targeting	
		Geographic Targeting ✓	
4. Risk Categorization Complex			
5. Safeguard Categorization Safeguard Policy Statement does not apply			
6. Financing			
Modality and Sources		Amount (\$ million)	
ADB		1.70	
Knowledge and Support technical assistance: Regional Cooperation and Integration Fund		0.70	
Knowledge and Support technical assistance: Technical Assistance Special Fund		1.00	
Cofinancing		4.00	
Global Environment Facility (Full ADB Administration)		2.00	
Japan Fund for Poverty Reduction (Full ADB Administration)		1.50	
Republic of Korea e-Asia and Knowledge Partnership Fund (Full ADB Administration)		0.50	
Counterpart		0.00	
None		0.00	
Total		5.70	
Currency of ADB Financing: US Dollar			

I. INTRODUCTION

1. The knowledge and support technical assistance (TA) cluster will help developing member countries (DMCs) of the Asian Development Bank (ADB) deliver their commitments to reduce marine plastic pollution from “source to sea.”¹ The TA cluster will help (i) prepare action plans; (ii) reform policy and regulations to encourage a circular economy; and (iii) prepare investments in integrated solid waste management (ISWM) and circular economy systems.² The TA cluster will also promote and facilitate regional cooperation and knowledge sharing.

2. The TA is included in the management-approved 2019 results-based work plan of the Sustainable Development and Climate Change Department (SDCC).³ It is aligned with Strategy 2030 operational priorities on environmental sustainability, livable cities, and regional public goods.⁴ The TA cluster supports the ADB Action Plan for Healthy Oceans and Sustainable Blue Economies and the Sustainable Development Goals (SDGs), particularly SDGS 11, 12, and 14.⁵

II. ISSUES

3. Marine plastic pollution is an enormous and growing problem. About 150 million tons of plastic is already in the ocean, and this amount increases every year by about 8 million to 12 million tons.⁶ Eight of the 10 rivers that transport 88%–95% of the global load of plastics into the sea are in Asia: the Yangtze, Yellow, Hai, Pearl, Amur, Mekong, Indus, and Ganges rivers.⁷ Further, of the top 12 source countries ranked by the proportion of mismanaged plastic waste within the coastal zone, nine are ADB DMCs (by ranking): the People’s Republic of China (PRC), Indonesia, the Philippines, Viet Nam, Sri Lanka, Thailand, Malaysia, Bangladesh, and India.⁸

4. Marine plastics cause an estimated 1%–5% decline in benefits or services from oceans—equating to \$0.5 trillion to \$2.5 trillion per year—particularly those relating to fisheries, aquaculture, recreation, natural heritage, and human well-being.⁹ Hundreds of marine species suffer from entanglement and ingestion of plastic, and a quarter of all fish caught now contain microplastic in their guts.¹⁰ About 11 billion plastic items are entangled on coral reefs across Asia and the Pacific and are projected to increase coral reef disease outbreaks.¹¹ The long-term impact of microplastic on human health remains unknown, but exposure is clear: microplastic particles have been identified in human stool samples across the world. Poorer communities are

¹ “Source to sea” is an inclusive and integrated governance approach that looks at the whole system starting at the source, e.g., upstream in the environment (rivers, catchments) and also in the production or consumption cycle.

² Circular economy aims to gradually decouple economic activity from the consumption of finite resources, design waste and pollution out of the system, and keep products and materials in use for longer.

³ The TA first appeared in the business opportunities section of ADB’s website on 13 June 2019. The concept paper was processed as regular TA, which was later converted to cluster TA.

⁴ ADB. 2018. *Strategy 2030: Achieving a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific*. Manila.

⁵ ADB. 2019. [Action Plan for Healthy Oceans and Sustainable Blue Economies](#). Manila; and United Nations. [Sustainable Development Goals](#).

⁶ Ellen MacArthur Foundation. 2017. [The New Plastics Economy: Rethinking the Future of Plastics](#). Barcelona.

⁷ C. Schmidt, T. Krauth, and S. Wagner. 2017. Export of Plastic Debris by Rivers into the Sea. *Environmental Science & Technology*. 51 (21). pp.12246–12253.

⁸ J. Jambeck et al. 2015. Plastic Waste Inputs from Land into the Ocean. *Science*. 347 (6223). pp. 768–771.

⁹ N. Beaumont et al. 2019. Global Ecological, Social and Economic Impacts of Marine Plastic. *Marine Pollution Bulletin*. Volume 142. pp. 189–195.

¹⁰ National Oceanic and Atmospheric Administration Marine Debris Program. 2014. [Ingestion: Occurrence and Health Effects of Anthropogenic Debris Ingested by Marine Organisms](#). Silver Spring, Maryland.

¹¹ J.B. Lamb et al. 2018. Plastic Waste Associated with Disease on Coral Reefs. *Science*. 359 (6374), pp.460-462.

disproportionately impacted by both a cause of marine plastic (unsustainably managed waste) and they also disproportionately suffer from the impact of marine plastic on the natural resources they rely on. Illegal recycling factories burn massive volumes of unrecyclable plastic, causing air pollution and public health concerns because plastic fumes are carcinogenic. Plastic waste also blocks waterways and sewers, exacerbating flooding and creating breeding grounds for pests that transmit vector-borne diseases. Finally, plastic has significant carbon impact: if growth continues as projected, plastic will account for 20% of total oil consumption by 2050 (footnote 6).

5. Marine plastic pollution is a complex multisector problem, but one largely resulting from (i) unsustainable production and consumption patterns, as development, urbanization, and consumerism have led to a surge in the generation of disposable and nondegradable products and packaging; and (ii) poor or insufficient ISWM systems and infrastructure. Globally, plastic production has surged from 15 million tons in 1964 to 311 million tons in 2014 and is expected to double over the next 20 years. In 2015, plastic packaging waste, mostly single-use material designed for immediate disposal, accounted for 47% of the plastic waste generated globally.¹² Such low-residual-value plastic is not collected by waste pickers because it cannot be resold, and so is more likely to leak into the ocean; the most common items found during coastal cleanups are plastic bottles, caps, food wrappers, grocery bags, lids, and straws.¹³ Addressing this problem requires a fundamental shift in production and consumption from a traditional take, make, and dispose approach to a circular economy that includes widespread public behavior change, increased private sector responsibility, new business models, and innovations in packaging and technologies to promote recovery, remanufacturing, and recycling.

6. ISWM is one of the most neglected and underinvested municipal services across developing Asia, and reduce, reuse, and recycle approaches to address plastic waste directly are especially limited. About 75% of land-sourced ocean plastic comes from uncollected waste or litter, while the rest comes from gaps in the collection system itself (footnote 12). Large amounts of waste are abandoned in public places, often into or near rivers. Even in the collection system, leakage occurs through illegal dumping and through formal and informal dump sites that are located on rivers or coasts or lack proper controls. ISWM is expensive and prioritized below other competing development needs. Further, designing financially sustainable and forward-looking systems for a circular economy, while maximizing coverage and minimizing impacts, is complex. Capacity for planning, management, monitoring, and enforcement is limited: boosting investment in ISWM requires institutional strengthening; regulatory reform, infrastructure and technologies; and sustainable financing mechanisms.

7. Global efforts to address marine plastic pollution have been gaining momentum, and the region has seen increasing calls for action in recent years, including the Statement on Combating Marine Plastic Debris by the East Asian Summit Leaders in 2018 and the Bangkok Declaration on Combating Marine Debris in Association of Southeast Asian Nations (ASEAN) Region in 2019.¹⁴ These are supported by the ASEAN Framework of Action on Marine Debris and the Regional Action Plan on Marine Litter in 2019, and the Pacific Regional Action Plan: Marine Litter

¹² Ocean Conservancy and the McKinsey Center for Business and Environment. 2015. [Stemming the Tide: Land-Based Strategies for a Plastic-Free Ocean](#). Washington, DC.

¹³ Ocean Conservancy. 2017. [International Coastal Cleanup Report 2017](#).

¹⁴ Association of Southeast Asian Nations (ASEAN). 2018. [Statement on Combating Marine Plastic Debris by the East Asian Summit Leaders](#). Singapore; and ASEAN. 2019. [Bangkok Declaration on Combating Marine Debris in ASEAN Region](#). Bangkok.

in 2018.¹⁵ Many DMCs have announced commitments and several countries are preparing or have prepared national plans, including Indonesia, Malaysia, the Philippines, the PRC, Sri Lanka, Thailand, and Viet Nam. These plans set ambitious goals and broad actions, which now need to be implemented across the government, civil society, and the private sector, with interventions in coastal areas, along key rivers, and along sector supply chains; they necessitate a source to sea approach that plans integrated and inclusive action and prioritizes investment.

8. Marine plastic is a transboundary pollutant, flowing beyond national boundaries into regional and international waters, and therefore warrants regional action. In line with the regional efforts (para. 7), all DMCs consulted during TA preparation—Indonesia, Myanmar, Malaysia, the Philippines, the PRC, Thailand, and Viet Nam—support an approach to the TA that facilitates knowledge sharing, partnerships, and cooperation on plastic pollution to improve ocean health as a regional public good. The TA will work closely with partners to effectively support DMCs, including the World Wide Fund for Nature, the Global Plastic Action Partnership, the Stockholm International Waters Institute, the United States Environmental Protection Agency (US EPA), the European Investment Bank, the World Bank, the Government of Japan, and the Government of the Republic of Korea. The TA will also engage private companies and public-private alliances. Collaboration with the Coordinating Body on the Seas of East Asia, United Nations Environment Programme, and the ASEAN will aid coordination.

9. ADB has a growing pipeline of ISWM projects that it can enhance and expand to help reduce marine plastic pollution. This TA will build on the lessons and recommendations of the TA projects Mainstreaming Integrated Solid Waste Management in Asia, and other TA projects on supporting environment-related SDGs and use of market-based approaches for environmental management (including waste management).¹⁶ The TA team will also work with ADB's subregional programs to mainstream and scale up solutions.

III. JUSTIFICATION FOR CLUSTER MODALITY

10. The strategically linked subprojects share the goal of helping DMCs to reduce marine plastic pollution and to implement ADB's Action Plan for Healthy Oceans and Sustainable Blue Economies. The TA cluster modality allows the flexibility to expand the scope under current outputs (e.g., to provide targeted support to other subregions in addition to Southeast Asia); and to integrate any future priorities identified from the initial subprojects.

IV. THE TECHNICAL ASSISTANCE CLUSTER

A. Impacts, Outcome, and Outputs

11. The TA cluster is aligned with the following impacts: marine plastic pollution reduced; and health of rivers, coasts, and marine ecosystems restored.¹⁷ The TA will have the following outcome: DMC action to address marine plastic pollution enhanced.¹⁸

¹⁵ ASEAN. 2019. [ASEAN Framework of Action on Marine Debris](#). Bali; Coordinating Body on the Seas of East Asia. 2019. [Regional Action Plan on Marine Litter](#). Bangkok; and Secretariat of the Pacific Regional Environment Programme. 2018. [Pacific Marine Action Plan: Marine Litter, 2018–2025](#). Apia, Samoa.

¹⁶ ADB. [Regional: Mainstreaming Integrated Solid Waste Management in Asia](#); ADB. [Regional: Supporting Implementation of Environment-Related Sustainable Development Goals in Asia and the Pacific](#); and ADB. [Regional: Scaling Up Private Sector Participation and Use of Market-Based Approaches for Environmental Management](#).

¹⁷ Defined by the TA.

¹⁸ The design and monitoring framework is in Appendix 1.

12. The marine plastic pollution problem requires an immediate and significant expansion in effective ISWM, including reduce, reuse, and recycle, and a more fundamental shift toward a circular economy. These changes require planning and policy reform; investment in infrastructure, technologies, and systems; and strong partnerships, knowledge, and financing. The TA focuses initially on Southeast Asia, targeting DMCs for support based on potential impact and demand. Participating countries will include Indonesia, Myanmar, Thailand, and Viet Nam.¹⁹ Support for preparing investment and participating in regional activities will be open to other DMCs, while regional research will cover the whole region and provide differentiated recommendations where appropriate.²⁰ The TA will have the following key outputs.

13. Output 1: Action plans and policies to address marine plastic pollution supported.

The TA will help develop government-led action plans to reduce plastic pollution at national, provincial, and city levels by filling information gaps, preparing critical inputs, and supporting integrated and multi-stakeholder source-to-sea planning processes. Support will be based on DMC demand, in collaboration with partner agencies and in coordination with ADB programs, such as Livable Cities and subregional cooperation programs. The action plans will be based on analyses of waste characteristics and volumes; ISWM systems and infrastructure; plastic waste hot spots and leakage points (i.e., within the ISWM system, and priority sectors and supply chains); policy and regulatory frameworks; institutional capacity; and community and business behaviors, drivers, and triggers. The action plans will identify and prioritize actions across institutional and financing arrangements, policy and regulation, sustainable production and consumption, behavior change, and infrastructure and technology investments. The TA will incorporate capacity building throughout to enable informed decision-making and ownership of action plans and policies by government departments and stakeholders. The TA will provide further support to implement priority actions on a case-by-case basis, possibly including support for policy and regulatory reform where DMCs are committed to drive this forward. Policy and regulatory measures supported through the project will be based on robust policy analyses and regulatory impact assessments. Possible instruments may include bans, taxes, levies, subsidies, product takebacks, deposit-refund schemes, material product standards, green supply chains, minimum recycled content requirements, and extended producer responsibility schemes.²¹

14. Output 2: Plastic pollution reduction investments supported. The TA will provide on-demand specialist support to operations departments to help identify, prepare, and boost the implementation of government and private sector action to reduce marine plastic pollution.²² The scope of specialist inputs and services will cover ISWM and circular economy, with inputs for upstream work through project implementation. Such inputs could include (i) undertaking sector assessments as part of ADB's country partnership strategy and country operations business plan processes; (ii) supporting project teams in investment dialogues with DMCs and partners; (iii) exploring problems and solutions, providing technical inputs to inform concept designs, and

¹⁹ This will be confirmed based on consultations with Operations Departments and subject to receipt of no-objection letters from participating DMCs.

²⁰ Work on this TA will be coordinated with the TA to the PRC for Capacity Building on River and Ocean Eco-Environmental Management and Plastic Waste Pollution Control (ADB. [China, People's Republic of: Capacity Building on River and Ocean Eco-Environmental Management and Plastic Waste Pollution Control](#)) and other TA and loan projects supporting the reduction of marine plastic pollution.

²¹ Extended producer responsibility is a policy approach where producers are given significant financial and/or physical responsibilities to treat and dispose of postconsumer goods.

²² This may include policy-based lending for new or reformed standards or regulations on plastics; urban planning and infrastructure investments that facilitate efficient material flows, and waste minimization and management; zero waste cities and ecovillages; sustainable and smart value chain development that considers effective waste management; and private sector investments that result in reduced plastic waste.

helping prepare concept papers; (iv) providing specialist advice and inputs to improve project design or implementation; and (v) providing technical inputs and supporting project teams to mobilize finance. The TA will also support small-scale demonstration projects on ISWM, plastic circular economy, and innovative solutions and technologies to reduce marine plastic pollution. For example, the tentative concept for one demonstration will target 2,000–4,000 households and comprise household separation of wet and dry waste, business and community behavior change campaigns, partnerships with microenterprises and a reprocessing company to support the new waste system, pilot tests of innovative digital technologies, and support for particularly vulnerable community groups to develop livelihood and micro business opportunities. Demonstration sites will be confirmed during TA inception following field visits, consultations, and evaluation against key criteria. The TA will carry out innovation challenges to promote and support innovation and emerging technologies for ocean health and circular economy, especially from Asia and the Pacific, including under ADB's Digital Innovation Sandbox Program.²³ If appropriate, the TA may support challenge winners to pilot their proposals at ADB project sites.

15. Output 3: Knowledge, regional cooperation, and financing for marine plastic pollution solutions improved. Output 3 focuses on supporting subregional and regional activities, including priority actions in regional plans. The TA will undertake research studies specific to the developing Asia and the Pacific context to fill critical knowledge gaps, including on (i) environmental and socioeconomic costs; (ii) infrastructure, technology, and investment needs to address marine plastic pollution through ISWM and a transition to a circular economy; and (iii) instruments (e.g., policy, regulation, social, or market-based) to reduce marine plastic pollution and promote a circular economy. Knowledge sharing, cross learning, and capacity building activities targeting mid- to senior-level government officials, as well as private sector and civil society representatives where appropriate, will communicate the findings and topics of outputs 1–2 and research under output 3, and include source-to-sea action planning, instruments to promote and implement plastic circular economy, private sector engagement and sustainable financing, and innovation and technology solutions (both low-tech and high-tech) to address marine plastic pollution and other ocean health issues. Further, the TA will support cooperation among developing countries, for example between ASEAN and the PRC or between Indonesia and Pacific island countries.²⁴ The TA will carry out awareness-raising and mainstreaming activities on ocean health and circular economy through subregional cooperation programs, such as the Greater Mekong Subregion Economic Cooperation Program, Bay of Bengal Large Marine Ecosystem Project, and Indonesia–Malaysia–Thailand Growth Triangle. Activities through these programs will target leaders, ministers, and mid- to senior-level officials. The TA will help develop ADB's Oceans Financing Initiative by developing financing mechanisms and mobilizing resources and/or funding for healthy oceans.

B. Cost and Financing

16. The TA cluster is estimated to cost \$5,700,000, of which (i) \$1,000,000 will be financed on a grant basis by ADB's Technical Assistance Special Fund (TASF-other sources); (ii) \$700,000 will be financed on a grant basis by the Regional Cooperation and Integration Fund;²⁵ (iii) \$1,500,000 will be financed on a grant basis by the Japan Fund for Poverty Reduction and administered by ADB; (iv) \$500,000 will be financed on a grant basis by the Republic of Korea e-

²³ [ADB Digital Innovation Sandbox Program](#).

²⁴ This is based on the letter of intent between ADB and Indonesia's Ministry of National Development Planning on collaboration in areas of mutual interest, including marine plastic debris, signed on 2 May 2019. Such cooperation activities will be coordinated with ADB operations departments.

²⁵ Established by ADB. Financing partner: the Government of Japan.

Asia and Knowledge Partnership Fund and administered by ADB; and (v) \$2,000,000 will be financed on a grant basis by the Global Environment Facility and administered by ADB.²⁶ Detailed cost estimates and financing arrangements will be presented in each TA subproject proposal submitted for approval.

C. Implementation Arrangements

17. ADB will administer the TA cluster. The SDCC's Environment Thematic Group will lead the implementation of the subprojects and will closely coordinate target DMCs, activities, and consultant outputs under each subproject with operations departments, sector and thematic groups, and other organizations working on the TA themes. The thematic group will select, administer, and evaluate the consultants. The director general of the SDCC will submit each TA subproject proposal for approval; subproject activities will start only after project approval. The Environment Thematic group will develop a partnerships strategy and a knowledge, communications, and events plan for the TA to help coordinate and maximize the impact of these components. The TA team will work with several development partners, including the World Wide Fund for Nature and the United Nations Environment Programme, to implement the TA activities. The TA will use US EPA as a resource and a peer reviewer of relevant TA outputs.²⁷

Table 1: Implementation Arrangements for the Technical Assistance Cluster

Aspects	Arrangements		
Indicative implementation period for the TA cluster	December 2019–July 2023		
Executing agency	ADB, Environment Thematic Group		
Consultants ^a	Package title	Selection method	Engaged by
	Action planning and pilot projects	Firm: FBS	ADB
	Plastic circular economy instruments: research, policy reform, and project support	Firm: FBS	ADB
	Investment needs research	Firm: FBS	ADB
	ISWM specialist	Individual selection	ADB
	Knowledge, communications, and events specialist	Individual selection	ADB
	Ocean health partnerships specialist	Individual selection	ADB
	TA administrator (national)	Individual selection	ADB
	Knowledge, communications, and events coordinator (national)	Individual selection	ADB
Disbursement	The TA resources will be disbursed following ADB's <i>Technical Assistance Disbursement Handbook</i> (2010, as amended from time to time).		

ADB = Asian Development Bank, FBS = fixed budget selection, ISWM = integrated solid waste management, TA = technical assistance.

^a The outline terms of reference for consultants will be included in the subprojects.

Source: Asian Development Bank.

18. **Subprojects.** The TA cluster will be implemented through two subprojects (Appendix 2). Each subproject will be designed to support the achievement of the cluster outputs (paras. 13–15) as and when needed during implementation.

²⁶ Additional funding of \$1 million is being discussed with relevant ADB trust funds.

²⁷ ADB has a letter of intent with US EPA to collaborate in areas of mutual interest, one of which is marine plastic pollution. The terms of reference will be drafted at TA inception.

Table 2: Indicative Implementation Period and Budget Allocation for Subprojects

Item	Subproject Title	Implementation Period	Budget (\$'000)
Subproject 1	Enhancing Knowledge and Creating Enabling Environments for Reducing Marine Plastic Pollution	December 2019–November 2022	1,700
Subproject 2	Prioritizing and Implementing Actions to Reduce Marine Plastic Pollution	February 2020–July 2023	4,000

Source: Asian Development Bank.

19. **Consulting services.** Individual consultants will be recruited to provide 150 person-months of international services and 52 person-months of national services. Three consulting firms will be recruited using the fixed budget selection method to provide 77 person-months of consulting services for action planning and pilot projects, plastic circular economy research and policy reform support, and infrastructure and investment needs research. The consultants will be engaged in accordance with the ADB Procurement Policy (2017, as amended from time to time) and the associated project administration instructions and/or staff instructions. The estimated cost and requisite fields of expertise are indicative and estimates will be finalized prior to the approval of each TA subproject in consultation with the government during follow-up missions.

20. **Pilot testing of project approach.** The TA will implement at least two small-scale demonstration projects under subproject 2 to verify the appropriateness of the design and project approaches for implementing effective ISWM and circular economy approaches to reduce marine plastic. Before the approval of subproject 2, the TA team will finalize implementation arrangements for the demonstration projects in consultation with the respective national and local governments during follow-up missions. The pilot projects will be implemented in accordance with paras. 13–15 of the Optional Provisions under Technical Assistance Operations.²⁸ The pilot testing amount will not exceed 30% of ADB financing.

21. **ADB's procurement.** Procurement of minor civil works, equipment, small vehicles, and technologies will be required under subproject 2 for the pilot demonstration projects. Detailed implementation arrangements of ADB procurement will be finalized prior to approval of each TA subproject in consultation with the government during follow-up missions. Procurement will follow the ADB Procurement Policy (2017, as amended from time to time) and the Procurement Regulations for ADB Borrowers (2017, as amended from time to time).

V. THE PRESIDENT'S DECISION

22. The President, acting under the authority delegated by the Board, has approved (i) the Asian Development Bank (ADB) administering a portion of technical assistance (TA) not exceeding the equivalent of \$2,000,000 to be financed on a grant basis by the Global Environment Facility; (ii) ADB administering a portion of TA not exceeding the equivalent of \$1,500,000 to be financed on a grant basis by the Japan Fund for Poverty Reduction; (iii) ADB administering a portion of TA not exceeding the equivalent of \$500,000 to be financed on a grant basis by the Republic of Korea e-Asia and Knowledge Partnership Fund; and (iv) ADB providing the balance not exceeding the equivalent of \$1,700,000 on a grant basis for Promoting Action on Plastic Pollution from Source to Sea in Asia and the Pacific, and hereby reports this action to the Board.

²⁸ ADB. 2019. *Staff Instruction on Business Processes for Knowledge and Support Technical Assistance*. [Attachment 1: Optional Provisions under Technical Assistance Operations](#). Manila.

DESIGN AND MONITORING FRAMEWORK

Impacts the TA is Aligned with Marine plastic pollution reduced ^a Health of rivers, coasts, and marine ecosystems restored ^a			
Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
Outcome DMC action to address marine plastic pollution enhanced	a. By 2023, at least two new investments supporting marine plastic pollution reduction included in ADB pipeline (2018 baseline: to be established by the TA) b. By 2023, at least two government-led action plans endorsed for approval (2018 baseline: not applicable) c. By 2023, ocean health issues and actions mainstreamed into at least two ADB-supported subregional cooperation programs (2018 baseline: 0)	a. WPBF database; CPSs and/or COBPs b. Memo endorsing the government action plan for approval c. Subregional cooperation program work plans, strategies, or annual reports	Change in government priorities shifts emphasis away from efforts to address marine pollution.
Outputs 1. Action plans and policies to address marine plastic pollution supported 2. Plastic pollution reduction investments supported 3. Knowledge, regional cooperation, and financing for marine	1a. By 2023, at least four government-led action plans on marine plastic pollution drafted (2018 baseline: 0) 1b. By 2022, at least two policy, regulatory or institutional interventions drafted (2018 baseline: 0) 2a. By 2022, at least four marine plastic pollution reduction projects supported (2018 baseline: 0) 2b. By 2023, at least two pilot demonstration projects on a plastic circular economy and marine plastic pollution reduction implemented (2018 baseline: 0) 3a. By 2022, at least three high-level forums on healthy oceans and plastic circular economy, including through subregional cooperation	1a. TA consultant reports, TA progress reports, draft action plans 1b. TA consultant reports, draft interventions 2a. Concept and/or TA papers, project documents, consultant reports 2b. Pilot project completion reports 3a. High-level forum or ministerial meeting proceedings, subregional cooperation program annual reports	Limited collaboration across government agencies and among governments, the private sector, and civil society affects buy-in.

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
plastic pollution solutions improved	<p>programs, convened (2018 baseline: 0)</p> <p>3b. By 2023, at least six knowledge sharing and capacity building activities on healthy oceans and plastic circular economy implemented (2018 baseline: 0)</p> <p>3c. By 2023, at least 200 (40 per participating DMC) government officials (40% of whom are women) reported improved knowledge of marine plastic pollution issues and solutions (2018 baseline: 0)</p> <p>3d. By 2022, at least five knowledge products developed and disseminated (2018 baseline: 0)</p> <p>3e. By 2020, multidonor financing partnership facility for healthy oceans and blue economy established and operational (2018 baseline: not applicable)</p>	<p>3b. Event proceedings and reports</p> <p>3c. Learning event feedback reports</p> <p>3d. Knowledge products, record of citations</p> <p>3e. Multidonor financing partnership facility approved</p>	

Key Activities with Milestones

1. Action plans and policies to address marine plastic pollution supported

- 1.1 Engage consultants for national baseline analyses and reviews by Q3 2020 (SP1)
- 1.2 Organize DMC and stakeholder workshops to validate findings and recommendations for national policy, regulatory, or institutional reforms by Q3 2021 (SP1)
- 1.3 Engage consultants for drafting policy, regulatory, or institutional reforms by Q4 2021 (SP1)
- 1.4 Engage firm to develop action plans by Q3 2020 (SP2)
- 1.5 Organize multi-stakeholder workshops to validate action planning inception reports, including proposed approaches, methodologies, and capacity building needs, by Q4 2020 (SP2)
- 1.6 Prepare necessary action plan baseline analyses and studies by Q2 2021 (SP2)
- 1.7 Undertake action planning and prioritization activities by Q2 2022 (SP2)
- 1.8 Identify finance, investment, and partnership opportunities for action plan implementation by Q4 2022 (SP2)

2. Plastic pollution reduction investments supported

- 2.1 Identify and scope demand from operations departments for CPSs and/or COBPs and project preparation support by Q2 2020 (SP1)
- 2.2 Engage consultants to provide specialist inputs to CPSs and/or COBPs and projects by Q2 2020 (SP1)
- 2.3 Provide specialist inputs to at least four investment proposals by Q3 2022 (SP1)
- 2.4 Review recommendations and lessons from completed plastic circular economy pilot programs and identify the scope of those in progress by Q2 2020 (SP1)

<p>2.5 Define the scope and engage a firm for pilot demonstration projects by Q3 2020 (SP2)</p> <p>2.6 Organize multi-stakeholder workshops to validate the proposed pilot demonstration projects by Q1 2021 (SP2)</p> <p>2.7 Organize community and local business workshops and implement behavior change campaign activities and livelihood and/or business development programs on circular economy by Q1 2023 (SP2)</p> <p>2.8 Prepare and disseminate knowledge products on pilot projects by Q2 2023 (SP2)</p> <p>3. Knowledge, regional cooperation, and financing for marine plastic pollution solutions improved</p> <p>3.1 Consult with ASEAN, COBSEA, and other regional forums to identify and scope priority knowledge and regional cooperation activities (i.e., those included in regional plans) to be supported by the TA by Q2 2020 (SP1)</p> <p>3.2 Coordinate with partners and define the scope of research on (i) environmental, social, and economic costs; (ii) infrastructure and technology and associated investment needs; and (iii) instruments to reduce marine plastic pollution by Q1 2020 (SP1)</p> <p>3.3 Consult with secretariats of relevant subregional cooperation programs and identify needs and opportunities for awareness raising, knowledge sharing, and mainstreaming ocean health and circular economy by Q2 2020 (SP1)</p> <p>3.4 Convene high-level forums on ocean health and circular economy by Q3 2022 (SP1)</p> <p>3.5 Engage specialists to develop awareness-raising and cross-learning activities, and to support mainstreaming into subregional cooperation programs by Q3 2020 (SP1)</p> <p>3.6 Facilitate and deliver cross-learning activities and mainstreaming support into subregional cooperation programs by Q2 2023 (SP1, SP2)</p> <p>3.7 Engage consultants to support the establishment of a financing partnership facility by Q1 2020 (SP1)</p> <p>3.8 Secure cohosts and partners for ADB healthy oceans technology and innovation forum and innovation challenges by Q1 2020 (SP1)</p> <p>3.9 Disseminate findings from key knowledge products by Q3 2022 (SP1)</p>
<p>TA Management Activities</p> <p>Engage core TA team (including team leader, administrator, and knowledge and communications specialist) by Q1 2020 (SP1)</p> <p>Carry out inception missions and detailed scoping of DMC activities by Q2 2020 (SP1)</p> <p>Establish a mechanism to track pipeline on marine plastic pollution by Q2 2020 (SP1)</p> <p>Consult with partner agencies and develop a partnerships strategy for the TA by Q1 2020 (SP1)</p> <p>Develop a knowledge management, communications, and events plan for the TA by Q2 2020 (SP1)</p>
<p>Inputs</p> <p>ADB (TASF-other sources): \$1 million</p> <p>Regional Cooperation and Integration Fund: \$700,000</p> <p>Japan Fund for Poverty Reduction: \$1.5 million</p> <p>Republic of Korea e-Asia and Knowledge Partnership Fund: \$500,000</p> <p>Global Environment Facility: \$2 million</p>
<p>Assumptions for Partner Financing</p> <p>Not Applicable</p>

^a Defined by the TA.

ADB = Asian Development Bank, ASEAN = Association of Southeast Asian Nations, COBP = country operations business plan, COBSEA = Coordinating Body on the Seas of East Asia, CPS = country partnership strategy, DMC = developing member country, Q = quarter, SP1 = subproject 1, SP2 = subproject 2, TA = technical assistance, TASF = Technical Assistance Special Fund, WPBF = work plan and budget framework.

Source: Asian Development Bank.

SUBPROJECT DESCRIPTIONS

Subproject 1	Enhancing Knowledge and Creating Enabling Environments for Reducing Marine Plastics Pollution
Indicative outputs and activities	<p>Linked to TA cluster outputs 1, 2, and 3, subproject 1 comprises the following outputs and activities:</p> <p>Output 1: Action plans and policies to address marine plastic pollution supported. The TA will provide support for priority research, reviews, and baseline analyses to target DMCs, particularly at the national level, in collaboration with partners and in line with regional and national action plans. Support could include rapid country assessment of plastic pollution hot spots; review of national policy, plans, and regulation; and review of institutional arrangements and capacity for addressing the marine plastic problem. Policy and regulatory review will support DMCs that are committed to drive forward recommended measures, which will be based on robust policy analyses and regulatory impact assessments. Possible instruments may include bans, taxes, levies, subsidies, product take-backs, deposit-refund schemes, material product standards, minimum recycled content requirements, green supply chains, and EPR schemes. This support will follow completion of the research studies under output 3.</p> <p>Output 2: Plastic pollution reduction investments supported. The TA will provide on-demand specialist support to operations departments to help identify, prepare, and boost implementation of government and private sector actions to reduce marine plastic pollution. The scope of specialists' inputs and services will cover ISWM and circular economy, with inputs for upstream work through project implementation. This could include (i) undertaking sector assessments as part of the ADB country partnership strategy and country operations business plan processes, (ii) supporting project teams in investment dialogues with DMCs and key partners, (iii) providing technical inputs to guide concept designs and help prepare concept papers, (iv) providing specialist advice and inputs to improve project design or implementation, and (v) providing technical inputs and helping project teams mobilize finance.</p> <p>Output 3: Knowledge, regional cooperation, and financing for marine plastic pollution solutions improved. Output 3 focuses on supporting subregional and regional activities, including knowledge generation, awareness raising, regional cooperation, mobilization of financing, and support for regional priorities in the COBSEA Regional Action Plan on Marine Litter (2008, revised 2019) and ASEAN Framework of Action on Marine Debris.^a Research studies specific to the developing Asia and the Pacific context will be undertaken to fill critical knowledge gaps, in collaboration with partners, including on the (i) social, economic, and environmental costs of plastic pollution; (ii) infrastructure and technology needs and options (with rapid cost–benefit assessment) and associated costs and investment needs to address marine plastic pollution through ISWM and a transition to circular economy; and (iii) evaluation of instruments to reduce marine plastic pollution and promote circular economy, including social, economic, financial, policy, and regulatory incentives and disincentives (such as an evaluation of EPR schemes, models, and pilot programs in the region and recommendations for next steps and scaling-up). A suite of multimedia, audience-segmented knowledge products will be prepared and disseminated at TA events and via partner agencies and regional coordination bodies. Awareness raising and knowledge sharing activities among developing countries on key issues, solutions, and opportunities related to marine plastic pollution, ocean health, and circular economy will be undertaken. Priority knowledge themes identified include benefits and costs of actions, private sector engagement, innovative and sustainable financing, policy instruments and/or incentives, and technology and innovation. ADB will organize Healthy Oceans Technology and</p>

	<p>Innovation Forums to facilitate sharing of solutions and partnerships among DMCs, business, academia, technology providers, innovators, and thought leaders. Further, the TA will support cooperation among developing countries on marine plastic, for example between ASEAN and the PRC or between Indonesia and the Pacific Island Countries. Awareness-raising and mainstreaming activities on ocean health and circular economy will also be carried out through subregional cooperation programs, such as the Greater Mekong Subregion Economic Cooperation Program, Brunei Darussalam–Indonesia–Malaysia–Philippines East ASEAN Growth Area, Indonesia–Malaysia–Thailand Growth Triangle, and Bay of Bengal Large Marine Ecoregion Program. Awareness-raising activities will target leaders and ministers (especially ministers of national planning, finance, economic development, and infrastructure), while knowledge sharing will target mid- to senior-level officials. These activities will help mainstream ocean health and promote integrated action. Finally, the TA will help develop ADB's Oceans Financing Initiative which will support DMCs to develop innovative finance vehicles and mobilize funding and resources for projects that will improve ocean health and build sustainable marine economies.</p>
Indicative implementation arrangements	<p>The ETG under SDCC will lead the overall implementation of the subprojects. Target DMC selection, activities, and consultant outputs under each subproject will be closely coordinated with operations departments and sector and thematic groups. The ETG will select, administer, and evaluate the consultants.</p>
Implementation schedule	<p>December 2019–November 2022</p>
Subproject 2	<p>Prioritizing and Implementing Actions to Reduce Marine Plastic Pollution</p>
Indicative outputs and activities	<p>Linked to TA cluster outputs 1, 2, and 3, subproject 2 will have the following outputs:</p> <p>Output 1: Action plans and policies to address marine plastic pollution supported. The project will help develop one national action plan (tentatively in Myanmar) and at least three provincial and/or city action plans on marine plastic pollution (tentatively in Indonesia, Thailand, and Viet Nam). These plans will be</p> <ul style="list-style-type: none"> (i) based on baseline studies of waste characteristics and volumes by area (national, provincial, or city level); existing ISWM systems and infrastructure; plastic waste hot spots in the country and/or province and key leakage points within the ISWM system; key production and consumption patterns and trends, and waste characteristics and/or volumes for key sectors (e.g.; food and beverage, fishing, tourism); policy and regulatory frameworks and institutional capacity; community behaviors, drivers, and triggers for the local context; (ii) identify and prioritize detailed plans and specific actions on institutional arrangements and capacity building; policy and regulation (including legal, economic, social instruments); sustainable industry and/or business, circular economy, and EPR; awareness raising and behavior change (for both businesses and communities); further research and analysis; and infrastructure and technology investments; (iii) assign lead roles, responsibilities, and actions, including to the private sector; (iv) include implementation plans, including cost-recovery mechanisms and financial plans; and draw on national, regional, and global case studies and best practices, but recommend what is feasible for the local context; and (v) link to national and regional plans and frameworks. <p>The project will take a “source to sea” approach to action plan development: integrated, multi-stakeholder, and participatory.^b The process will focus on fully engaging and building effective partnerships with the private sector (e.g., plastic producers and manufacturers and key industries, such as tourism, fisheries, and food and beverage) and civil society. Action plans will identify upstream sources of the problem in the plastic production and consumption processes and identify circular economy solutions to address them, such as rethink, redesign, and remanufacture. The planning process will incorporate awareness raising and capacity building to enable full participation, informed decision-making, and ownership of the plans by</p>

	<p>the government departments, the private sector, and civil society. In addition to helping develop action plans, output 1 will help DMCs implement national action plans, including policy and regulatory reform. This support will be provided based on the need to fill critical gaps, potential impact, and DMC demand.</p> <p>Output 2: Plastic pollution reduction investments supported. Subproject 2 will support at least two small ISWM demonstration projects, plastic circular economy, and innovative solutions and technologies for reducing marine plastic pollution. The tentative concept for one demonstration will target 2,000–4,000 households and comprise household separation of wet and dry waste, business and community behavior change campaigns, partnerships with microenterprises and a reprocessing company to support the new waste system, and pilot tests of innovative digital technologies. The demonstration will provide design-thinking workshops¹ targeting the most vulnerable members of the community (target 200 participants), including waste pickers and women's groups. These workshops aim to stimulate the development of new business models and/or job opportunities, combined with business development programs (including skills training, business planning, and financial literacy) and a potential micro grant and/or loan scheme. To maximize the benefits of the pilot demonstration activities, the TA will review rapid assessments of similar in-country initiatives and global best practices and lessons. The demonstration projects will provide opportunities to pilot test innovative technologies and behavior change strategies, and to target specific industries, e.g., tourism in Viet Nam and fisheries in Indonesia. Based on initial consultations, tentative pilot sites include Quang Ninh Province or along the Red River or Mekong River in Viet Nam, and Cirebon in Indonesia. Site selection will be finalized during TA inception following field visits, consultations, and evaluation against key criteria. The TA will carry out innovation challenges to promote and support innovation and emerging technologies in ocean health and circular economy, especially from Asia and the Pacific, including under ADB's Digital Innovation Sandbox Program and in collaboration with the cluster TA for Support for Innovation and Technology Partnerships in Asia and the Pacific.^c Challenge winners may be supported to pilot their proposals at ADB project sites.</p> <p>Output 3: Knowledge, regional cooperation, and financing for marine plastic pollution solutions improved. Building on the outputs of subproject 1, subproject 2 will further support knowledge sharing among developing countries, cross-country learning, regional cooperation, and capacity building activities.</p>
Indicative implementation arrangements	The ETG under SDCC will lead the overall implementation of the subprojects. Target DMC selection, activities, and consultant outputs under each subproject will be closely coordinated with operations departments and sector and thematic groups. The ETG will select, administer, and evaluate the consultants.
Implementation schedule	February 2020–July 2023

ADB = Asian Development Bank, ASEAN = Association of Southeast Asian Nations, COBSEA = Coordinating Body on the Seas of East Asia, DMC = developing member country, EPR = extended producer responsibility, ETG = Environment Thematic Group, ISWM = integrated solid waste management, PRC = People's Republic of China, SDCC = Sustainable Development and Climate Change, TA = technical assistance.

^a Coordinating Body on the Seas of East Asia. 2019. [Regional Action Plan on Marine Litter](#). Bangkok; and ASEAN. 2019. [ASEAN Framework of Action on Marine Debris](#). Bali.

^b "Source to sea" is an inclusive and integrated governance approach that looks at the whole system starting at the source, e.g., upstream in the environment (rivers, catchments) and also in the production or consumption cycle.

^c [ADB Digital Innovation Sandbox Program](#); and ADB. [Regional: Support for Innovation and Technology Partnerships in Asia and the Pacific](#).

Source: Asian Development Bank.

¹ A Design Thinking workshop teaches problem solving in action, giving the workshop participants an approach they can apply to almost any challenge in any area of their lives.