



Project Information Document (PID)

Concept Stage | Date Prepared/Updated: 05-Apr-2020 | Report No: PIDC28051

**BASIC INFORMATION****A. Basic Project Data**

Country Cambodia	Project ID P170976	Parent Project ID (if any)	Project Name Cambodia: Solid Waste and Plastic Management Improvement Project (P170976)
Region EAST ASIA AND PACIFIC	Estimated Appraisal Date Nov 30, 2020	Estimated Board Date Mar 22, 2021	Practice Area (Lead) Environment, Natural Resources & the Blue Economy
Financing Instrument Investment Project Financing	Borrower(s) Ministry of Economy and Finance (MEF), KINGDOM OF CAMBODIA	Implementing Agency Ministry of Public Works and Transport, Ministry of Environment, Ministry of Interior	

Proposed Development Objective(s)

The PDO is to improve solid waste and plastic management and capacity in selected cities and nationally in Cambodia

PROJECT FINANCING DATA (US\$, Millions)**SUMMARY**

Total Project Cost	60.00
Total Financing	60.00
of which IBRD/IDA	60.00
Financing Gap	0.00

DETAILS**World Bank Group Financing**

International Development Association (IDA)	60.00
IDA Credit	60.00



Environmental and Social Risk Classification

High

Concept Review Decision

Track II-The review did authorize the preparation to continue

Other Decision (as needed)

B. Introduction and Context

Country Context

- 1. Cambodia has experienced remarkable economic growth becoming a lower middle-income country and is undergoing a process of urbanization expected to further increase the coming years.** Cambodia's level of urbanization of 21 percent of its 15.8 million people (2016) is low and far below other countries with similar gross domestic product (GDP) per capita, suggesting that rapid urbanization may be expected in the coming years. While Phnom Penh continues to consolidate its role as the primary city of Cambodia, the country's secondary cities are continuing to act and expand as regional centers in their own right. Secondary cities in Cambodia are establishing their own economic trajectory and have witnessed urbanization rates of between 3-5 percent¹. The main drivers of growth have been garment exports, agriculture, tourism and, more recently, construction and real estate.
- 2. Thanks to rapid and sustained growth, Cambodia has become one of the world's leaders in poverty reduction and shared prosperity.** Official estimates show that poverty incidence under the national poverty line fell from 47.8 percent in 2007 to 13.5 percent in 2014, a trend supported by improvements in other indicators of living standards such as asset ownership, housing amenities, and human development outcomes².
- 3. The impressive growth of tourism has allowed the sector to become an important engine for growth, employment generation, and investment attraction.** Cambodia received nearly four million tourists in 2018, up from less than 250,000 in 1995, contributing around 17 percent of GDP and making tourism an important source of foreign exchange, investment, and employment³. Siem Reap, with its world-famous Angkor Wat, received 2 million tourists alone by air. Coastal regions also representing some 12% of the tourism share in 2018⁴.
- 4. Due the increasing urbanization in Phnom Penh and secondary cities and despite improvements in infrastructure in water supply, roads and electricity, cities and districts suffer from lack of infrastructure.** City limits have been expanded but often in the absence of spatial planning and urban development planning. The continued growth of the cities will require higher levels of infrastructure and municipal service levels, which are currently facing under-

¹ The Urban Initiative, 2012. Growing Pains: Urbanization and Informal Settlements in Cambodia's Secondary Cities.

² World Bank. 2017. Cambodia - Sustaining strong growth for the benefit of all. Washington, D.C. World Bank Group

³ World Bank. 2017. Cambodia - Sustaining strong growth for the benefit of all. Washington, D.C. World Bank Group

⁴ Tourism Statistics report, year 2018. Ministry of Tourism



investment together with weak institutional capacity in policy, planning implementation and enforcement. There is a risk that the lack of municipal services can hamper growth and specifically to Cambodia's tourism assets that are an important engine for growth. Smaller towns such as district centers (many currently characterized as rural) are also expected to grow significantly to reach population densities requiring higher levels of infrastructure and basic service. There is significant risk that negative externalities because of rapid but unplanned urbanization could hamper growth.

5. Solid waste has generation has increased substantially over the years Sound waste data is missing in the country and is often inconsistent and unverifiable. Total waste generation has been estimated at 4 mln t/y as of 2015, equal to 0.73 kg/day/capita.⁵ Due to economic growth and urbanization, waste generation has rapidly increased over the last years. In 2016, 1.3 mln tons of municipal solid waste (MSW) was disposed of at 55 dumping sites nationwide, an increase of 7.6% within one year. Between 2000 and 2017, the amount of collected MSW of Phnom Penh has increased substantially, and by 35% between 2016 – 2018.⁶⁷ In Sihanoukville, uncontrolled growth has led to a 400% waste increase within the last 4 years only. Due to this drastic increase in waste, landfills around the country are rapidly reaching their capacity limit, such as in Siem Reap. In urban centers, 50-60 % of the waste has been determined as organic, and plastics reaching over 20% and increasing in share.⁸

6. Several government strategies have focused on better management of solid waste, but implementation is challenging. Cambodia's Law on Environmental Protection and Natural Resource Management (1996) designates the Ministry of Environment (MoE) as the leading agency tasked with formulating policies, issuing regulations and coordinating actions on waste management and pollution control. Sub-decree 113 (2015) assigns responsibilities for the management of solid waste to municipalities, however municipalities have been struggling with implementation. The country's Sub-Decree on Management of Plastic Bags (No 168, 2017) aims to increase effectiveness of plastic reduction by regulating importation, production, distribution. The forthcoming National Waste Strategy and Action Plan for Cambodia (2018-2030) defines a roadmap for improving waste management practices and aims to provide authorities at all levels with instructions to effectively manage solid waste and plastics.

Sectoral and Institutional Context

7. Solid waste is more and more seen as a critical bottleneck for Cambodian cities and districts growth. Recently, solid waste has become a high priority national agenda. In several media statements, Prime Minister Hun Sen emphasized the issue of solid and liquid waste in Phnom Penh and major cities in coastal areas and along the Mekong river.⁹ In June 2019, the Government of Cambodia endorsed the Bangkok Declaration on Combating Marine Debris in the ASEAN Region and ASEAN Framework of Action on Marine Debris during the ASEAN Summit. In Phnom Penh, the government is currently taking action by preparing public tenders for solid waste collection, planning to divide the city into several collection zones.

8. Solid waste can also become a critical bottleneck for Cambodia's tourism assets. Inadequate solid waste management is a major potential constraint to growth for Cambodia's key tourism destinations, including Siem Reap

⁵ EU (2019): Circular Economy and Plastics: A Gap-Analysis in ASEAN Member States

⁶ The amount is estimated based on the number and capacity of garbage trucks that bring wastes to dumping sites, because no waste weighbridges are operating at landfills in Cambodia except in a Dakor landfill in Phnom Penh

⁷ KEITI-WB Joint Technical Assistance of Solid Waste Management in Cambodia: Analysis of Current Solid Waste Management System in Cambodia, draft, August 2018.

⁸ Asia Foundation (2013)

⁹ <https://thediplomat.com/2019/10/confronting-cambodias-waste-management-challenge/>



where Angkor Wat temple complex is located, Phnom Penh, and coastal tourism. Cambodia's coastline, the fastest growing tourism destination, already suffers severely from marine plastics pollution. Short-term solutions such as street cleaning, are costly. While detailed numbers are lacking, some surveys show that particularly high-income tourists, including business travelers and international conventions, are easily deterred by extensive solid waste pollution¹⁰.

9. Inadequate solid waste management brings a variety of environmental and economic impacts. When urban solid waste is not collected, it is often openly burned, informally buried, or disposed in streets, canals, rivers, and parks. Solid waste burning can be a significant and costly source of air pollution in urban areas. Waste burning contributes to respiratory infections for urban residents resulting in significant health damages and lost working days. Uncollected waste leads to increased pests and diseases, lower property values and decreases the city's attractiveness to outside investments. Poor and vulnerable populations are the most likely to suffer from inadequate sanitation due to uncollected waste, which can be a heavy financial burden through health-related expenditures and lost productivity.

10. Plastic leakage into the waterways is also substantial and flowing into canals, rivers and the ocean. Plastic waste pollution forms a particularly crucial part of solid waste mismanagement in Cambodia. The Mekong River is amongst the most polluted rivers worldwide, with Phnom Penh, being situated at the river, presumably being a major source. The plastic leakage endangers local river, lake and marine ecosystems. Plastics becomes part of the animal and human food chain, burning of mismanaged plastic leads to toxic fumes contributing to air pollution and Phnom Penh and other major cities are severely affected by increased flooding risks due to plastic waste blocking drainage systems.

11. Even when solid waste is collected, the environmental impacts of open waste dumpsites are also exemplary. While the amount of solid waste generation has substantially increased, the infrastructure for collection and sanitary disposal has not kept up with the demand, causing significant environmental problems. Landfills in Cambodia are usually operated as open dumpsites, with the landfills of Phnom Penh, Siem Reap and Sihanoukville being no exemption. Waste dumping is done without compaction, and in combination with steep slopes is a dangerous situation for waste pickers. Women and children in the informal waste sector face multiple disadvantages and are exposed to health and social threats posed by inadequate solid waste management. Their contributions to recovery and recycling of valuable plastics in the face of underdeveloped formal waste management systems are largely overlooked and unsupported. Improving the management of waste collection systems must consider the informal sector, where substantial amount of waste pickers are women, and work in hazardous and unsanitary environments without adequate protection and safety.

12. The insufficient waste collection and subsequent littering and pollution in Cambodian cities is to a large extent originating from full privatization of waste collection and disposal without adequate performance benchmarks and payment for services. Solid waste management collection and disposal is fully outsourced to the private sector, but conditions for privatization and proper functioning of the private sector are absent, such as: (i) lack of performance benchmarks in the contracts that define the waste collection service area and frequency, amongst others; (ii) low waste fee payment guarantee to the private firms as the waste companies collect themselves the fees from the waste generators without payment enforcement possibility. Consequently, the private waste collection companies focus on the more profitable waste collection from institutions and commercial sector and reduce waste collection in areas with low payment discipline. Due to lack funds in the waste collection services, the private solid waste collector work with outdated equipment that lead to frequent breakdowns and subsequent solid waste collection interruption. The lack of solid waste

¹⁰ <https://www.khmertimeskh.com/56360/trash-hurts-tourism/>



collection leads to street littering and dumping of waste in the canals/ivers, blockage of drains and complaints from population.

13. While sub-decree 113 places the responsibility for solid waste management with the municipality, municipalities do not have a solid waste management unit with enough budget and staffing. Typically, municipal waste management units are tasked with key solid waste management functions, such as: (i) collection/organization of the (household) waste fees in order to pay for private waste management services, (i) establishing solid waste management performance indicators and including these in the contracts with private sector waste management companies. Further including requirements into the contracts to provide clarity on costs and revenues of the private sector waste collection; (iii) monitoring and enforcement of private sector waste management companies on the basis of established Key Performance Indicators, required operational plans and reporting requirements regarding costs, revenues and waste quantities as well as required environmental standards for solid waste transport, treatment and disposal; (iv) preparation of local waste management strategy and plans, (v) local legislation, specifically Municipal Ordinances for Solid Waste Management¹¹, (vi) Solid waste information system comprising of information of amount and type of solid waste generated, collected and disposed as well as financial information of the costs and revenues applicable; and (v) public awareness and citizen engagement.

14. Similarly, provincial strengthening in solid waste management sector is required. Specifically, through establishment and regulations for Provincial Regional Waste Management Strategies and Plans, specifically landfill planning and implementation plans for regional landfills as well as including an option for provincial ownership of regional landfill. In case of regional landfills, there is the option for provincial contracts with private solid waste sector for the management of such regional landfill and required solid waste gate fee setting for solid waste disposal.

15. At the national level, legislation, regulations and guidelines for Solid Waste Management also needs to be strengthened. Such strengthening of legislation, regulations and guidelines are foreseen to be implemented under the Ministry of Environment, Ministry of Public Works and Transport and the Ministry of Interior.

Relationship to CPF

16. The Project is fully aligned with Focus Area III “Improve Agriculture and Strengthen Sustainable Use of Natural Resources” in the Country Partnership Framework for Cambodia for the period FY2019-FY2023¹². The focus area focuses on supporting strengthening of natural resources management, particularly water and forestry in and around Cambodia’s major ecosystems, as well as management of rapidly urbanizing areas. The CPF stated that WBG support will focus on water, sanitation, waste management, and roads to improve connectivity and access to basic infrastructure services in rural and urban areas during the CPF period. The Project will also contribute to the twin goals of poverty reduction and shared prosperity as exposure to health and environmental impacts compounds challenges to achieving socioeconomic

¹¹ Typical content of Municipal Ordinance on Waste Management is: (i) Definitions, (ii) Collection domestic waste (name of collector, collection locations, any waste separation, timing and frequency, means of collection); (iii) Offering domestic waste (timing, means, location, littering, any separation); (iv) Collection commercial/institutional waste (timing, means, location); (v) Street waste (littering public areas, food outlets); (vi) Fees to be paid (update every year); and (vii) Monitoring, enforcement, penalties;

¹² World Bank Group, Country Partnership Framework for Kingdom of Cambodia for the period FY2019-FY2023, May 1, 2019.



mobility and challenges in public service delivery (such as waste services) affect human development outcomes and will decrease competitiveness of Cambodia's increasing tourism sector.

17. Alignment with Nationally Determined Contributions (NDC). Cambodia has made important commitments in its NDC to reduce greenhouse gas emissions by 27% as compared to business-as-usual scenario by 2030. 1% of these greenhouse gas reductions is estimated to come from "other sectors", including energy efficiency for buildings and more efficient cookstoves, reducing emissions from waste and renewable energy for irrigation and solar lamps¹³. Throughout preparation and upon a decision of the inclusion of the pilot cities in the Project, the precise amount of greenhouse gas emission reductions that will be achieved through the Project will be estimated as well as the share of Cambodia NDC that they represent.

18. The proposed program also supports the World Bank's commitment to ensuring the protection and sustainable use of marine and coastal resources. The World Bank launched the flagship PROBLUE Multi-Donor Trust Fund with a window dedicated to "the threats posed to ocean health by marine pollution, including litter and plastics". By improving solid waste management services in pilot areas in Cambodia in cities and areas adjacent to rivers and coast, this program would support addressing one of the world's most pressing issues regarding its oceans.

C. Proposed Development Objective(s)

The PDO is to improve solid waste and plastic management and capacity in selected cities and nationally in Cambodia.

Key Results (From PCN)

Achievement of the PDO will be measured by the following indicators:

- a) Proportion of population in selected urban or more rural areas with regular household waste collection [percentage];
- b) Waste information and fee collection system established and operational for participating municipalities
- c) Performance Indicators included in contracts of solid waste collection companies for participating municipalities
- d) Landfill disposal capacity operational per defined criteria [m3];
- e) Plastic policies adopted (number)
- f) Long-term river plastic monitoring system established (yes/no)
- g) Proportion of targeted beneficiaries with rating 'Satisfactory' or above on project interventions (disaggregated by gender) [percentage].
- h) Volume of Greenhous Gas emissions reduced (t CO2e)

D. Concept Description

19. The concept aims to create pilot cities throughout Cambodia that can demonstrate improved solid waste management performance adaptable and scalable to other cities in the country. The Project will support solid waste management policy and legislation as well as capacity development at the national level. The project will also support solid waste management policy, legislation as well as capacity development at the municipal level to better regulate and monitor the private sector waste collection companies, increasing the financial revenues from the solid waste sector to support cost recovery in the sector and increase monitoring, enforcement and citizen engagement and public awareness.

¹³ Kingdom of Cambodia, Cambodia's Intended Nationally Determined Contribution.



In addition, the pilot cities will receive selected solid waste infrastructure, specifically (regional) landfills to improve the environmental performance of the waste disposal.

20. At the local level, the Project will focus on supporting improving solid waste collection services, improve waste fee collection and cost recovery as well as increase public awareness and citizen engagement through Technical Assistance under the Project, prior to infrastructure investments. The Project will support under the municipal TA and capacity building component the financing of solid waste management policy, legislation as well as capacity development at the city level to better regulate and monitor the private sector waste collection companies. It will also increase the financial revenues from the solid waste sector and prepare cost recovery plans to support increased cost recovery in the solid waste sector. At the municipal level the capacity building and technical assistance will focus on the improvement of the performance of private sector through provision of transaction advisory services. These advisory services will focus on including performance indicators into contracts with the private sector, but at the same time supporting the municipality to take the responsibility for collection of the waste fees as municipal service and allowing for payments to the private solid waste collection companies for the waste collection services rendered. Criteria will be developed during project preparation to define the eligibility for pilot municipalities to become eligible for solid waste infrastructure financing, most notably (regional) landfills. These criteria will mostly focus on cost recovery plans for such solid waste infrastructure following the transfer of the waste fee collection from the private sector solid waste companies to the municipalities and be subject to the land availability for the landfill development.

21. Every municipality receiving investment financing will first be supported with the technical assistance support and capacity building. This is a key aspect of increasing the quality of solid waste services, cleanliness in cities with less scattered waste and sustainability of investments through established cost-recovery plans and has been proven effective in other World Bank-financed Projects. Not all cities receiving technical support and capacity building will receive SWM investments.

22. The PDO will be achieved through the following components.

23. Component 1. National Policy and Institutional Capacity Development. The component is envisaged to strengthen the legislations, regulations, policies and capacity of central ministries (specifically Ministry of Environment, Ministry of Interior, Ministry of Public Works and Transport). This component will focus on strategic priorities: (a) strengthening the regulatory/legislative framework, solid waste sector monitoring, and regulatory oversight; (b) policy development related to waste reduction and plastic management; and (c) institutional capacity building.

24. Component 2. Technical assistance support and capacity building for participating pilot municipalities. This component will increase the technical and organizational capacity of participating pilot municipalities to improve the performance of the private solid waste collection services, improve the financial sustainability of solid waste management through local government regulations and waste fees as well as increase the public awareness and citizen engagement. This will also include the support for the municipalities to collect the waste fees from households. The system suitable for collecting waste fees from households is envisaged to be built for a broader purpose and also suitable by municipalities to use for property tax collection, spatial planning etc as it is envisaged to include a database of all housing properties in the municipality.



25. Transaction advisory services are envisaged to be provided to participating pilot municipalities to define the key contract parameters for solid waste collection contracts. This will include: (i) description of current system of solid waste management collection in terms of size, type of service, equipment used etc, (ii) definition of basic requirements for waste collection to specify cost-effective waste collection: (i) type of buildings and structures for the different types of waste generators: (ii) required type and quantities of containers, collection area, collection frequency for different type of collection areas, collection equipment, street cleanliness criteria/street sweeping criteria, (iii) estimated costs estimates and options for the costs of different type of waste collection services; (iv) tariffs required to cover the costs of the improved collection; (v) laws in place, regulations, permits and licenses; and (vi) specifications of monitoring and enforcement (penalties).

26. Component 3. Investment Program for participating pilot cities. The component will finance priority lower-costs investments to improve effectiveness and efficiency of waste management and the environmental performance. Priority investments would include lower-costs investments, specifically to rehabilitate the current open dumps into landfills or close the current dumpsites and construct new sanitary landfills to minimize the environmental and social impacts of the currently operated open dumpsites. In addition, investments in solid waste collection, transport, and establishing solid waste management information systems would be included.

27. Component 4. Program management, monitoring and evaluation. This component will focus on establishment of Project Management Units at national level and at participating pilot municipalities to establish the system for solid waste management, monitoring and evaluation.

Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

Summary of Screening of Environmental and Social Risks and Impacts

The environmental risks of the project are rated as high and are related to the following potential adverse environmental impacts (before mitigation measures): (i) air and noise pollution from earthworks and movement of materials and heavy equipment; (ii) soil and water resources pollution due to accidental spillage of oil and other lubricants from washing of construction equipment and discharge of domestic sewage at construction camps; and (iii) accumulation of construction wastes and (iv) failure to ensure occupational health and safety.

The social risks of the project are rated as high and are related to the following potential adverse social impacts: (i) potential conflicts with communities who may disagree to rehabilitate the existing dumps located close to them or disagree when the construction of a new landfill is planned (Not in My Backyard syndrome) and/or trash-pickers who may consider that the project activities are a threat to their current source of livelihoods; (ii) risk of enhancing impoverishment of vulnerable groups to be economically displaced by the project (mainly trash-pickers), in case livelihood restoration plans are not adequately implemented; (iii) risk of not being able to find and agree an inclusive solution, in compliance with the ESF, to the children currently working as trash-pickers; (iv) if not appropriately managed labor, safety and working conditions impacts related with the construction works; (e) potential increase of heavy traffic (especially garbage trucks) close to the new or improved sanitary landfills and related facilities; (v) community exposure to health problems



like legacy issues on pollution of groundwater resources which may impact the quality of drinking water coming from wells; (vi) temporary labor influx of workers, which might increase the risk of gender-based violence; (vii) some potential for land taking if plans to build new landfills are selected.

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APPROVAL

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