

CWIS CITY SNAPSHOT

| CWIS |

PHNOM PENH



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The Citywide Inclusive Sanitation (CWIS) city snapshots are designed to provide compact summaries of initiatives that are being implemented in two cities, Yaoundé and Phnom Penh. Each of these cities has active investments designed to achieve the CWIS goals of equitable, safe, and sustainable sanitation service delivery. These city snapshots are implemented by Athena Infonomics as part of the Inclusive Sanitation in Francophone Cities (AIVF) initiative led by the Association Internationale des Maires Francophones (AIMF).

This city snapshot focuses on the city of Phnom Penh, where the Phnom Penh Capital Administration (PPCA) is the lead implementing institution for sanitation. This factsheet outlines the pathway that Phnom Penh is taking to achieve its CWIS goals and tracks the progress being made, including key shifts in institutional and service delivery models to support safe, equitable and sustainable delivery of services.

The primary objective of creating city snapshots is to provide a clear, concise, and actionable overview of urban sanitation services, governance, and infrastructure in a way that supports strategic decision-making, accountability, and planning for Citywide Inclusive Sanitation (CWIS). These snapshots serve as rapid diagnostic tools that capture the current status, institutional arrangements, and recent reforms in cities, enabling stakeholders to identify strengths, gaps, and opportunities for targeted improvements.



City Sanitation Overview

Category	Indicator	Value / Description
Demographic	Administrative boundary	Phnom Penh is the Capital City Authority of Cambodia (equivalent to a province, with a Governor) with a total area of approximately 678.46 square kilometres. The PPCA is fully surrounded by Kandal Province. The city is divided into 14 administrative sections called <i>Khans</i> (district-level units). These Khans are subdivided into 105 <i>Sangkats</i> (communes or quarters), and further into 953 <i>Phums</i> (villages). ¹ There are currently 16 low-income settlements such as the Veal Sbov community in Chbar Ompov Khan, Bueng Trobek and Prek Takung communities in Chamkarmorn Khan.
	Population	2,281,951 ²
	% of population living in informal settlements	3.9% ³
Geographic	Topography	Phnom Penh lies on the lowland alluvial plain formed by the Tonlé Sap, Mekong, and Bassac Rivers. Most of the area is very low-lying—generally between 1 and 25 meters above sea level. ⁴ These conditions make safe sanitation challenging, especially for on-site systems, as the high-water table increases the risk of groundwater contamination, infiltration into containment systems, and structural problems with pits and tanks if appropriate technologies are not used.
	Groundwater table	Groundwater in the alluvial aquifers has low productivity, so it is not used as a major water source. Instead, the Phnom Penh Water Supply Authority (PPWSA) provides piped water to over 90% of residents using treated surface water. In Cambodia's central lowlands, the water table is typically shallow—around 5 to 10 meters below ground. These aquifers recharge quickly, causing water levels to rise during the wet season and drop during the dry season. As a result, shallow hand-dug wells (less than 7 meters deep) often dry up in the dry season, indicating significant seasonal variation in groundwater levels. ⁴
Basic Sanitation Statistics (as of 2025)	% of population covered by sewerage networks	87%. Most households with onsite sanitation now also have connection to public sewer line.
	% of population practicing open defecation	0% ²
	% of population relying on onsite sanitation	85% ⁵
	Treatment infrastructure (capacity) and utilization	1 Faecal Sludge Treatment Plant (FSTP) with 80 m ³ operational capacity per day, currently functioning at 50% of its capacity. 1 Wastewater Treatment Plant (WWTP) with 5000 m ³ operational capacity per day running at less than 2% capacity.

¹ Data Collection Survey on Urban Transport in Phnom Penh, JICA, 2023.

² Phnom Penh City Sanitation Master Plan Summary Report, KCC, 2023.

³ Opdevelopmentcambodia. (2023, September 15). *STT identifies 191 poor areas in Phnom Penh*. Open Development Cambodia. <https://opendevelopmentcambodia.net/news/stt-identifies-191-poor-areas-in-phnom-penh/>

⁴ Natural Disaster Risk Assessment and Area Business Continuity Plan Formulation for Industrial Agglomerated Areas in the ASEAN Region-Country Report for Cambodia, JICA, 2015.

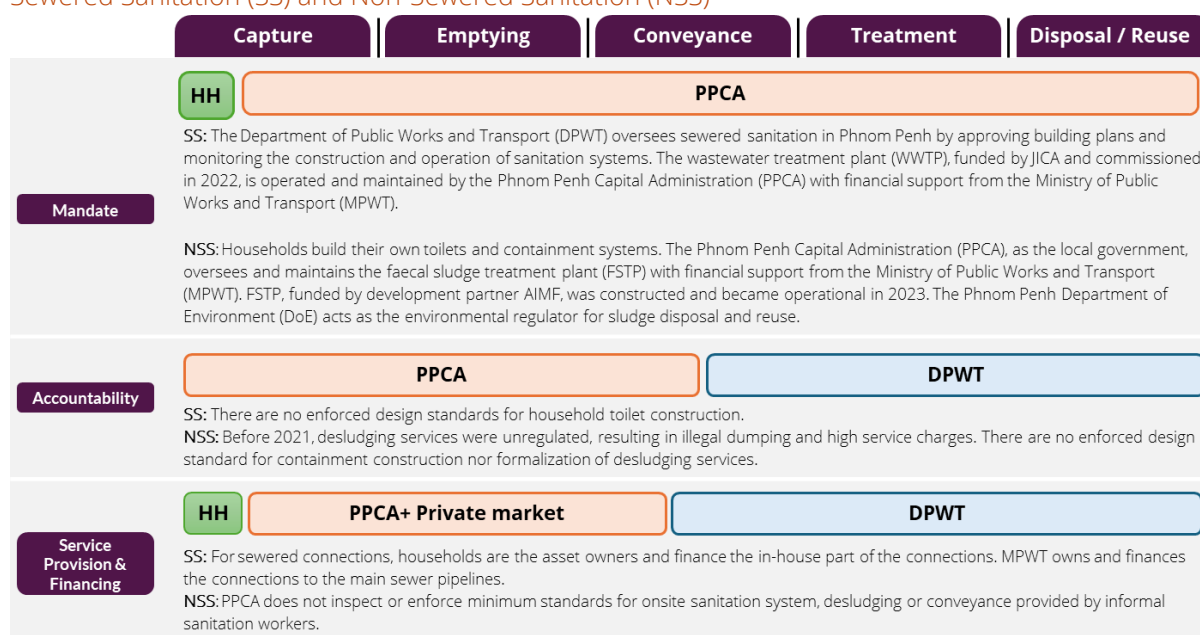
Institutional and Governance Framework of City Sanitation Service Delivery

The graphics below show the institutional mandate, accountability and service provision models for Phnom Penh for the year 2025. The full institutional model of urban sanitation service delivery covers all three of the systems functions under CWIS—Responsibility⁵, Accountability⁶, and Resource Planning Management⁷ (financing framework). The illustration in this section presents only responsibility and accountability, as financing framework is complex and varies widely across cities. The section on service model illustrates how sanitation services are being delivered. The service model includes a wide range of options such as direct provision by the mandated service authority, public private partnerships, and direct provision by the private sector but with oversight/ regulation by the service authority or through open markets with limited oversight/regulation.

In Phnom Penh, the key institutional change has been the strengthening of regulation and accountability for non-sewered sanitation, rather than a shift in mandates. While institutional roles remain largely unchanged, PPCA tightened enforcement through septic tank requirements in building approvals, annual licensing of desludging operators, and penalties for illegal dumping, resulting in a more formalized and controlled NSS service system.

Phnom Penh – Before CWIS Investment (2023)

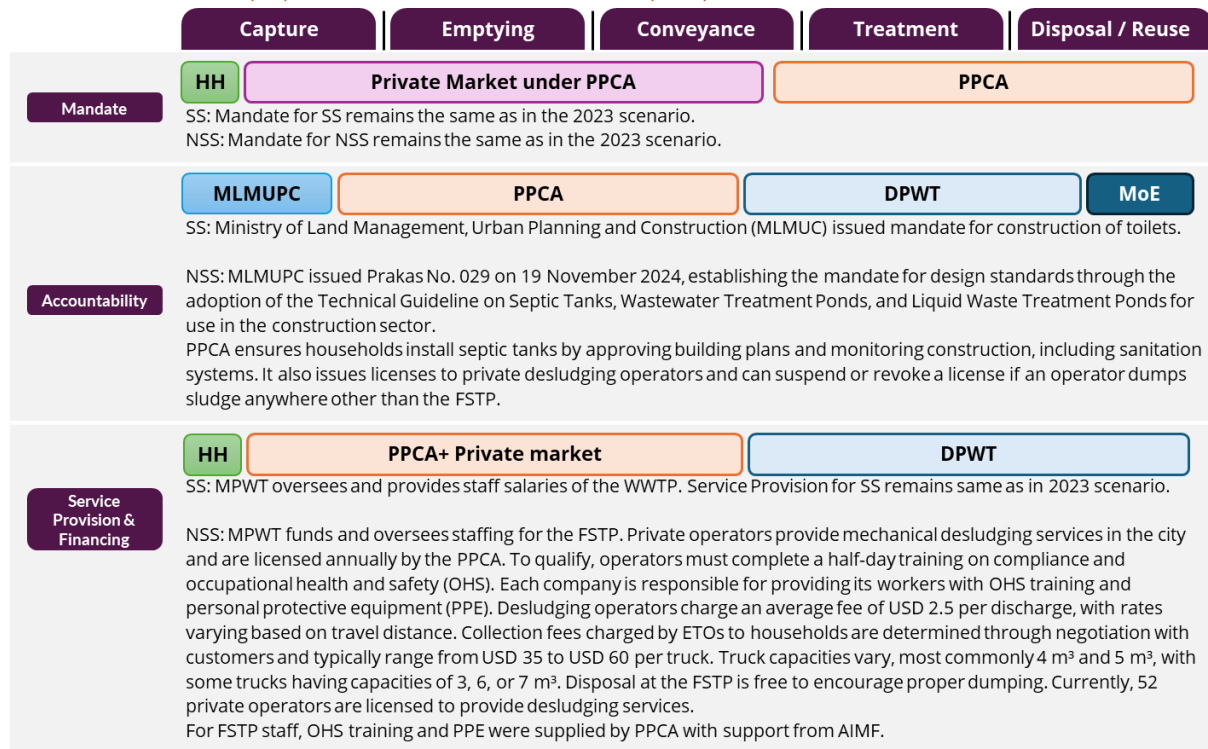
Sewered Sanitation (SS) and Non-Sewered Sanitation (NSS)



⁵ Responsibility means that authority (i.e.s.) executes a clear public mandate to ensure safe, equitable, and sustainable sanitation for all.
⁶ Accountability means that authorities’ performance against their mandate is monitored and managed with data, transparency and incentives.
⁷ Resource Planning/ Management means that resources – human, financial, natural, assets – are effectively managed to support execution of mandate across time/space.

Phnom Penh – Current (2025)

Sewered Sanitation (SS) and Non-Sewered Sanitation (NSS)



List of CWIS Interventions

This section seeks to capture Phnom Penh’s path to CWIS goals of equity, safety and sustainability and its performance on key functions such as clarity of mandate/responsibility, accountability and resource planning/ management. The table below is a list of Key Performance Indicators (KPIs)⁸ used to gauge changes towards CWIS, followed by another table detailing the scenario in Phnom Penh. The KPIs EQ-1 and SF-1 specifically follow the definitions as laid out in the Shit Flow Diagram (SFD) manual².

KPIs for Interventions

	Equity <i>Services reflect fairness in distribution and prioritization of service quality, prices, and deployment of public finance/subsidies</i>	Safety <i>Services safeguard customers, workers, and communities from safety and health risks—reaching everyone with safe sanitation</i>	Sustainability <i>Services are reliably and continually delivered based on effective management of human, financial and natural resources</i>
Service Outcomes	<ul style="list-style-type: none"> • EQ-1: % safely managed sanitation in low-income areas <ul style="list-style-type: none"> ○ % wastewater (WW) contained ○ % supernatant (SN) contained ○ % faecal sludge (FS) contained ○ % FS emptied • EQ-2: Women’s participation in sanitation-related matters • EQ-3: Gender-friendly PT/CT design • EQ-4: % of sanitation workers covered by social security and health insurance 	<ul style="list-style-type: none"> • SF-1: % safely managed sanitation <ul style="list-style-type: none"> ○ % WW contained ○ % WW contained delivered to treatment ○ % SN contained ○ % FS contained ○ % FS emptied (contained + not contained) ○ % wastewater treated ○ % FS treated • SF-2: Health and safety standards and SOPs exist to protect sanitation workers from occupational hazards, and compliance is monitored 	<ul style="list-style-type: none"> • SS-1: % of treated wastewater that is reused • SS-2: % of treated biosolids that is reused • SS-3: % of utility capital investments covered by budget line/government transfers • SS-4: % of O&M cost recovered for sanitation infrastructure (STPs/WWTPs, FSTPs, CT/PTs, desludging trucks, etc.)
	Responsibility <i>Authority(ies) execute a clear public mandate to ensure safe, equitable, and sustainable sanitation for all</i>	Accountability <i>Authorities’ performance against their mandate is monitored and managed with data, transparency and incentives</i>	Resource Planning / Management <i>Resources – human, financial, natural, assets – are effectively managed to support execution of mandate across time/space</i>
System Functions	<ul style="list-style-type: none"> • RS-1: Policy mandate for service delivery covers both sewered and non-sewered sanitation across the entire sanitation service chain <ul style="list-style-type: none"> ○ Mandate has no exclusions ○ Mandate is explicitly pro-poor ○ Mandate is gender-intentional and inclusive of vulnerable groups 	<ul style="list-style-type: none"> • AC-1: Service authority performance is monitored externally with clear KPIs and targets • AC-2: Performance data is sufficiently collected and reported, representative, and transparent • AC-3: Incentives and/or penalties tied to performance exist for sanitation service authority 	<ul style="list-style-type: none"> • RPM-1: Clear financing framework • RPM-2: Staff are in place and capable to execute mandate • RPM-3: Quality of investment decision-making • RPM-4: Integrated citywide sanitation plan

⁸ The KPIs are based on the list of CWIS indicators, which are more detailed and intended to offer comprehensive insights into a city’s progress towards CWIS. This KPI list focuses on a subset of CWIS indicators and seeks to highlight interventions that can contribute to improved outcomes, as most cities are still in early stages of investment maturity. For example, the CWIS indicators measure women’s usage of PT/CTs as quantitative outcomes, while the KPI EQ-3 focus on gender friendly PT/CTs as an intermediate outcome that can lead to more women using PT/CTs. 13 Definitions as per the SFD Manual i.e., %SN contained = 0.5 * %Septic tank/ fully lined tank (sealed)/ lined tank with impermeable walls and open bottom connected to a centralized/decentralized combined sewer or foul/separate sewer; %WW contained = %Toilet discharges directly to a centralized/decentralized combined sewer or foul/separate sewer; %FS contained (all conditions when there is ‘low risk’ of groundwater pollution) = %Toilet discharges directly to soak pit + %Septic tank/ fully lined tank (sealed)/ lined tank with impermeable walls and open bottom connected to soak pit or no outlet + % Lined/ unlined pit, no outlet or overflow + % Pit (all types), never emptied but abandoned when full and covered with soil, no outlet or overflow + %SN contained.

Phnom Penh Scenario

The table below presents the sanitation scenario in Phnom Penh in 2025. The table seeks to cover key interventions, both those completed over the past few years and those under planning, by all stakeholders that contribute to goals aligned with the CWIS idea. The table is not restricted to interventions that are part of the Inclusive Sanitation in Francophone Cities (AIVF) initiative.

NOTE: Acronyms are available at the end of the section.

Stage		Equity	Safety	Sustainability
Service Outcomes	Year 2025	<p>EQ-1: 99% of households have access to a toilet, about 10% of excreta is safely managed⁹</p> <ul style="list-style-type: none"> Urban Poor Settlements (UPS) and ID-Poor households are tracked in detail (toilet types, connections, containment), but there is no aggregated % of safely managed sanitation specifically for LICs. <p>EQ-2: PPCA have women staff indicating women’s participation in sanitation decision-making.</p> <p>EQ-3: Separate chambers for males and females are provided in all public toilets and public institutions. Existing guidelines on public toilet construction, operation and maintenance do not explicitly specify inclusive infrastructure facilities. It also lacks other gender-friendly features such as MHM facilities.</p> <p>EQ-4: Only permanent staff at the FSTP and WWTP receive social security and health insurance. 22% of WWTP staff and 20% of FSTP staff receive social security and health insurance benefits.</p>	<p>SF-1: 17% safely managed sanitation (citywide)</p> <ul style="list-style-type: none"> ~2 % wastewater (WW) contained⁹ ~2 % WW contained delivered to treatment⁹ 4% SN contained⁹ 5% FS contained⁹ 6% FS emptied (contained + not contained)⁹ ~2 % wastewater treated 50% FS treated <p>SF-2: Health and safety standards exist to protect sanitation workers from occupational hazards in the licensing of Emptying and Transport Operators (ETOs), and compliance is monitored.</p>	<p>SS-1: 0% of treated wastewater that is reused</p> <p>SS-2: 0% of treated biosolids that is reused</p> <p>Based on the current volume of waste processed at both the FSTP and WWTP, the reuse of treated waste is not feasible at the present plant utilization rate.</p> <p>SS-3: 51% of utility capital investments covered by budget line/government transfers</p> <p>SS-4: 100% of O&M cost recovered for sanitation infrastructure (STPs/WWTPs, FSTPs, CT/PTs, desludging trucks, etc.)</p>
	Reforms & Interventions	<ul style="list-style-type: none"> PPCA works closely with development partners for sanitation improvement. The FSTP is funded by AIMF. GRET Cambodia, PSE, and many NGOs work with LICs for improving sanitation access. GRET Cambodia conducted an assessment in LICs and published an advocacy strategy for sanitation in 2022. The CWIS Master Plan recommends GESI-focused policies and plans for sanitation using the ID-poor program categorisation. According to ID-Poor survey 2018, 11% of the city’s population is considered Poor 1&2.⁹ 	<ul style="list-style-type: none"> JICA, on behalf of PPCA has recently conducted a capacity building program for treatment plant operators in Japan. MLMUPC is currently drafting technical guidelines for septic tank construction based on household size and other parameters. MLMUPC is also considering and exploring new technology for sludge treatment and reuse. PPCA introduced GPS monitoring of ETOs, (installed in 13 ETOs) to prevent illegal dumping. 	<ul style="list-style-type: none"> PPCA and MoE is considering nature-based solutions for treatment and reuse of sludge. ADB is working with MoRD on digital asset management for sanitation. The CWIS Master Plan recommends cost recovery and financial sustainability strategies and tariff structures for treatment plant operations in detail.⁹ Comprehensive market study to be conducted to evaluate the commercialization potential of humus derived from faecal sludge (FS) at the FSTPs, identifying key challenges, constraints, and opportunities. Ensure composting facilities within FSTPs become fully operational, contingent upon achieving a utilization rate of over 25% by 2026.

	Target Scenario	<p>EQ-1: 100% safely managed sanitation in low-income settlements</p> <ul style="list-style-type: none"> • MPWT will continue working with development partners such as GRET to implement a nationwide, gender-responsive Behavior Change Communication (BCC) strategy. This strategy aims to ensure that sanitation infrastructure—its planning, construction, and maintenance—meets the needs of women, men, girls, and boys, and supports equitable access for all. • In low-income settlements, NGOs including GRET and Pour un Sourire d’Enfant (PSE) will expand household access to safe sanitation by providing targeted subsidies for latrine construction. They will also collaborate with selected ETOs to strengthen desludging services and maintain affordable, hygienic waste management for underserved communities. • Through the “Utility of the Future (UOF)” program, the World Bank Group and MPWT will continue building institutional capacity among water and sanitation utilities. This includes integrating gender considerations into utility planning and operations to drive inclusive, equitable service delivery nationwide. 	<p>SF-1: 80% safely managed sanitation by 2030 and 100% by 2035</p> <ul style="list-style-type: none"> • Three additional FSTPs will be constructed to serve the city as well as selected areas outside its boundaries. <p>SF-2: Health and safety standards and SOPs exist to protect sanitation workers from occupational hazards, and compliance is monitored.</p>	<p>SS-1: 100% of treated wastewater that is reused by 2035</p> <p>SS-2: 100% of treated biosolids that is reused by 2035</p> <p>SS-3: 51% of utility capital investments covered by budget line/government transfers</p> <p>SS-4: 100% of O&M cost recovered for sanitation infrastructure (STPs/WWTPs, FSTPs, CT/PTs, desludging trucks, etc.)</p>
System Functions	Responsibility			
	Year 2025	<p>RS-1: PPCA is responsible for overall sanitation service provision in Phnom Penh City area; the DPWT in PPCA is responsible for sewer networks.</p> <ul style="list-style-type: none"> • Clear delineation of responsibilities for the operation and maintenance of WWTPs and FSTPs established, though few ambiguities remain in terms of staff management and operational oversight between MPWT and PPCA. Additionally, the framework explicitly defines the role of subsidies and public financing mechanisms, emphasizing the strategic use of public budgets to sustain treatment plant operations and maintain low desludging discharge fees as a policy tool to incentivize safe disposal practices. • The ID-poor program identifies poor community for subsidies and the FSM strategy explicitly adopts a pro-poor agenda, but targets are not specified. • No laws or guidelines related to sanitation explicitly mentions the needs of women. 	<p>AC-1: There are no performance targets for sanitation currently for PPCA. However, the Ministry of Environment monitors the treatment standards of the WWTP in real-time and penalises institutions through barring licensing and a fine between USD 2.5 and USD 25, if non-compliant.</p> <ul style="list-style-type: none"> • FSM strategy gives an institutional and regulatory framework • No formal sanitation-related grievance redressal system exists. <p>AC-2: Sanitation-related data is limited— citywide baseline data were collected for the CWIS Master Plan in 2023 but no MIS exists for sanitation data.</p> <p>AC-3: ETOs are incentivized to discharge only at the FSTP through a disposal fee waiver.</p>	<p>Accountability</p> <p>RPM-1: Sanitation budget is ringfenced, with budget allocation handled solely by the Ministry of Finance, and PPCA is not consulted during the allocation process.</p> <p>RPM-2: Shortage of dedicated sanitation staff, with most positions filled by contract workers who lack sufficient capacity in treatment plant operations.</p> <p>RPM-3: PPCA’s sanitation investment depends on central government’s allocation and donor investment decisions.</p> <ul style="list-style-type: none"> • All projects require assessment of capital and O&M costs on a full life-cycle basis, including the impact of new investments on overall system costs and revenues, as part of the DPP approval process. In addition, PPCA must obtain a No Objection Certificate (NOC) from the Department of Environment (DoE) before initiating any project with potential impacts on the environment, energy use, or water availability. <p>RPM-4: CWIS Master Plan developed for both NSS and SS in 2023.</p>
	Reforms & Interventions	<ul style="list-style-type: none"> • Targeted interventions, including the clarification of institutional roles across MPWT, PPCA, DPWT, and Khan and Sangkat levels, alongside a phased approach to decentralizing sanitation O&M. • The CWIS Master Plan⁹ also advances the establishment of a Sewerage Management Authority under PPCA. • Local Faecal Sludge Management Steering Committee has been established—chaired by the Governor of Phnom Penh—with the Waste Management and Environment Division serving as secretariat and 	<ul style="list-style-type: none"> • Establishment of a review and monitoring mechanism for sanitation service delivery, supported by development partners • Creation of a sanitation-specific grievance redress mechanism within the PPCA to strengthen accountability and citizen feedback. 	<p>Resource planning and Management</p> <p>The CWIS Master Plan recommended the following:</p> <ul style="list-style-type: none"> • Development of a phased short-, medium-, and long-term investment program for WWTPs, FSTPs, and conveyance systems, with a strategic shift toward nature-based treatment technologies that deliver significant cost efficiencies. • Sanitation investments integrated into Five-Year Development Plans and Rolling Investment Programs. • Implementation of a dedicated capacity-building program for

⁹ Phnom Penh City-Wide Inclusive Sanitation Master Plan, EGIS, 2023

		DPWT, DoE, DoA, and Khans as members, to oversee and coordinate the FSM sector citywide.		PPCA, treatment facility operators, and emptying and transport operators (ETOs).
	Target Scenario	<p>RS-1: The CWIS Masterplan serves as a strategic guide for PPCA to expand sanitation services to poor households identified in the Urban Poor Settlements (UPS). Through collaboration with development partners, access to facilities and services will be scaled up to achieve 100% coverage for these households. Under this mandate:</p> <ul style="list-style-type: none"> • DPWT will finance human resource costs for the FSTPs. • PPCA will subsidize FSTP maintenance to keep desludging fees affordable citywide. • Waste Managements and Environment Division of PPCA will prioritize service access for LICs. 	<p>AC-1: A structured performance monitoring system is implemented under the direction of the Environment and Solid Waste Division, with the Secretary responsible for recording and updating the PPCA database. The system tracks key indicators, including:</p> <ul style="list-style-type: none"> • Volume of faecal waste disposed • Quantity of faecal sludge collected from septic tanks • Number and identity of trucks visiting FSTPs • Origin of faecal sludge delivered • Staff attendance and operational compliance • Maintenance activities at FSTPs <p>AC-2: Performance data is compiled and reported on a monthly and annual basis to ensure transparency, accountability, and informed decision-making.¹⁰</p>	<p>RPM-1: By 2026, establish and operationalize a comprehensive sanitation financing framework, developed by a JICA-led technical working group, to strengthen coordination and ensure sustainable resource allocation among the MoWRAM (Ministry of Water Resources, and Meteorology), DPWT, and PPCA.</p> <p>RPM-3: Investment decisions are based on considerations of service coverage and life-cycle costs.</p> <p>RPM-4: Updated Phnom Penh CWIS Master Plan to provide an integrated, city-wide framework for sewered and non-sewered sanitation planning and implementation.</p>

¹⁰ Phnom Penh Capital Administration (PPCA) – Monthly Monitoring Reports

Acronyms:

ADB : Asian Development Bank

AIMF : International Association of Francophone Mayors

BCC : Behaviour Change Communication

CT / PT : Community Toilet/ Public Toilet

CWIS : City-Wide Inclusive Sanitation

DoA : Department of Agriculture, Forestry, and Fisheries

DPP : Development Project Proposal

DPWT : Department of Public Works and Transport

ETO : Emptying and Transporting Operator

FSM : Faecal Sludge Management

FSTP : Faecal Sludge Treatment Plant

JICA : Japan International Cooperation Agency

LIC : Low Income Community

MPWT : Ministry of Public Works and Transport

MLMUPC : Ministry of Land Management, Urban Planning and Construction

MoRD : Ministry of Rural Development

NSS : Non-Sewered Sanitation

O&M : Operations and Maintenance

PPCA : Phnom Penh Capital Administration

SS : Sewered Sanitation

STP : Sewage Treatment Plant