Asia Wastewater Management Partnership (AWaP)

The Synthesis Report 2025

AWaP Secretariat

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The AWaP Annual Report 2025

AWaP Secretariat

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1. Introduction

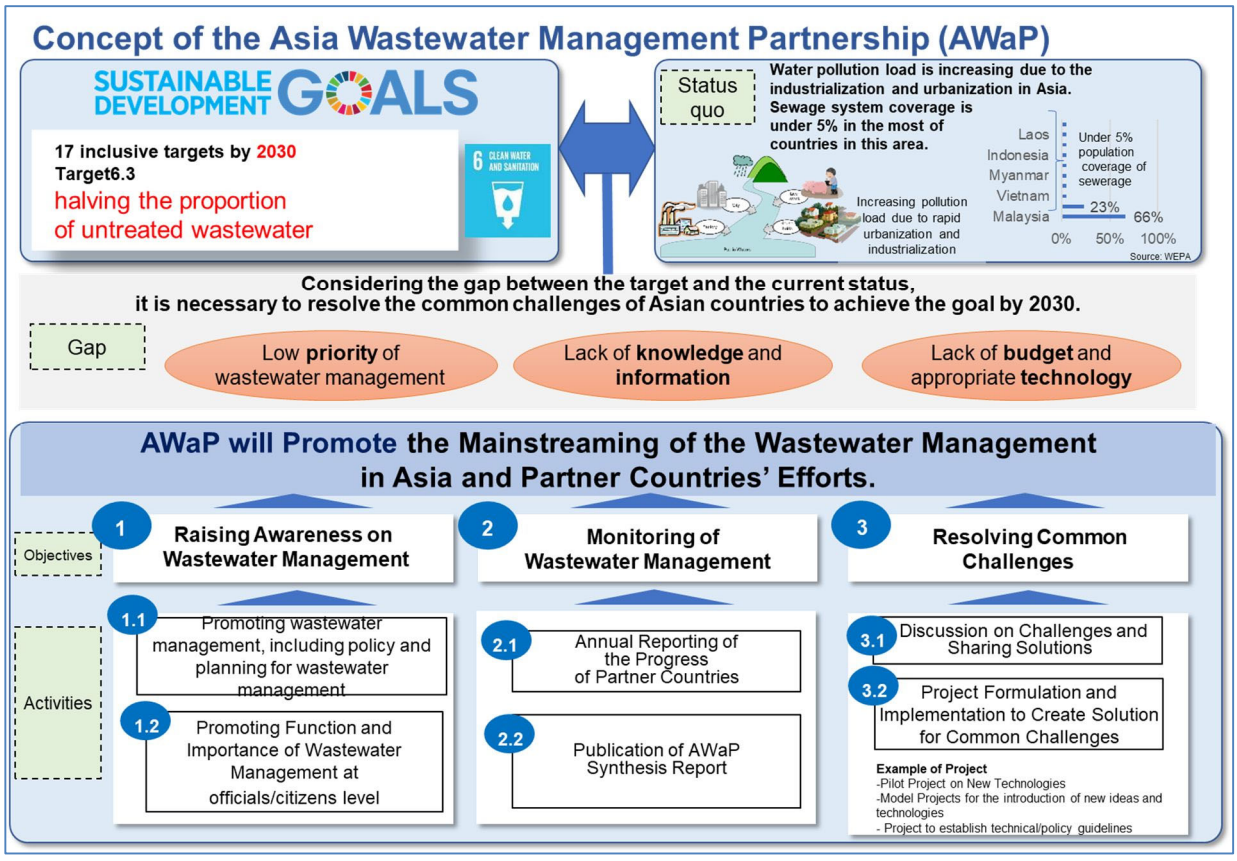
1-1 What is AWaP?

The Asia Wastewater Management Partnership (AWaP) of six countries, Cambodia, Indonesia, Myanmar, the Philippines, Vietnam, and Japan, started in 2018. In 2024, Bangladesh and Thailand were recognized as new members, expanding the scope of the partnership. The final goal of AWaP is to halve the proportion of untreated wastewater by 2030, which is SDGs Target 6.3.
We need to solve three factors hindering the achievement to accomplish the goal. The three factors are as follows:

1) Little awareness of wastewater management
2) Limited information on wastewater management
3) Insufficient budget and technical capability

Therefore, AWaP carry out the activities for the following three objects.

1) Raising Awareness on Wastewater Management
2) Monitoring of Wastewater Management
3) Resolving Common Challenges



1-2 AWaP's Activities

Past General Meeting

December 2017: The 3rd Asia Pacific Water Summit at Yangon, Myanmar
Proposed the launch of the AWaP, a framework for sharing the knowledge and experience of each country regarding wastewater management.
December 2017: Preparation Workshop on the Asia Wastewater Management Partnership (AWaP) at Yangon, Myanmar
July 2018: The 1st General Meeting at Kitakyushu, Japan
August 2021: The 2nd General Meeting (Online)
August 2023: The 3rd General Meeting in Sapporo
November 2025: The 4th General Meeting in Phnom Penh

1-3 The 2nd work Plan

At the 3rd General Meeting held August 2023, each partner country reviewed the activities implemented based on the first work plan.
We have compiled the 2nd work plan for 2030 to share and resolve common issues related to wastewater management and contribute to achieving the SDGs. This year marks the third year of the second work plan. At the 4th General Meeting in 2025, we revised it to reflect current circumstances. The roadmap for the 2nd work plan is as follows:

The 2nd Work Plan for 2030

Activities	2023	2024	2025	2026	2027	2028	2029	2030
Schedule	General Meeting	Operations committee						

1. Raising Awareness on Wastewater Management

1.1 Spread the importance of wastewater management and the outcome of AWaP through international conferences	WEPA International Workshop; Public relations at WWF 2024; Public relations at UN Water conference 2026; Public relations at WWF 2027 Spread information at conferences hosted by support organizations or international conferences (ex. WEPA)
1.2 Spread information to promote understanding of the effectiveness of wastewater management to citizens and officials in partner countries	-Implement public awareness activities by each partner country (ex. Expansion of KIZUNA Festival (Cambodia), IECs (Information and Education Campaigns) (Philippines), Training Courses (Vietnam) to other AWaP countrys) Implement challenges raised in APWS 2022; (Implement challenges raised in Next APWS)

2. Monitoring of Wastewater Management

2.1 Submission of annual report from partner countries	Updating annual report Submission of annual report from partner countries / Follow SDGs target 6.3 achievement
2.2 Publishing AWaP Synthesis Report	Publishing AWaP synthesis report Publishing AwaP synthesis report on website (considering collaboration with WEPA)

The 2nd Work Plan for 2030

Activities	2023	2024	2025	2026	2027	2028	2029	2030
Schedule	General Meeting	Operations committee						

3. Resolving Common Challenges

3.1 Mainstreaming wastewater management	Setting and sharing AWaP policy regarding mainstreaming and financing Organizing regional issues, especially finance of sewerage projects; Consensus formation for AWaP policy; Follow-up the activities implemented by each partner country
3.2 Promote Centralized and Decentralized wastewater treatment systems	Setting AWaP policy for optimum wastewater treatment systems; Consensus building for centralized and decentralized wastewater treatment systems Survey and share early solutions (Quick Project) for wastewater system improvement in undeveloped areas Follow-up of the activities implemented by each partner country
3.3 Trenchless sewer pipe constructing	Continuous development of national technical standards for the pipe-jacking method by involved countries Formulating the draft guidelines In the Philippines HRD through technical seminars or on-site training
3.4 Sharing and discussing sewerage technologies and case studies adapted to local conditions	Collection of technologies and case studies by countries Discussion on challenges beyond the SDGs6.3
3.5 Sharing and discussing common challenges	(Discussing issues as they arise)

2. Questionnaire for the Annual Report 2025

*Please expand the response frame as necessary following each question

Organizational, legal and other changes and activities from January to November 2025

(1) Name of Ministries in charge of wastewater management

Country Name	Wastewater in City Area	Wastewater in Rural Areas	Quality of Effluents
Bangladesh	Ministry of Local Govt, Rural Development and Co-operatives. Local Govt. Division.	Ministry of Local Govt, Rural Development and Co-operatives. Local Govt. Division.	Ministry of Environment, Forest & Climate Change.
Cambodia	Ministry of Public Works and Transport (MPWT) Ministry of Land Management, Urban Planning and Construction (Septic tank)	Ministry of Land Management, Urban Planning and Construction (Septic tank) Ministry of Rural Development	MOE
Indonesia No change Cited by the annual report 2023	The National Development Planning Agency (BAPPENAS) Ministry of Public Works and Housing (MoPWH) Ministry of Home Affairs (MoHA) Ministry of Health (MoH) Local Government	BAPPENAS MoPWH MoHA MoH Local Government	Ministry of Environmental and Forestry (MoEF) Local Government
Japan No change Cited by the annual report 2023	Ministry of Land, Infrastructure, Transport and Tourism (MLIT)	MLIT: sewerage MAFF: rural sewerage MOE: Johkasou	Ministry of Environment (MOE)
Myanmar			
Philippines	Metropolitan Waterworks and Sewerage System (MWSS)	Local Water Utilities Administration (LWUA)	DENR DOH
	Section 3 of Executive Order No. 22, April 27, 2023, MWSS, LWUA and the network of local water districts are attached to the Water Resources Management Office in the Department of Environment and Natural Resources (WRMO-DENR)		
Vietnam	Ministry of Construction (MOC)	Ministry of Agriculture and Environment (MAE) (On-site wastewater treatment)	Ministry of Agriculture and Environment (MAE)

(2) Laws established regarding wastewater management

Country Name	Central Government		Local Government	
	Laws of Regulation	**Laws of Construction**	**Laws of Regulation**	**Laws of Construction**
Bangladesh	Yes	Yes	No	No
Cambodia	The law on sewerage systems was promulgated on 22 Dec 2024. To implement the law, the following rules and regulations need to be developed: ・*10 Sub-decrees* ・*8 Inter-ministerial Prakas* ・*5 Decisions 18 Prakas*	YES	No	Yes (Some local governments have them in Prakas※)
Indonesia No change Cited by the annual report 2023	Yes	Yes (some part)	Yes (**137 of 509** Local Governments have a local regulation on domestic wastewater management)	No
Japan	Yes	Yes	Yes (part, ordinance)	Yes (ordinance)
Myanmar				
Philippines	Yes	Partly yes	Yes	Yes (Local Government Code of 1991)
Vietnam	Law on urban and rural planning No. 47/2024/QH15 26/11/2024 Article 35: Specialized Planning for technical Infrastructure for centrally-run cities *"Specialized planning for technical infrastructures shall be separately formulated for traffic, water supply, base elevation and sewerage, solid waste management and cemetery services"*	Yes (under revision)	No	No

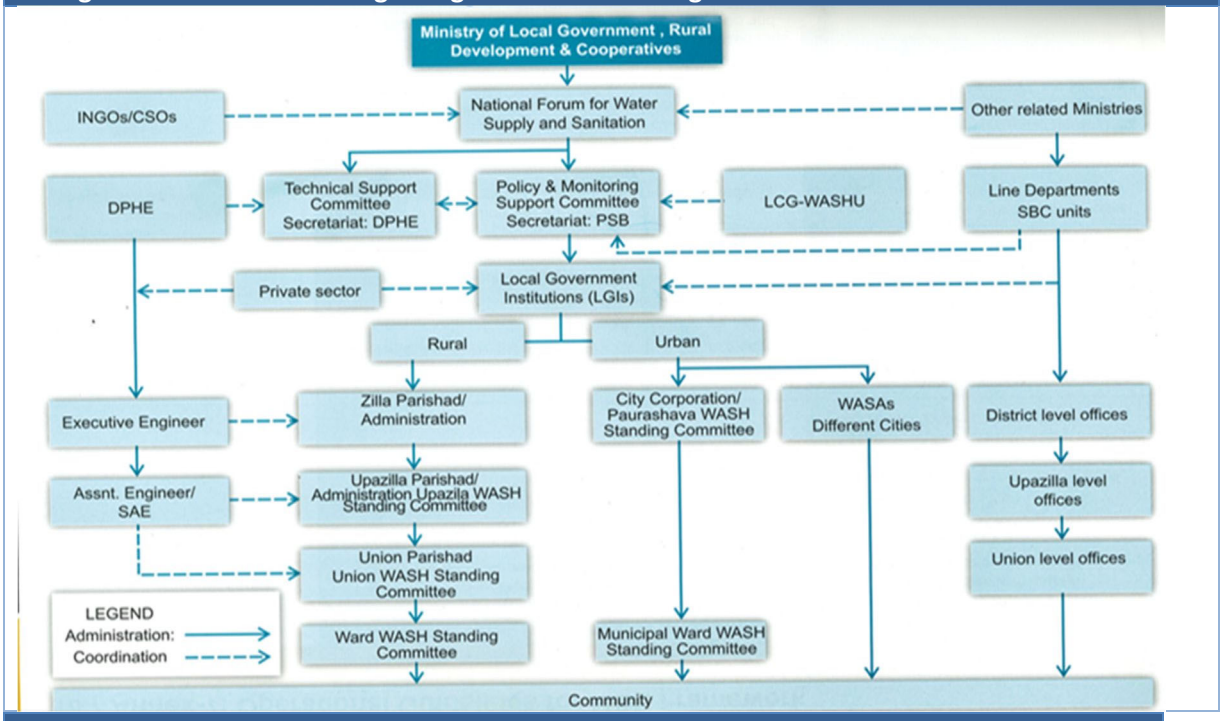
	* Decree No. 178/2025/NĐ-CP dated 01/7/2025 of the Government elaborating the Law on Urban and Rural Planning.			

*Prakas: Ministerial ordinance of Cambodia

(3) Organizational structure regarding wastewater management (Central Government, Local Government, Others)

Bangladesh

3. Organizational structure regarding wastewater management



Organization	Roles and Responsibilities
Central/National Government	Local Government Division: According to the Rules of Business of the government, the Local Government Division (LGD) will perform the tasks related to WASH. These are (a) drinking water issues and (b) the development of water supply, sanitation, drainage, and sewage systems in rural and urban areas The Local Government Division as the lead agency will ensure the implementation of this National Strategy through coordination with other organizations in the sector. Apart from this through the Standing /WATSAN Committee of local government institutions related to WASH will ensure the progress of hygiene promotion and practice activities at the village and city level and monitor the extent of success: The National Forum for Water Supply and Sanitation: The National Forum for Water Supply and Sanitation (NFWSS) under the jurisdiction of the Local Government Division is a national forum composed of representatives of various government non-governmental organizations, and development agencies including relevant ministries, organizations, and departments under the chairmanship of the secretary/senior secretary of the Local Government Division. The main responsibility of the National Water Supply and Sanitation Forum is to coordinate, guide, allocate resources, monitor, and evaluate all activities of the drinking water supply and sanitation sector. As the coordinator of this forum, the Local Government Division through its Policy Support Branch (PSB) will implement the Sector Development Plan (SDP) and formulate various policies and strategies, coordinate and monitor the activities of the sector.

	There are two committees to assist the National Water Supply and Sanitation Forum implementing Sector Development Plans (SDPs). These are, (a) Policy and Monitoring Support Committee chaired by the Additional Secretary (Water Supply) of the Local Government Division, The Policy Support Branch (PSB) serves as the committee's secretariat and (b) Technical Support Committee chaired by the Chief Engineer, Department of Pubic Health Engineering (DPHE): DPHE serves as the secretariat of this committee. Among the thematic groups formed to support the implementation of the Sector Development Plan (SDP) under the said two committees, the "Hygiene, Gender and Disability' thematic group under the Policy and Monitoring Support Committee is responsible for coordination, direction, resource allocation, monitoring, and evaluation activities at the national level for promoting hygiene practices. As such, the Policy Support Branch (PSB) of the Local Government Division as the secretariat of the Policy and Monitoring Support Committee will provide all instructions including proper coordination and cooperation to ensure the support of those concerned in the promotion and practice of hygiene at the national level. This committee will also provide support to the National Water Supply and Sanitation Forum in monitoring the progress d hygiene practices at the village and city levels through the Standing WATSAN Committee of WASH of the local government institutions at the local level Local Consultative Group (LCG): The Local Consultative Group (LCG) is a collective platform of Bangladesh's bilateral and multilateral development partners. The platform includes relevant public-private institutions, development partners, and NGOs, among other stakeholders. The purpose of this platform is to review experiences gained among themselves, various problems, and obstacles, as well as coordinate activities related water supply, sanitation, and hygiene promotion. In addition, Local Consultative Groups (LCGs) are constituted to assist the National Water Supply and Sanitation Forum in the implementation of Sector Development Plans (SDPs) and to facilitate coordination between (a) The Policy and Monitoring Support Committee. (b) The Technical Support Committee,
Provincial/Local Government	• Department of Public Health Engineering (DPHE): The Department of Public Health Engineering (DPHE) is the lead technical agency for the water supply sanitation and hygiene (WASH) sector in Bangladesh. DPHE will manage the campaign as well as coordinate and implement activities related to hygiene promotion and practices within its jurisdiction; All WASAS: WASAS established in Dhaka, Chattogram, Khulna, and Rajshahi are semi-autonomous bodies, whose management is vested in their respective boards. WASAs report directly to the Local Government Division under the Ministry of Local Government, Rural Development, and Co-operatives. Among WASAS, only Dhaka WASA covers water supply, stormwater drainage, and sewage management. Chattogram, Rajshahi, and Khulna WASA are currently only managing the water supply. Effective participation of WASAs in their respective jurisdictions should be ensured

	in promoting hygiene and improving overall hygiene practices by coordinating with the city corporations; City Corporation: City Corporations have been formed in large cities of the country with many people. Currently, there are 12 city corporations in the country. The Local Government (City Corporations) Act, 2009, 3rd Schedule, provides for the collection, removal, and management of refuse, urinals, and latrines, drinking water supply and drainage; private sources of water supply; drainage schemes; bathing and ablution facilities, etc. There are several standing committees to supervise the smooth execution of these tasks, review the progress, and make recommendations on any other matters. The two Standing Committees on WASH in city corporations are the Standing Committee on Waste Management and Standing Committee on Water and Power, Municipalities: Municipalities are made up of small urban areas in the country. There are 329 municipalities in Bangladesh. According to sub-section 50(2) of the Local Government (Municipalities) Act, 2009, the functions of municipalities in relation to WASH are (a) supply of water for residential, industrial, and commercial purposes; (b) water and sewage; and (c) waste management. According to the provisions of the Municipal Act, 2009, there is no direct standing committee on WASH. However, according to this law, if the municipality wants to, it can form additional standing committees on drinking water, sanitation, and waste disposal. Considering the importance of WASH, it is necessary to start discussions at various levels so that permanent committees can be formed in this regard in all municipalities. Overall, municipalities will coordinate, implement, and monitor water, sanitation, and hygiene promotion and practice-related activities (hardware and software) with WASH service providers and individuals as per the Act: Upazila Parishad: The Upazila Parishad is one of the most important administrative units in the administrative decentralization of Bangladesh. At present, the number of Upazilas in the country is 493. The Upazila Parishad continues to play a very strong role in implementing the overall development activities of the country. The Upazila Parishad is governed by the Upazila Parishad Act, 2009. According to the 2nd Schedule of this Act, Upazila Parishad's tasks related to WASH are to ensure public health, nutrition, and family planning services, improve sanitation and sewage system, and take measures to supply safe drinking water. The Upazila Parnishad will continue to coordinate with the Union Parishad and other state institutions in its jurisdiction. Upazila Development Coordination Committee meetings should discuss the activities, plans, and progress of WASH on a regular basis. The relevant standing committees on public health, sanitation and clean water supply will continue to coordinate and provide facilities for all development activities in their respective jurisdictions, including WASH Union Parishad: The Union Panshad is the lowest level of local government in rural areas. At present, there are 4579 unions in the country. WASH activities have been mentioned in the Government (Union

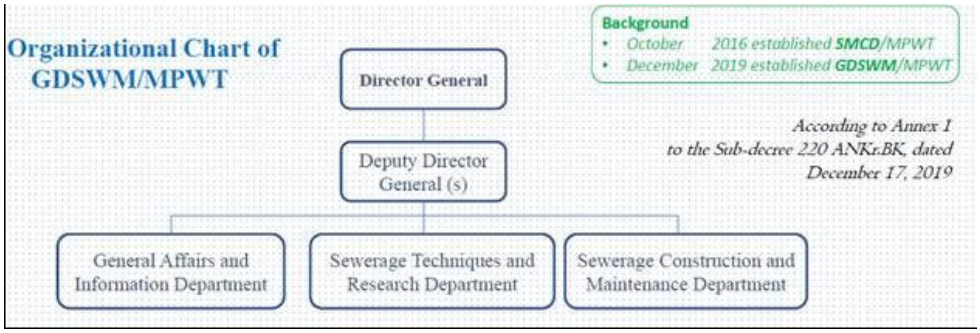
	Council) Act, 2009. There is a provision to constitute 13 subject-specific Standing Committees for the proper execution of the functions of the Council. Among them the Union Standing Committee on Sanitation. Water Supply, and Sewerage will conduct the implementation and monitoring of hygiene promotion activities, including WASH.
Other Organizations	• Other Ministries •NGOs •The private sectors • Development partners

Cambodia

3. Organizational structure regarding wastewater management

<Please confirm the role of the organization due to reorganization.>

National Level



- Develop policies, regulation, strategies, master plans, and development plans for sewerage systems, sludge management sites, and wastewater treatment systems in the Kingdom of Cambodia
- Developing technical instruments related to the construction, operation, and maintenance of sewerage systems, wastewater treatment systems, and sewage sludge management sites
- Oversee and evaluate the construction, operation, and maintenance of sewerage systems and sewage sludge management sites
- For further info: https://www.mpwt.gov.kh/en/home

- The Ministry of Public Works and Transport is responsible for managing and enhancing the technical management of the drainage and wastewater treatment system operation and duties as follows:
  - Leading the policymaking, strategy, master plan, drainage development plan, and wastewater treatment system in Cambodia to submit to the Royal Government for consideration and approval.
  - Prepare technical standards on construction, management, operation, and maintenance of drainage and wastewater treatment systems;
  - Lead the facilitation with concerned ministries/institutions, development partners, and private sectors for the investment in construction of drainage and wastewater treatment system.
  - Support financial resources, means and equipment for sub-national administrations on the management of drainage and wastewater treatment systems.
  - Cooperate with concerned ministries/institutions, and sub-national administrations to improve education and to disseminate to the public about the management of drainage and wastewater treatment systems accordance to technical standard;
  - Cooperate with Ministry of Environment and stakeholders for capacity development and experience sharing about the management of drainage and wastewater treatment system to sub-nation administrations.
  - Motivate capital, provincial, municipal, and district administrations in operation and maintenance

works of the drainage and wastewater treatment system.
- Coordinate and mobilize funds from development partners, donors, and public sectors to develop drainage and wastewater treatment systems.
- Monitor and evaluate the implementation of the drainage and wastewater treatment system management.

- The General Department of Sewerage and Wastewater Management has the following duties:
- Manage, monitor, and evaluate wastewater treatment system infrastructures.
- Prepare regulations, policies, strategies, and wastewater treatment system development plans.
- Propose a plan for rehabilitation, construction, reparation, and maintenance of a wastewater treatment system and connections to the system.
- Review and provide technical consultation for the developing wastewater treatment system in the Capital, Provinces, Municipalities, Districts, and Khans.
- Conduct research on technical and new technology services for the wastewater treatment system in the Kingdom of Cambodia.
- Preparation of domestic wastewater master plan/outline plan
- Assistance to Determine Location and Land Preparation of WWTP or STP
- Preparation of DED for WWTP or STP, Transfer Knowledge
- Assistance with WWTP & STP Operational
- Assistance with Regulation Drafting & Institutional Forming
- Assistance with Regular Desludging Preparation and Implementation
- Construction of WWTP or Rehabilitation of STP
- Report to the top management level about the work activities on a due-date basis.
- Perform other tasks assigned by the top management level.

Provincial Level

- Manage, monitor, control & evaluate wastewater treatment infrastructure/facilities
- Prepare regulations, policies, strategies, and development plans for the wastewater treatment system
- Develop an annual plan for the wastewater treatment system, rehabilitation, construction, repair and maintenance, connection, etc.
- Drainage and Sewerage Design and Planning for Sewerage Budgeting
- Cross-provincial wastewater development
- Public-private Partnership (PPP)
- The Provincial Department of Public Works and Transport, in cooperation with relevant specialist units, shall fulfill its role as a staff of capital, provincial, municipal, district, and khan on the management of drainage and wastewater treatment systems and duties as follows:
  - ☞ Participate to prepare a master plan for the management of drainage and wastewater treatment system.
  - ☞ Provide technical consultation on the proposal of development investment regarding drainage and wastewater treatment system.
  - ☞ Review and provide recommendations on the request for drainage connection, drainage, and wastewater treatment system services.
  - ☞ Encourage on concerning law and legal documents enforcement related to the management of drainage and wastewater treatment system and penalize on violations.
  - ☞ Enhance public awareness regarding environmental sanitation by mainstreaming drainage and wastewater treatment services.
  - ☞ Prepare mid-term and annual reports about the status and procedure of drainage and wastewater treatment system management.

Wastewater and Sewerage Management Unit Organizational Chart

Indonesia No change Cited by the annual report 2023

3. Organizational structure regarding wastewater management

According to Law Number 23 of 2014, the local government is responsible for domestic wastewater planning, development, financing, and management at the regency/city level. The provincial government is responsible for planning, developing, financing, and managing the domestic wastewater services at the regional level, establishing a regional policy, and providing capacity building for the local government. Moreover, the central government is responsible for establishing and assisting in the formulation of norms, standards, guidelines, and criteria, as well as providing technical assistance for local governments with the collaboration of other ministries.

Organization	Roles and Responsibilities
Central/National Government	Focus on national policy development, standard setting, and capacity building
1. BAPPENAS	Responsible for providing national target, policy, and budget planning for national and local government, the private sector, and communities.
2. MoH	Responsible in formulating strategy in behavior change
3. MoEF	Responsible in regulating and monitoring of domestic (also industrial) wastewater effluent
4. MoHA	- Responsible for the preparation of institution and regulation of sanitation - for national and local government - Initiating Minimum Service Standards (SPM), including its monitoring and guidance to local government
5. MoPWH	- Provides technical guidance for sanitation infrastructure - Develop regulation, sanitation infrastructure (stimulant), and technical assistance
Local Government	According to Law Number 23 of 2014, the local government is responsible for the municipal wastewater and sanitation planning, development, financing, and management in their respective territories.
Provincial Government	- Planning, development, financing, and management of regional sanitation services - Regional policy development and capacity building for the local government

Japan

3. Organizational structure regarding wastewater management

[National Government]

In 2024, the water development and management administration was transferred from the Ministry of Health, Labor, and Welfare (MHLW) to the Ministry of Land, Infrastructure, Transport, and Tourism (MLIT). MLIT established a department to manage water and wastewater as a whole.

- The national government provides visions for wastewater management.
- Formulate laws and regulations to realize ideas.

- To comply with laws and regulations, acquiring the necessary skills to comply is essential.
- To acquire technology, the national government is willing to develop and spread technical standards throughout the country.
- Local governments are responsible for sewer construction, operation, and maintenance. However, developing wastewater treatment facilities requires considerable money. Therefore, the national government can subsidize local governments' construction of wastewater treatment facilities.
- Due to the jurisdictional ministry change, MLIT is considering uniting the operation and management of water and wastewater systems.
-

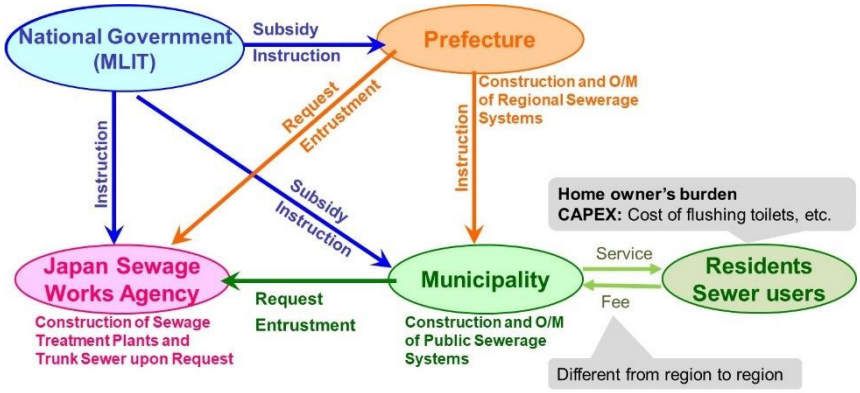
[Local government]

- Local governments construct wastewater treatment facilities and take charge of their operation and maintenance.
- Local governments prepare master plans and ordinances following the national government's vision and laws.
- Local governments construct, operate, and maintain sewage systems using technical standards created by the national government and the Japan Sewage Works Agency.

[Japan Sewage Works Agency (JS)]

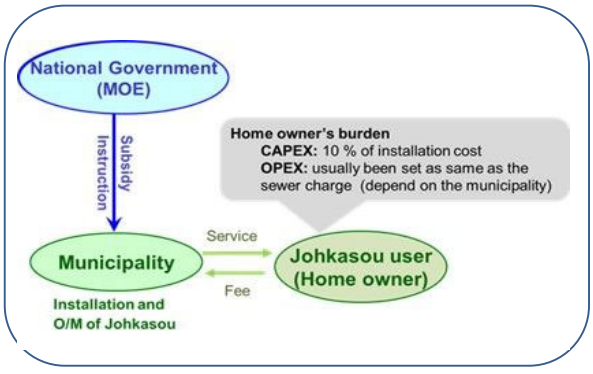
- JS was established in 1972 as an organization to supplement the technology of local governments that implement off-site sewage treatment.
- In Japan, many local governments lack technical skills and engineers, and developing their wastewater treatment businesses is challenging.
- Under these circumstances, JS has taken on the role of pooling engineers and installing sewage facilities under their entrust.
- JS has recently constructed about 70% of Japan's sewage treatment plants.

MLIT: Ministry of Land, Infrastructure, Transport and Tourism

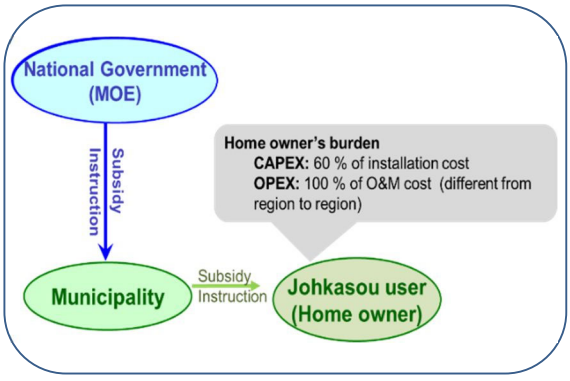


<Wastewater management with sewered sanitation systems>

＜Installation by municipalities＞



＜Installation by residents＞



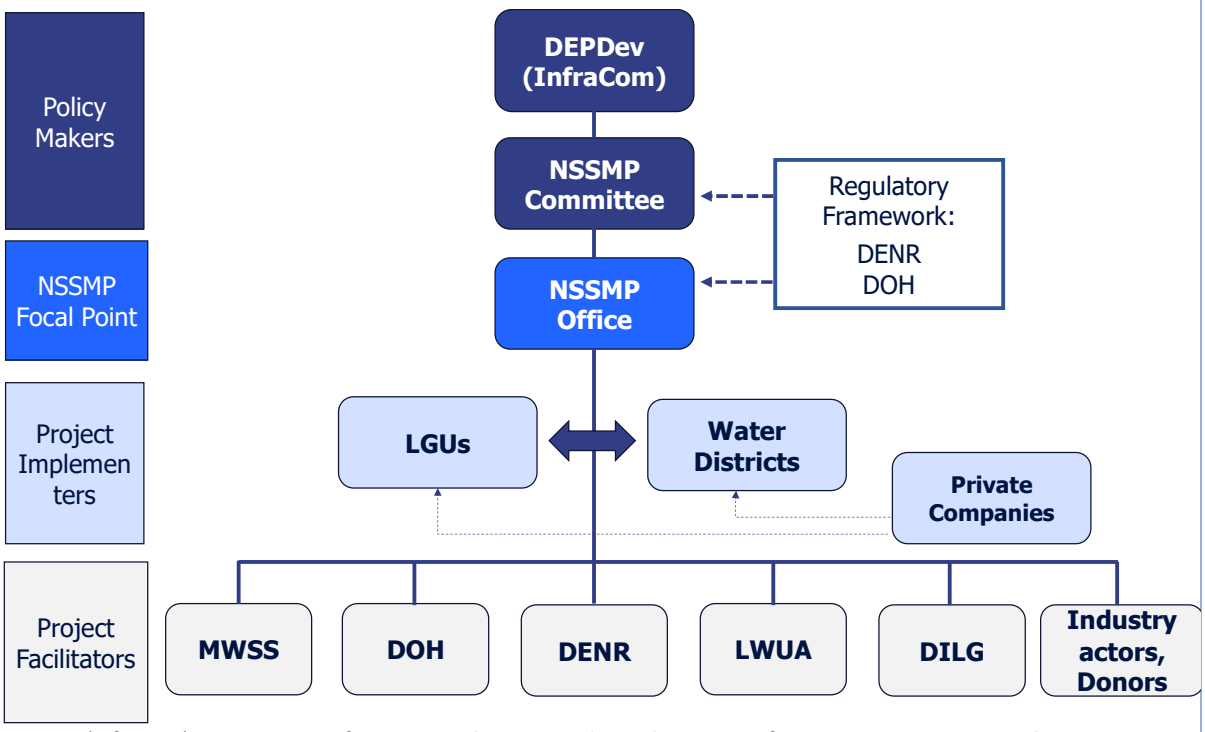
MOE: Ministry of the Environment **<On-site domestic wastewater treatment (Johkasou)>**

Philippines **Cited by the annual report 2023**

3. Organizational structure regarding wastewater management

DPWH – (in compliance with Section 7 of RA 9275) Formulated National Sewerage and Septage Management Program (NSSMP) to address issues on sanitation, treatment, and disposal of water; included strategies, priority cities, and various technology options for treatment.

NSSMP Implementation Institutional Structure



DEPDev (InfraCom): Department of Economy, Planning, and Development, Infrastructure committee, Subcommittee on water resources, MWSS: Metropolitan Waterworks and Sewerage System, DOH: Department of Health, DENR: Department of Environment and Natural Resources, LWUA: Local Water Utilities Administration, DILG: Department of the Interior and Local government

Roles and Responsibilities of Key Stakeholders

a. **DPWH (Department of Public Works and Highways)**
Lead implementation agency at the national level whose role includes:
- Policy Making
- Planning NSSMP implementation
- Hosting NSSMP Office
- Compel LGUs to participate in the NSSMP
- Ensuring WD or Operators have a compliance plan and system designed accordingly
- Reviewing and prioritizing proposed LGU infrastructure projects
- Entering into MOA with LGU for 50% national government cost share
- Monitoring and evaluation progress toward achieving targets
    - **Submitting annual report to NSSMP Committee (DEPDev)**

b. **DEPDev (Department of Economy, Planning, and Development)**
- Considering sewerage and sanitation projects for inclusion in national infrastructure programming
- Program monitoring
- Review sewerage and septage project proposals costing at least P500 million.
- Policy guidance

c. **NSSMP Office**

- Coordinating NSSMP implementation with other agencies
- Providing advice and support to LGUs (and other interested parties)
- Supporting LGUs in the development of local sanitation plans
- Selection of projects submitted by LGUs
- Submission of budget request for sewerage/septage financing support to NSSMP Committee
- Carrying out monitoring and reporting duties with respect to NSSMP implementation
- Review of Project Concept Paper and submission of budget request for Feasibility Study

d. LGUs (Local Government Units)

- Developing sanitation project concepts
- Submitting listing of priority projects to DPWH
- Developing local ordinances and other enabling elements to support projects
- Preparing local sanitation plan
- Coordinating with NSSMP Office for information on NSSMP incentives (financial, technical assistance, etc.) and process of availing of incentives
- Raising additional funds to complete project finance
- Reporting progress to the NSSMP Office

e. **WDs (Water Districts)**

- Developing sanitation project concepts
- Support LGU to Prepare PCP and FS in relation to sewerage/ sanitation plans
- Managing and operating water collection, treatment and disposal facilities
- Require buildings to be connected to sewer located less than 35 m
- Obtain necessary approval for tariff setting and conduct tariff collection
- Connecting sewerage lines to sewerage systems
- Raising additional funds to complete project finance

f. DOH (Department of Health)

- Supporting LGUs in the development of local sanitation plans
- Policy Making Assistance to LGU
- Providing capacity building support, training and information dissemination to LGUs/ WDs with respect to septage management
- Providing specific health criteria and data
- Providing performance-based grants for LGU project preparation activities
- Monitoring impact of projects on improving health and submit report to NSSMP Office

g. DBM (Department of Budget and Management)

- Allocating the funding necessary to address the financial requirements under the NSSMP
- Releasing approved funds on time

h. DENR (Department of Environment and Natural Resources)

- Providing environmental data for selection of project sites
- Establishing WQMAS t (Water Quality Management Area Stakeholders) that will develop action plans for LGUs/ WDs in relation to sanitation infrastructure development
- Enforcing CWA provisions requiring development of sewerage and septage management
- Implement CWA's Pollutants Pay principle through incentives and fines to non-compliant LGUs
- Applying water quality standards
- Submitting post-sanitation project implementation water quality data to NSSMP Office

i. DILG (Department of the Interior and Local Government)

- Providing NSSMP-related information (such as MW4SP) to LGUs
- Considering NSSMP in reviewing performance of LGUs
- Providing institution and capacity building support to LGUs
- Encouraging inter-LGU cooperation on developing common projects
- Monitoring/ reporting LGU activity to NSSMP Office with respect to sewerage/ septage infrastructure development

j. MWSS (Metropolitan Waterworks and Sewerage System)

- Providing a resource/ information base concerning sewerage/ septage asset development that LGUs/ WDs can utilize
- Measuring impact of improved community access to sewerage and septage management facilities provided by concessionaires
- Reporting number of projects implemented by concessionaires to the NSSMP Office

k. DOE (Department of Education)

- Developing and implementing IEC (Information, Education, and Communication) program
- Incorporating information and knowledge into school curricula and government information campaigns

l. LoC (League of Cities of Philippines), PAWD (Philippine Association of Water Districts), PWWA (Philippine Water Works Association)

- Liaising with member LGUs/ WDs/ members regarding NSSMP-related development plans
- Providing information, capacity building and training support in relation to sewerage/ sanitation to members

- Reporting on sewerage/ sanitation asset development

m. Donor Agencies /Programs

- Providing capacity building and training support to DPWH and other agencies in relation to NSSMP implementation
- Providing direct technical assistance to LGUs/ WDs in relation to sewerage/ septage asset development e.g. funding feasibility studies
- Providing capital funding support to LGUs/ WDs for sewerage/ septage asset development

Laws established regarding wastewater management

NEDA Board Resolution No. 41 s. 2024 - APPROVING THE DRAFT NEDA BOARD RESOLUTION ADOPTING THE UNIFIED RESOURCE ALLOCATION FRAMEWORK (URAF) FOR WATER SUPPLY AND SANITATION (WSS) AS APPROVED BY THE COMMITTEE ON INFRASTRUCTURE (INFRACOM)

- Mandates all national agencies to handling programs that aims to provide financial assistance for the implementation of water supply and/or sanitation projects to adopt the principles of the URAF going forward.

- In compliance to this policy, DPWH shall amend the NSSMP so as to adopt the URAF principles in the implementation of this Program.

Vietnam

Organization	Roles and Responsibilities
Central/National Government	**• Ministry of Construction(MOC):** MOC is the agency assigned by the Government to manage the field of drainage and wastewater treatment in urban and concentrated residential areas, performing the following tasks: Roles and tasks: - Presiding over the unified state management of sewerage systems in urban and industrial areas; - Developing, submitting to the Government for promulgation or promulgating under its authority technical regulation, standards, norms, and Specialized Sewerage Planning; - Guiding and inspecting the implementation of Sewerage Planning, O&M, sewerage service tariff, and public service contracts in this sector; - Monitoring and evaluating the assurance of safe sewerage, - Coordinating the national investment program in urban technical infrastructure **• Construction Infrastructure Structure Authority (CISA) under the MOC:** - functioning as the focal agency to assist MOC in managing urban drainage, wastewater treatment and urban technical infrastructure. - being in charge of drafting decrees and circulars on water supply and sewerage, issuing technical regulations and standards, guiding the implementation of Regional Technical Infrastructure Planning, Urban Sewerage Planning, and monitoring the implementation of ODA and PPP programs and projects in this sector. **• Ministry of Agriculture and Environment (MAE)** - Managing effluent discharge into receiving bodies and monitoring wastewater quality, wastewater discharge licenses, environmental monitoring. - Coordinating with MOC in controlling water pollution, surface water quality, and integrating wastewater data into the national environmental monitoring system. **•Ministry of Finance (MOF):**

	- Guiding the sewerage service price mechanism, environmental protection fees for wastewater, and the compensation and subsidy mechanism for public services in the sewerage sector.
Provincial/Local Government	According to Article 22 of the Decree No.140/2025/ND-CP dated June 12, 2025 regulating the division of authority of two-tier local governments in the state management of the Ministry of Construction: • The provincial-level People's Committee is the owner or authorizes and delegates to the commune-level People's Committee the ownership of the sewerage system as prescribed in Clause 1, Article 10 of the Decree No.80/2014/ND-CP dated August 6, 2014 of the Government on drainage and wastewater treatment. • The commune-level People's Committee is the investor of the concentrated rural residential drainage system funded by the budget source prescribed in Clause 2, Article 11 of the Decree No.80/2014/ND-CP dated August 6, 2014 of the Government. For projects with high technical requirements and requiring professional qualifications that the commune-level People's Committee does not have the capability to do, then the provincial-level People's Committee shall decide to assign a competent unit to be the investor. • The Department of Construction shall preside over and coordinate with relevant agencies to develop the local sewerage development investment plan and submit it to the Provincial People's Committee for approval in accordance with Clause 3, Article 12 of the Decree No. 80/2014/ND-CP dated August 6, 2014 of the Government; it shall not appraise the local sewerage development investment plan.
Other Organizations	• O &M units - Directly operate pumping stations, wastewater treatment plants, main sewer systems; - Do maintenance, dredging, cleaning of the drainage system; - Collect sewerage service fees according to the contract signed with the Provincial People's Committee or with the Water supply Company (in case of combined collection); - Regularly report on the status of operation, flooding, and the quality of the effluents to the Department of Construction.

(4) General policies regarding wastewater management

Country Name	General Policies
Bangladesh	• National Sanitation Strategy 2005(Clause 8.1):Concept of a hygienic latrine, link of hygiene with water supply and sanitation. • National WSS Strategy 2014;and updated national water supply and sanitation strategy ,2021(National WSS Strategy,2021): Water safety (safely managed water supply services, safe sanitation (safely managed sanitation services), hygiene promotion, gender sensitive approach in promotional campaigns, private sector participation in promotional activities, emerging challenges like urbanization and increased water pollution due to industrialization, coping with disasters, adapting to climate change and safe guarding environment, sector governance, the IEC guide lines for hygiene promotion and coordination mechanisms with MoH and FW and other related ministries for hygiene promotion. • Water Supply and Sewerage Authority Act, 1996 • National Policy for Safe Water Supply and Sanitation, 1998 • National Water Policy, 1999 The policy emphasizes sustainable urban water management through institutional reforms, clear legal frameworks, and stakeholder participation-all essential for integrated sewerage planning. • National Water Act, 2013 The Act supports integrated water resources management, which is essential for aligning sewerage planning with broader water use and conservation goals. • Bangladesh Standards and Guidelines for Sludge Management (2015) • These guidelines establish a regulatory framework for safe sludge classification, treatment, and disposal-critical for planning and operating wastewater treatment plants under the Master Plan. • The Environmental Conservation Act, 1995 • This Act mandates Environmental Clearance Certificates for sewerage and sludge management projects, ensuring integration of ElAs and EMPs into the Master Plan. It provides legal backing for regulating pollution and enforcing environmentally sound fecal sludge and wastewater management. • Environment Conservation Rules 2023 (ECR 2023) - ECR 2023 establishes a stringent regulatory framework for sewage treatment and discharge, making Environmental Clearance Certificates mandatory for STPs-critical for Master Plan compliance.
Cambodia	- Political Platform of the Royal Government of Cambodia of the Seventh Legislature of the National Assembly, 2023-2028 - Pentagonal strategy phase -1, Aug 2023 - Rectangular Phase IV (2018-2023) - National Strategic Development Plan 2019-2023 - Updating National Water Supply and Sanitation Policy - Cambodian Sustainable Development Goals, 2016-2030
Indonesia No change Cited by the annual report 2023	- In line with SDG Goal 6, the Indonesian Government, through the National Medium-Term Development Plan 2020-2024, is targeting to achieve 90% basic sanitation access, including 15% safely managed access, in 2024. The

	estimation states that 140.9 trillion rupiahs will be needed to achieve those targets. - Draft Sanitation Roadmap 2030 - Draft National Medium-Term Development Plan 2025-2029 -
Japan	- New Sewerage Vision (2014) - New Sewerage Vision Acceleration Strategy 2022 Revised (2023)
Myanmar	-
Philippines	- National Sewerage and Septage Management Program (NSSMP) - Philippine Water Supply and Sanitation Master Plan (PWSSMP) - Local Ordinances
Vietnam	· Decree No.80/2014/NĐ-CP dated 06/8/2014 of the Government on drainage and wastewater treatment. · Circular 04/2015/TT-BXD dated 03/5/2015 of the Ministry of Construction guiding the implementing of the Decree 80. · Circular 13/2018/TT-BXD guiding the methodology for sewerage service pricing · Circular 15/2021/TT-BXD of the Prime Minister providing guidance on technical infrastructure works for wastewater collection and drainage in urban and concentrated residential areas. · Decision No. 589/QĐ-TTg of the Prime Minister approving the adjustment of the Orientation for drainage development in Vietnam urban and industrial areas until 2025, vision towards 2050. · Drafted Law on Water Supply and Sewerage, regulating strategy; planning; plans for water supply and sewerage development; investment projects for construction of water supply and sewerage works. Decree 140/2025/NĐ-CP dated 12/6/2025, Article 22 on the tasks, authority for drainage and wastewater treatment

(5) Sources of fund for wastewater management

Country Name	Sources of fund
Bangladesh	・National budget, including foreign loans and grants. - ・Waste water charges collected from residents who connect to sewer systems as a service charge for O&M.
Cambodia	- National Budget from the central government and Budget from Development Partners Used *For the feasibility study and master plan on wastewater and sewerage system development plan *For the improvement and construction of sewerage system including piping system, pumping station, and wastewater treatment plant - Local government Budget collected from Users/Residents Used
Indonesia No change Cited by the annual report 2023	- National Budget, including Foreign loans and Grants - Special allocations fund for wastewater (central government transfer to local government) - Local government budget
Japan	- Subsidies from the central government to local governments to construct sewer systems - Municipal Bonds for sewer systems - Wastewater charges collected from residents who connect to sewer systems as a service charge for O&M
Myanmar	
Philippines	- National Water Quality Management Fund - Capital Expenditures (CAPEX) – 50% subsidy to LGUs - Operating Expenses (OPEX) – water tariff to include wastewater management fee
Vietnam	・Funding for wastewater management in Vietnam comes from local budgets and supports from foreign organizations. ・Sewerage service prices are collected from residents having connection to the drainage system.

2. AWaP Activities

2-1 The 4th General Meeting

The 4th AWaP General Meeting was held in Phnom Penh, Cambodia, on November 18, 2025.

Overview

The 4th General Meeting of Asia Wastewater Management Partnership (AWaP)

The Asia Wastewater Management Partnership (AWaP) was established in 2018 with the aim of contributing to the achievement of SDG Target 6.3, halving amount of untreated wastewater by 2030, by promoting collaborative efforts to address common challenges among partner countries.

The Ministry of Land, Infrastructure, Transport and Tourism (MLIT) of Japan, the Ministry of the Environment (MOE) of Japan and the Ministry of Public Works and Transport of Cambodia jointly convened the 4th General Meeting of AWaP in Phnom Penh, Cambodia, which was the first General Meeting ever held outside Japan.

During the Meeting, partner countries shared their activities from 2023 to 2025 based on the common challenges adopted the policy approaches were adopted on two themes: “Mainstreaming Wastewater Management and Finance” and “Optimum Wastewater Treatment Systems” and updated the 2nd Work Plan.

It was also confirmed that the 6th Operations Committee will be held in Tokyo in 2026, and the 5th General Meeting will be held in Indonesia in 2027.

■ Date ：Tuesday, November 18th, 2025

■ Time ： 1：00 PM - 5:00 PM（Local Time）

■ Venue ：Raffles Hotel Le Royal, Phnom Penh, Cambodia

■ Organizers ： MLIT of Japan, MOE of Japan, and Ministry of Public Works and Transport of Cambodia

■ Chair ： Dr. Taku Fujiwara, Professor, Department of Global Ecology, Graduate School of Global Environmental Studies, Kyoto University

■ Moderator ：Dr. Pierre Flamand, Japan Sanitation Consortium

■ Language : English

■ Participants

● Partner Countries

・Bangladesh ：Ministry of Local Government, Rural Development and Co-operatives, and Chattogram Water Supply and Sewerage Authority

・Cambodia : Ministry of Public Works and Transport

・Indonesia : Ministry of Public Works and Housing

・Philippines : Department of Public Works and Highways

・Vietnam : Ministry of Construction

・Japan : MLIT, MOE, Embassy of Japan in Cambodia, Japan Internatinonal Cooperation Agency (JICA), and Kitakyushu City

● Supporting Organizations

・Japan Sewage Works Agency

・Japan Sanitation Consortium

■ **Agenda**

TIME (ICT)	ACTIVITY
13:00 -13:20	**Opening Remarks** Mr. Hidenori Matsubara, Assistant Vice-Minister for Water Supply and Sewerage, MLIT of Japan H.E. Ros Vanna, Secretary of State, Ministry of Public Works and Transport of Cambodia **Purpose of the Meeting** Dr. Taku Fujiwara, Professor of Kyoto University **The Concept and Purpose of AWaP** Mr. Fumiaki Hasegawa, Director for Overseas Projects of Water Supply and Sewerage, MLIT of Japan
13:20 -14:20	**Session 1. Report on AWaP Activities** ・Philippines : Ms. Erlynrose Mari S. Nazareno, Department of Public Works ・Indonesia : Dr. Sandi Eko Bramono, Ministry of Public Works ・Vietnam : Mr. Pham Ngoc Chinh, Ministry of Construction ・Bangladesh : Mr. Muhammad Nurul Amin, Chattogram Water Supply and Sewerage Authority ・Japan : Mr. Yuta Takeda, Chief Official for International Planning, MLIT Mr. Shinya Fujii, JICA Expert dispatched from Kitakyushu City ・Cambodia : H.E. Chao Sopheak Phibal, Ministry of Public Works and Transport
14:35 -16:40	**Session 2. Determining Policy Based on AWaP 2nd Work Plan** (1) Activities based on 2nd Work Plan : Mr. Fumiaki Hasegawa, MLIT of Japan (2) Setting and sharing AWaP Policy for mainstreaming wastewater management and finance. : Mr. Fumiaki Hasegawa, MLIT of Japan and Mr. Shuichiro Nakayama, Chief Official, Office for Promotion of Johkasou, MOE of Japan (3) Setting and sharing AWaP Policy for optimum wastewater treatment systems : Mr. Fumiaki Hasegawa, MLIT of Japan (4) Collection of technologies and case studies by each country : Mr. Yuta Takeda, MLIT of Japan (5) Update of the 2nd Work Plan and Future schedule : Mr. Fumiaki Hasegawa, MLIT of Japan
16:40 -17:00	**Chair's Summary** Dr. Taku Fujiwara **Closing Remarks** Mr. Shuichiro Nakayama, MOE
17:00	Group Photo

Group Photo

Dr. Taku Fujiwara (Chairperson)
Professor of Kyoto University

Mr. Hidenori Matsubara
MLIT of Japan

H.E. Ros Vanna
Ministry of Public Works and Transport of Cambodia

Dr. Pierre Flamand (Moderator)
Japan Sanitation Consortium

Mr. Fumiaki Hasegawa
MLIT of Japan

Ms. Erlynrose Mari S. Nazareno
Department of Public Works of Philippines

Dr. Sandhi Eko Bramono
Ministry of Public Works of Indonesia

Mr. Pham Ngoc Chinh
Ministry of Construction of Vietnam

Mr. Muhammad Nurul Amin
Chattogram Water Supply and Sewerage Authority
(Bangladesh)

Mr. Yuta Takeda
MLIT of Japan

Mr. Shinya Fujii
JICA Expert dispatched from Kitakyushu City
(Japan)

H.E. Chao S. Phibal
Ministry of Public Works and Transport of
Cambodia

Mr. Shuichiro Nakayama
MOE of Japan

The discussion in Session 2

The discussion in Session 2

The discussion in Session 2

Chair‘s Summary

Chair's Summary of the Fourth AWaP General Meeting

Background

1. The Sustainable Development Goals (SDGs), established in 2015, include Target 6.3, which aims to halve the amount of untreated wastewater by 2030. Countries in Southeast Asia, particularly those with low access to public wastewater treatment services, must intensify their efforts to achieve this target.
2. To advance this goal, six Asian countries—the Kingdom of Cambodia, the Republic of Indonesia, the Republic of the Union of Myanmar, the Republic of the Philippines, the Socialist Republic of Vietnam, and Japan—have agreed to establish the Asia Wastewater Partnership (AWaP). AWaP has held three General Meetings in the past: in Kitakyushu on July 25, 2018, online on August 18, 2021, and in Sapporo on August 1, 2023.
3. The fifth Operations Committee meeting, held in Tokyo on September 24, 2024, agreed to welcome the People's Republic of Bangladesh and the Kingdom of Thailand as new members of AWaP.
4. The Fourth AWaP General Meeting was held on November 18, 2025, in Phnom Penh, Cambodia. Bangladesh, Cambodia, Indonesia, Japan, the Philippines, Vietnam, and related organizations, including JS, JSC, and JICA, joined the meeting. During the Fourth General Meeting, the activities of each member country for the ten years following its establishment were shared, and the activity plans were discussed to achieve SDG Goal 6 by 2030.

5. Professor Taku Fujiwara of Kyoto University chaired the 4th General Meeting, with Dr. Pierre Flamand of the Japan Sanitation Consortium serving as facilitator.

Opening Remarks

6. Mr. Matsubara, the Assistant Vice-Minister for Water Supply and Sewerage, Ministry of Land, Infrastructure, Transport, and Tourism of Japan, delivered the opening remarks. Following this, H.E. Ros Vanna, Secretary of State, Ministry of Public Works and Transport of Cambodia provided a welcome speech, expressing the expectations for the AWaP activities.

7. The Chair, Professor Fujiwara, outlined the purpose of the General Meeting, after which the AWaP Secretariat presented an overview of the AWaP concept and its achievements.

Session 1: Report on AWaP Activities

8. Each member country provided an update on the current status of wastewater management. Kitakyushu City, Japan, also presented its activities for wastewater management in Cambodia. During the discussion, participants exchanged views on the initiatives undertaken by each country.

Session 2: Determining Policy Based on AWaP Activity Plan

9. The AWaP activities from 2023 to date were reported.

10. The AWaP policy approach for mainstreaming wastewater

management and securing funding was established. Partner countries shared each finance initiative and confirmed that prioritizing wastewater management and ensuring sustainable funding sources align with the AWaP policy approach.

11. An additional measure in the AWaP policy approach was proposed for optimal wastewater treatment. Specifically, developing plans for the diffusion of centralized and decentralized treatment systems, adopting the Citywide Inclusive Sanitation (CWIS) approach, and implementing them in a phased manner as quickly as possible. Partner countries agreed on the policy approach.

12. Good examples and initiatives based on the above proposed policy shall be discussed at the next Operations Committee.

13. An update on the progress of the compilation of technical and policy case studies was provided. The case study compilation shall continue to be processed.

14. A draft update of the AWaP activity plan through 2030 has been proposed. Key updates include the following:
    - We have updated the schedule for the international conference we will attend to introduce AWaP activities.
    - Activity durations were revised according to the Work Plan to reflect current conditions.
    - At the 2027 General Meeting, we will summarize AWaP's achievements through its 2030 conclusion.

15. The proposal for the next General Meeting and Operations Committee was presented.
    - The Sixth Operations Committee, scheduled for August to October 2026 in Tokyo, Japan, will make a concrete discussion leading up to the Fifth General Meeting.

- The Fifth General Meeting is proposed to take place from August to October 2027 in Indonesia.
- The Secretariat will coordinate with partner countries regarding the timing.

Taku Fujiwara

Chair of the 4th General Meeting for the Asia Wastewater Partnership

AWaP Policy Approach

AWaP policy approach for mainstreaming wastewater management and finance

AWaP partner countries confirm that establishing a fiscal system is necessary for the development, operation and maintenance(O&M) and management of wastewater treatment facilities, and share the following policy.

- To promote the development of wastewater treatment facilities and ensure their sustainable O&M and management it is essential that all people and society understand the importance of wastewater management and position it as a national priority policy issue—that is, mainstream wastewater management.
- The administrative department responsible for wastewater treatment and environmental affairs in partner countries should collaborate with local governments to raise public awareness regarding wastewater treatment for all people and society, based on water usage patterns and urban/environmental conditions, and strive to mainstream wastewater management.
- The administrative departments responsible for wastewater treatment and environmental affairs in partner countries should strive to establish systems that secure the necessary financial resources for promoting the development of wastewater treatment facilities and ensuring their sustainable O&M and management through mainstreaming wastewater management. In establishing the system, we will conduct studies in collaboration with local governments, taking into account existing social and fiscal systems, and strive to appropriately combine funding sources (bonds, taxes, user fees).
- The administrative departments responsible for wastewater treatment and environmental affairs in partner countries should share and learn from each other's efforts to mainstream wastewater treatment and establish fiscal systems, thereby fostering better initiatives.

AWaP policy approach for optimum wastewater treatment systems

AWaP partner countries confirm that wastewater treatment facilities include decentralized systems serving one or more households based on population density, topography, and regional connectivity, as well as centralized systems serving community or city-wide areas, and share the following policy.

- An optimal deployment of wastewater treatment facilities, adopting the Citywide Inclusive Sanitation (CWIS) approach, is necessary to ensure all people have access to properly managed wastewater treatment services.
- It is important for administrative departments responsible for wastewater treatment and environmental affairs and local governments in partner countries to take the lead in creating deployment plans for the efficient and effective development of wastewater treatment facilities, including decentralized and centralized treatment systems.
- The deployment plan for wastewater treatment facilities determines the wastewater treatment services citizens receive. When developing this plan, we should fulfill our accountability to citizens by considering not only economic factors but also regional characteristics such as water environment conservation, construction feasibility, and the difficulty of securing land.
- To enable early operation of wastewater treatment services, it is important for administrative departments and local governments responsible for wastewater treatment and environmental affairs in partner countries to take the lead and systematically and progressively develop wastewater treatment facilities while considering the status of related infrastructure, such as water supply systems. Furthermore, they should periodically review deployment plans to reflect changes in social conditions.
- The administrative departments responsible for wastewater treatment and environmental affairs in partner countries should share initiatives related to the optimal deployment of wastewater treatment facilities, learn from each other, and develop better approaches.

Minutes of Meeting

Minutes of Meeting - Discussions at the Fourth AWaP General Meeting -

Discussion for Topic 1: Setting and sharing AWaP Policy for mainstreaming wastewater management and finance

Philippines (to Bangladesh): How did Bangladesh almost eradicate open defecation?
Bangladesh: We made steady progress through public awareness campaigns led by the government and partnerships with NGOs and donor agencies. Since a low percentage of individual toilets is connected to sewer pipes, we are currently advancing pipe laying and wastewater treatment plant construction. In the meantime, as on-site sanitation systems are predominantly used in Bangladesh, international partners help us improving fecal sludge management (FSM).

Bangladesh (to Japan): The PTF system constructed in Cambodia only specifies BOD and SS treatment/removal. How do you address the removal of nutrients?
Japan: The PTF was developed to remove BOD and SS. Additional facilities could be installed for nutrient removal.

Discussion for Topic 2: Setting and sharing AWaP policy for optimum wastewater treatment systems

Bangladesh: How are wastewater fees set?
Indonesia: Indonesia aims to collect water and wastewater fees in a single integrated charge and centralize everything under one regulatory body.
Cambodia: In Vietnam, wastewater fees are set at 10% of water fees. Is this tariff not too low?
Vietnam: Our goal is to recover only O&M costs; construction costs are not factored into this tariff.
Japan: In Japan, wastewater fees should cover not only O&M costs, but also the repayment of bonds for construction costs. Each municipal (city/town/village) assembly determines wastewater fees, so fees are not uniform. How much of the costs are covered by wastewater fees varies with municipalities. Mainly due to scale merits, wastewater fees of small municipalities tend to be high and cover only O&M costs. The principle of determining wastewater fees is written in the Sewerage Law.
Philippines (to Japan): Are local governments responsible for sewerage construction and O&M in Japan?
Japan: Yes, they are.

Japan (to Indonesia): Does the Citywide Inclusive Sanitation Project mentioned in Indonesia's report include decentralized systems?
Indonesia: This CWIS project is a centralized processing scheme that includes components such as fee collection and public relations. Decentralized processing is a future consideration.

Cambodia: We find it challenging to implement the AWaP policy in our country. The AWaP policy and our existing national policies need to be aligned, and the AWaP "policy" seems to carry too strong connotations. We propose that the concept of Citywide Inclusive Sanitation" be included in the AWaP policy for optimum wastewater treatment systems.
Bangladesh: How about replacing the term “policy” with a softer word such as "approach"?
Secretariat: We propose adding "adopting the Citywide Inclusive Sanitation (CWIS) approach " to the AWaP policy for optimum wastewater treatment systems and replacing "policy" with "policy approach" in the two AWaP policies.
(Unanimous agreement)

Discussion for Topic 3: Collection of technologies and case studies by each country

Japan: In the future we would like to add technologies for sludge recycling such as fertilizers and solid fuels as sludge from wastewater is a biomass. While sludge can be wastes or resources, its recycling can increase the importance of wastewater management.

Japan: If you have any good examples to share, please inform the secretariat. Good examples can include non-technological solutions.

Meeting Materials

The 4th General Meeting of Asia Wastewater Management Partnership (AWaP)

November 18, 2025

Phnom Penh Cambodia

Secretariat of AWaP

Ministry of Land, Infrastructure, Transport and Tourism (MLIT), Japan

Ministry of the Environment (MOE), Japan

MLIT Ministry of Land, Infrastructure, Transport and Tourism

Ministry of the Environment Government of Japan

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MLIT
Ministry of Land, Infrastructure, Transport and Tourism

Ministry of the Environment
Government of Japan

The 4th General Meeting of the Asia Wastewater Management Partnership (AWaP) Agenda

Date: Tuesday, November 18th, 2025 13:00-17:00(ICT)
Venue: Raffles Hotel Le Royal Phnom Penh
Facilitator: Dr. Pierre FLAMAND

TIME (IST)	ACTIVITY
13:00	**Opening remarks** Mr. Hidenori MATSUBARA Assistant Vice-Minister for Water Supply and Sewerage, Ministry of Land, Infrastructure, Transport and Tourism
13:02	H.E. Ros VANNA Secretary of State, Ministry of Public Works and Transport of Cambodia
13:04	**Introduction of participants** Dr. Pierre FLAMAND Manager, International Affairs, Japan Sanitation Consortium (JSC)
13:09	**Purpose of the meeting** Dr. Taku FUJIWARA Professor of Kyoto University
13:14	**The concept and purpose of the AWaP** Mr. Fumiaki HASEGAWA Director for Overseas Projects of Water Supply and Sewerage. Water Supply and Sewerage Planning Division, Water and Disaster Management Bureau, Ministry of Land, Infrastructure, Transport and Tourism
13:19	**Report from members** Erlynrose Mari S. NAZARENO Engineer III, OIC-Section Chief, National Sewerage and Septage Management Program Section Environmental and Social Safeguards Division, Planning Service Department of Public Works
13:24	Dr. Sandi Eko BRAMONO Head of Subdirectorate of Budget Program Planning, Directorate of Sanitation, Ministry of Public Works

13:29	Pham Ngoc CHINH Officer, Water supply & sewerage management division, Construction Infrastructure Structure Authority, Ministry of Construction
13:34	Muhammad Nurul AMIN Project Director, Chattogram Water Supply and Sewerage Authority
13:39	Mr. Yuta TAKEDA Chief Official for International Plannning, Water Supply and Sewerage Planning Division, Water and Disaster Management Bureau, Ministry of Land, Infrastructure, Transport and Tourism
13:44	Mr. Shinya FUJII JICA Long Term Expart
13:49	H.E. Chao Sopheak PHIBAL Director General, General Directorate of Sewerage and Wastewater Management, Ministry of Public Works and Transport
13:59	**Q&A**
14:14	**Break time**
14:24	**Activities based on 2nd Work Plan**
14:34	**【Topic①】Setting and sharing AWaP policy for mainstreaming wastewater management and finance.** Mr. Fumiaki HASEGAWA Director for Overseas Projects of Water Supply and Sewerage. Water Supply and Sewerage Planning Division, Water and Disaster Management Bureau, Ministry of Land, Infrastructure, Transport and Tourism Mr. Shuichiro NAKAYAMA Chief Official, Office for Promotion of Johkasou, Waste Management Division, Environmental Regeneration and Material Cycles Bureau, Ministry of the Environment
14:54	**Discussion**

15:09 15:24	**【Topic②】Setting and sharing AWaP policy for optimum wastewater treatment systems** Mr. Fumiaki HASEGAWA Director for Overseas Projects of Water Supply and Sewerage. Water Supply and Sewerage Planning Division, Water and Disaster Management Bureau, Ministry of Land, Infrastructure, Transport and Tourism **Discussion**
15:39	**Break time**
15:49 15:54 15:59 16:09	**【Topic③】Collection of technologies and case studies by each country** Mr. Yuta TAKEDA Chief Official for International Planning, Water Supply and Sewerage Planning Division, Water and Disaster Management Bureau, Ministry of Land, Infrastructure, Transport and Tourism **Q&A** **Activity plan for the coming year (Update of the 2nd Work Plan and Future schedule)** Mr. Fumiaki HASEGAWA Director for Overseas Projects of Water Supply and Sewerage, Water Supply and Sewerage Planning Division, Water and Disaster Management Bureau, Ministry of Land, Infrastructure, Transport and Tourism **Q&A**
16:14	**Break time**
16:34	**Chair's Summary** Dr. Taku FUJIWARA Professor of Kyoto University
16:44	**Closing Remarks** Mr. Shuichiro NAKAYAMA Chief Official, Office for Promotion of Johkasou, Waste Management Division, Environmental Regeneration and Material Cycles Bureau, Ministry of the Environment
16:46	**Group Photo**
16:51	**Closing**

List of Participants on The 4th General Meeting of AWaP

Chairman

Dr. Taku FUJIWARA	Kyoto University	Professor

Bangladesh

Md.Abdur Rahman	Local Government Division, Ministry of Local Government, Rural Development and Co-operatives	Deputy Secretary
Muhammad Nurul Amin	Chattogram Water Supply and Sewerage Authority	Project Director

Cambodia

H.E. Ros Vanna	Ministry of Public Works and Transport	Secretary of state
H.E. Samrangdy Namo	Ministry of Public Works and Transport	Under Secretary of State
H.E. Chao Sopheak Phibal	General Directorate of Sewerage and Wastewater Management, Ministry of Public Works and Transport	Director General
Soun Nimol	General Directorate of Sewerage and Wastewater Management, Ministry of Public Works and Transport	Deputy Director General
Vong Daputhea	General Directorate of Sewerage and Wastewater Management, Ministry of Public Works and Transport	Director of General Affair and Information
Heng Phoury	General Directorate of Sewerage and Wastewater Management, Ministry of Public Works and Transport	Director of Sewerage Construction and Maintenance
Chheng Sovanndy	General Directorate of Sewerage and Wastewater Management, Ministry of Public Works and Transport	Chief officer of Technic
Seng Thearith	General Directorate of Sewerage and Wastewater Management, Ministry of Public Works and Transport	Chief Officer of Cooperation
Thuch Samprathna	General Directorate of Sewerage and Wastewater Management, Ministry of Public Works and Transport	Official of General Affair and Information
Nuth Panharith	General Directorate of Sewerage and Wastewater Management, Ministry of Public Works and Transport	Official of General Affair and Information
Heng Thida	General Directorate of Sewerage and Wastewater Management, Ministry of Public Works and Transport	Official of Sewerage Construction and Maintenance

Shinya FUJII	JICA Expert on Sewerage Plannning	JICA Long Term Expert

Indonesia

Sandhi Eko Bramono Ph.D	Ministry of Public Works	Head of Subdirectorate of Budget Program Planning, Directorate of Sanitation
Mohd. Yoza Habibie, S.T., M.T.	Ministry of Public Works	Head of the Building, Infrastructure, and Area Development Agency for West Kalimantan
Naoyuki Hasegawa	JICA Expert (Advisor on Sewerage Management in Ministry of Public Works)	

The Philippines

Alexander-Generoso P. Castro	National Sewerage and Septage Management Program Section, Environmental and Social Safeguards Division, Planning Service, Department of Public Works and Highways	Engineer III
Erlynrose Mari S. Nazareno	National Sewerage and Septage Management Program Section, Environmental and Social Safeguards Division, Planning Service, Department of Public Works and Highways	Engineer III, OIC-Section Chief

Vietnam

Luong Ngoc Khanh	Water supply & sewerage management division, Construction Infrastructure Structure Authority, Ministry of Construction	Deputy Head
Pham Ngoc Chinh	Water supply & sewerage management division, Construction Infrastructure Structure Authority, Ministry of Construction	Officer
Tatsuya SHIBATA	JICA Expert (Sewerage Policy Advisor in Ministry of Construction)	
Dao Nguyen	Assistant to JICA Expert (Sewerage Policy Advisor in Ministry of Construction)	

Japan(Secretariat / Supporting Organization)

Hidenori MATSUBARA	Ministry of Land, Infrastructure, Transport and Tourism	Assistant Vice-Minister for Water Supply and Sewerage
Toshiaki YOSHIDA	Water Supply and Sewerage Planning Division, Water and Disaster Management Bureau, Ministry of Land, Infrastructure, Transport and Tourism	Director, Water Supply and Sewerage International Affairs Office

Fumiaki HASEGAWA	Water Supply and Sewerage Planning Division, Water and Disaster Management Bureau, Ministry of Land, Infrastructure, Transport and Tourism	Director for Overseas Projects of Water Supply and Sewerage
Yuta TAKEDA	Water Supply and Sewerage Planning Division, Water and Disaster Management Bureau, Ministry of Land, Infrastructure, Transport and Tourism	Chief Official for International Planning
Misuzu UEDA	Water Supply and Sewerage Planning Division, Water and Disaster Management Bureau, Ministry of Land, Infrastructure, Transport and Tourism	Official
Shuichiro NAKAYAMA	Office for Promotion of Johkasou, Waste Management Division, Environmental Regeneration and Material Cycles Bureau, Ministry of the Environment	Section Chief of Office for Promotion of Johkasou
Kiichi IKEHARA	Embassy of Japan	First secretary
Akiko MIYASHITA	JICA cambodia office	Senior Representative
Hiroyuki MATSUBARA	international Project Division, Water and Sewer Bureau, City of Kitakyushu	Deputy Director
Dr. Pierre FLAMAND	International Affairs, the Japan Sanitation Consortium (JSC)	Manager
Hiromasa INOKI	Japan Sewage Works Agency	Director General
Ryo MATSUDA	Japan Sewage Works Agency	Project Manager
Kazuko ABE	Japan Sewage Works Agency	Staff
Jun MITSUHORI	MRI Research Associates, Inc.	
Yuri ITO	MRI Research Associates, Inc.	
Nao TAKAYAMA	MRI Research Associates, Inc.	

Ministry of Land, Infrastructure, Transport and Tourism

Ministry of the Environment
Government of Japan

The Fouth General Meeting of Asia Wastewater Management Partnership (AWaP)

Concept Note

1. Background and Objectives

In September 2015, the United Nations Sustainable Development Summit adopted the Sustainable Development Goals (SDGs). SDGs established target 6.3, which aims to halve the proportion of untreated wastewater by 2030, as a target for wastewater management. Six Asian countries launched the Asia Wastewater Management Partnership (AWaP) at the AWaP First General Meeting held on 25th July 2018 in Kitakyushu, Japan, to contribute to achieving this target and the SDGs at large. The first General Meeting agreed that the AWaP would locate its secretariat in Tokyo, Japan, which the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), Japan, and the Ministry of the Environment (MOE), Japan, would jointly operate.

The partner countries have discussed the implementation guidelines and the work plan of AWaP. Based on these guidelines, the partnership is comprised of government officials from partner countries engaged in policy-making for wastewater management and other related fields. At the September 2024 Operations Committee, the joining of two new countries in AWaP was approved.

AWaP has organized regular meetings to share information and discuss solutions for wastewater management. AWaP targets the mainstreaming of wastewater management in each partner country and the satisfaction of all the stakeholders involved in wastewater management. In addition to sharing the information needed for the improvement of wastewater management, AWaP targets the creation of models that can solve the existing challenges in order to promote each country's efforts towards achieving the SDGs' wastewater-related targets by 2030.

2. Contents of the meeting

The 4th General Meeting will focus on information sharing and discussion of topics.

- Report on the AWaP activities from members
- Setting AWaP policy
- Update of 2nd Work Plan

Document 1

The concept and purpose of AWaP and sharing activities based on the 2nd Work Plan

Concept of the Asia Wastewater Management Partnership (AWaP)

SUSTAINABLE DEVELOPMENT GOALS

6 CLEAN WATER AND SANITATION

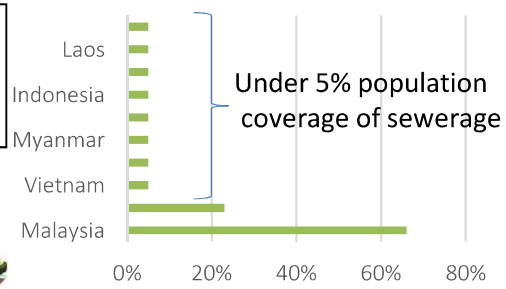
17 inclusive targets by 2030

Target 6.3

"Halving the proportion of untreated wastewater"

GAP

Current Status



Source: WEPA

Gap

Low priority of wastewater management

Lack of knowledge and information

Lack of budget and appropriate technology

Objectives

1 **Raising Awareness on Wastewater Management**

2 **Monitoring of Wastewater Management**

3 **Resolving Common Challenges**

Activities

1.1 Spreading the importance of wastewater management and the outcome of AWaP through international conferences

1.2 Spreading information to promote the understandings of the effectiveness of wastewater management to citizens and officials in partner countries

2.1 Submitting of annual report from partner countries

2.2 Publishing AWaP synthesis report

3.1 Sharing and discussing common challenges

3.2 Conducting co-projects

Example of projects

-Pilot project on new technologies

-Model projects for the introduction of new ideas and technologies

- Project to establish technical/policy guidelines

Organizational Structure of AWaP

Partner Network
WEPA
(Water Environment Partnership in Asia)

Secretariat
(financed by MLIT/MOE Japan)

Supporting Organization

International Organizations
Donor Agencies
JICA (Japan International Cooperation Agency)
UNESCAP (United Nations Economic and Social Commission for Asia and the Pacific)
WHO (World Health Organization)

Expert Organizations
JS (Japan Sewage Works Agency)
JSC (Japan Sanitation Consortium)

Implementation Guidelines of AWaP

■ **Partner countries** are the key members of this partnership and the main constituents.
Roles and responsibilities are:

A) Registering focal points
B) Regular reporting and sharing of information
C) Participating in activities
D) Participating in meetings

■ **Supporting organizations** are to contribute to AWaP's efforts by offering and sharing each organization's resources.

A) International organizations, development assistance organizations
B) Public sector entities
C) Research institutions and universities

Partner countries

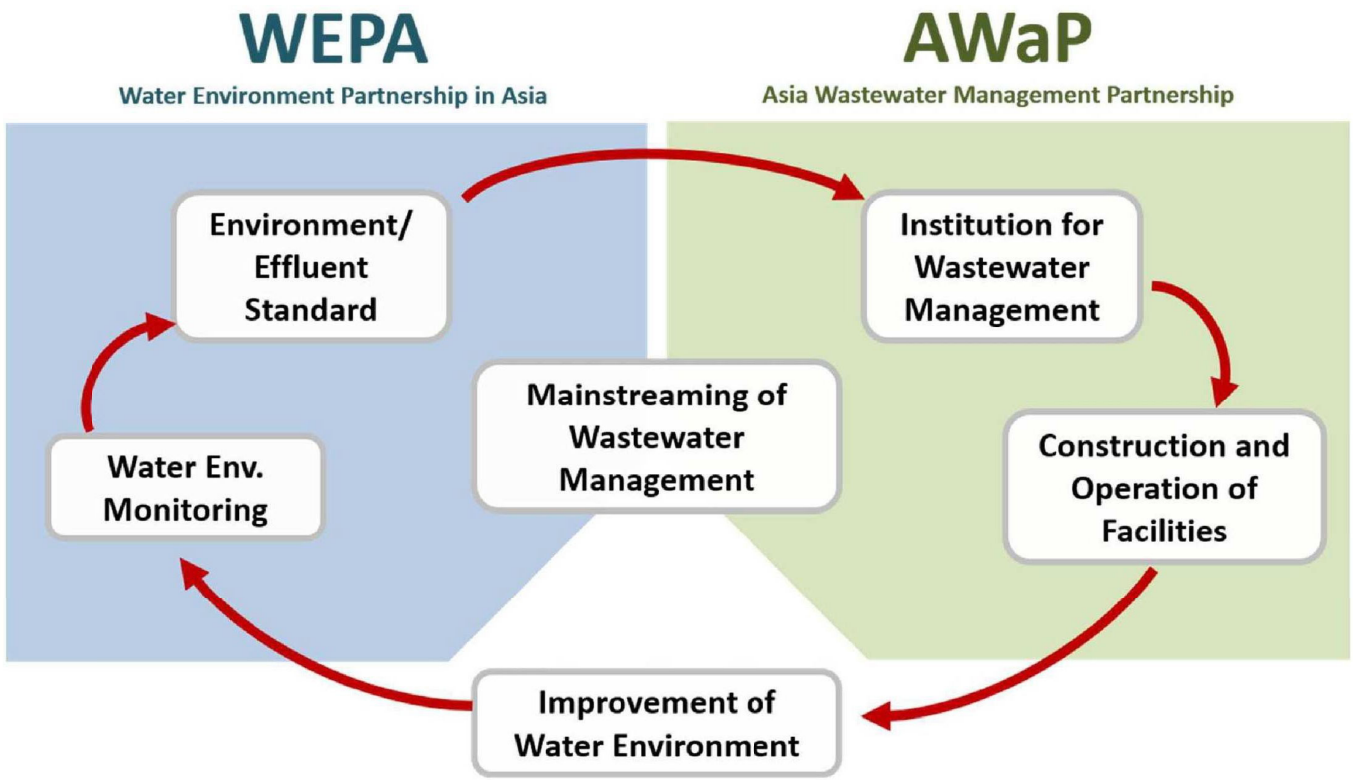
Supporting Organization

International Organizations
Donor Agencies
JICA (Japan International Cooperation Agency)
UNESCAP (United Nations Economic and Social Commission for Asia and the Pacific)
WHO (World Health Organization)

Expert Organizations
JS (Japan Sewage Works Agency)
JSC (Japan Sanitation Consortium)

Close cooperation with Water Environment Partnership in Asia (WEPA)

- The Water Environment Partnership in Asia (WEPA) aims to contribute to improving the water environment by offering the information and knowledge necessary for the enhancement of water environment governance.
- For the mainstreaming of “wastewater management”, **AWaP will implement activities through close cooperation with WEPA.**



Document 2

Report from members

<Session 1> Report from members

Objective 1. Raising Awareness on Wastewater Management

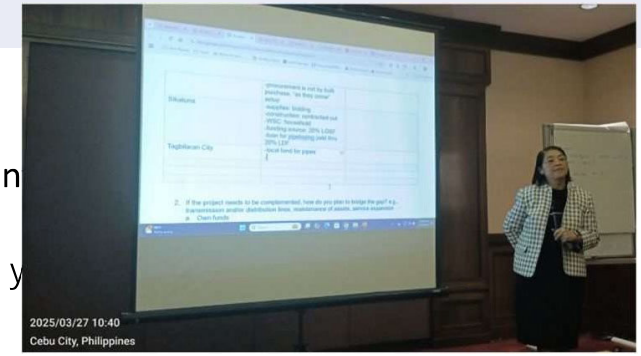
Country: Philippines

Please tell us about your activities based on the 2nd Work Plan (2023-2030), specifically spreading the importance of wastewater management and to promote understanding of wastewater treatment among citizens and government officials. Even if there are no new activities between 2023 and 2025, please describe the content of previous activities.

The 2nd Work Plan	Your activities
1.1 Spreading the importance of wastewater management and the outcome of AWaP through international conferences	Spreading the importance of wastewater management and the outcome of the AWaP through international conferences further supports the ongoing formulation of **the Environmental and Social Management Framework (ESMF) for the Accelerated Water and Sanitation Project in Selected Areas**, a **World Bank**–assisted initiative.
1.2 Spreading information to promote understanding of the effectiveness of wastewater management to citizens and officials in partner countries	Conduct nationwide **Information, Education, and Communication (IEC) activities** in 2026 under **NSSMP Phase II** with **JICA assistance** to raise awareness and improve compliance among **LGUs and Water Districts.** This includes the **review and enhancement of the NSSMP Program Operations Manual (POM)** to simplify procedures and make subsidy implementation more **feasible and accessible** to beneficiaries.

Supplementary information or commen

You can add the slides if y



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Objective 2. Monitoring of Wastewater Management

Country: Philippines

Please tell us the definition of the global indicator for SDG 6.3.1 “Proportion of wastewater safely treated” and the status of achievement in the past 10 years.

- Definition of, or how to calculate, the global indicator for SDG 6.3.1

Proportion of wastewater flows from households that is treated and discharged in compliance with national and local standards (or in the absence of such data, treated by secondary or higher processes). Includes household wastewater transferred through sewers to a wastewater treatment plant (‘treated sewage’), released into an on-site treatment system (‘treated in-situ’) and released into an on-site system for which faecal sludge is emptied and transported to a treatment plant (‘treated from on-site’). – as per WHO

- Status of achievement in the past 10 years

Unit	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
%								67		68

Objective 3. Resolving Common Challenges

Country: _____

Please tell us about challenges and issues, future targets or plans regarding wastewater management. Even if there are no new initiatives between 2023 and 2025, please describe the content of previous laws and general policies.

Challenges and issues/ Laws and general policies	Outline
Low Program Implementation Rate by Local Government Units (LGUs) and Water Districts - Few LGUs have implemented sewerage/septage projects due to limited capacity, low prioritization, and lack of awareness.	Conduct **nationwide IEC and capacity-building (2026)** with **JICA (NSSMP Phase II)**. Provide **technical assistance** for project preparation. **Target:** +10% LGUs with implemented NSSMP projects by **2027**.
Financial Constraints and Limited Access to Funding - High infrastructure cost and 50% local counterpart requirement discourage LGUs.	**Revise NSSMP Operations Manual** – simplify process, allow flexible financing. **Align NSSMP under URAF-WSS** for inclusion in the **FY 2027 national budget**. **Target:** Integrate NSSMP into URAF-WSS by **2026** with **5 pilot LGUs** identified for funding.

Supplementary information or comments:

You can add the slides if you need

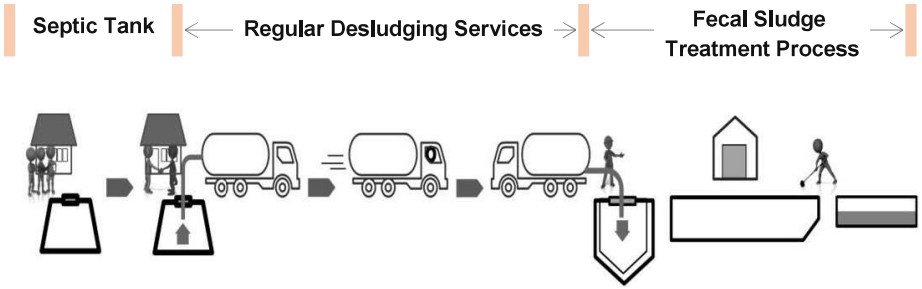
Objective 1. Raising Awareness on Wastewater Management

Country: Indonesia

Please tell us about your activities based on the 2nd Work Plan (2023-2030), specifically spreading the importance of wastewater management and to promote understanding of wastewater treatment among citizens and government officials. Even if there are no new activities between 2023 and 2025, please describe the content of previous activities.

The 2nd Work Plan	Your activities
1.1 Spreading the importance of wastewater management and the outcome of AWaP through international conferences	Participated in the 10th World Water Forum held in Bali, Indonesia (May 20-24, 2024) and delivered a presentation regarding "Strengthening the Role of Water and Sanitation Professionals in Capacity Development for Sustainable and Climate Resilient Wash Service" on the Side Event session. This presentation explained Indonesia's policy on sanitation and the efforts to improve sanitation access through capacity development of sanitation professionals.
1.2 Spreading information to promote understanding of the effectiveness of wastewater management to citizens and officials in partner countries	• Assisting Local Government in managing fecal sludge through implementation of regular desludging; • Assisting Local Government in drafting local regulations on domestic wastewater management; • Assisting Local Government in separating regulator and operator functions through operator formation; and • Socialization about domestic wastewater management through workshops and conferences or being a part of the construction process of WWTP, FSTP construction, and SANIMAS program.

10th WWF Event in Bali, 2024



Regular desludging (scheduled desludging services)

Socialization for SANIMAS Program

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Objective 2. Monitoring of Wastewater Management

Country: Indonesia

Please tell us the definition of the global indicator for SDG 6.3.1 “Proportion of wastewater safely treated” and the status of achievement in the past 10 years.

- Definition of, or how to calculate, the global indicator for SDG 6.3.1

This indicator in Indonesia is defined as safely managed sanitation access which means “the household has its own sanitation facility, with an upper structure consisting of a toilet and siphon trap, and the lower structure equipped with a septic tank which is emptied at least once in the last 5 (five) years and treated in the Fecal Sludge Treatment Plant (FSTP) or the household is connected to a sewerage system”.

This indicator is calculated by dividing the total number of households with access to safely managed sanitation (served by FSTP or WWTP) and the total number of households in Indonesia. The result is presented in percentage and published every year.

- Status of achievement in the past 10 years*

Unit	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
%	67,96	71,78	73,07 (7,39)	74,58 (7,42)	77,44 (7,49)	79,53 (7,64)	80,29 (7,25)	80,92 (10,16)	82,36 (10,21)	83,60 (10,25)

Notes:
* : Data for safely managed sanitation access has only been available since 2017
- Numbers in **blue** are for safely managed access
- Numbers in **black** are for improved sanitation access

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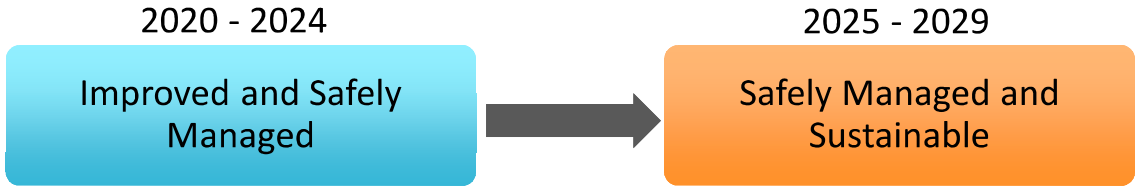
Objective 3. Resolving Common Challenges

Country: Indonesia

Please tell us about challenges and issues, future targets or plans regarding wastewater management. Even if there are no new initiatives between 2023 and 2025, please describe the content of previous laws and general policies.

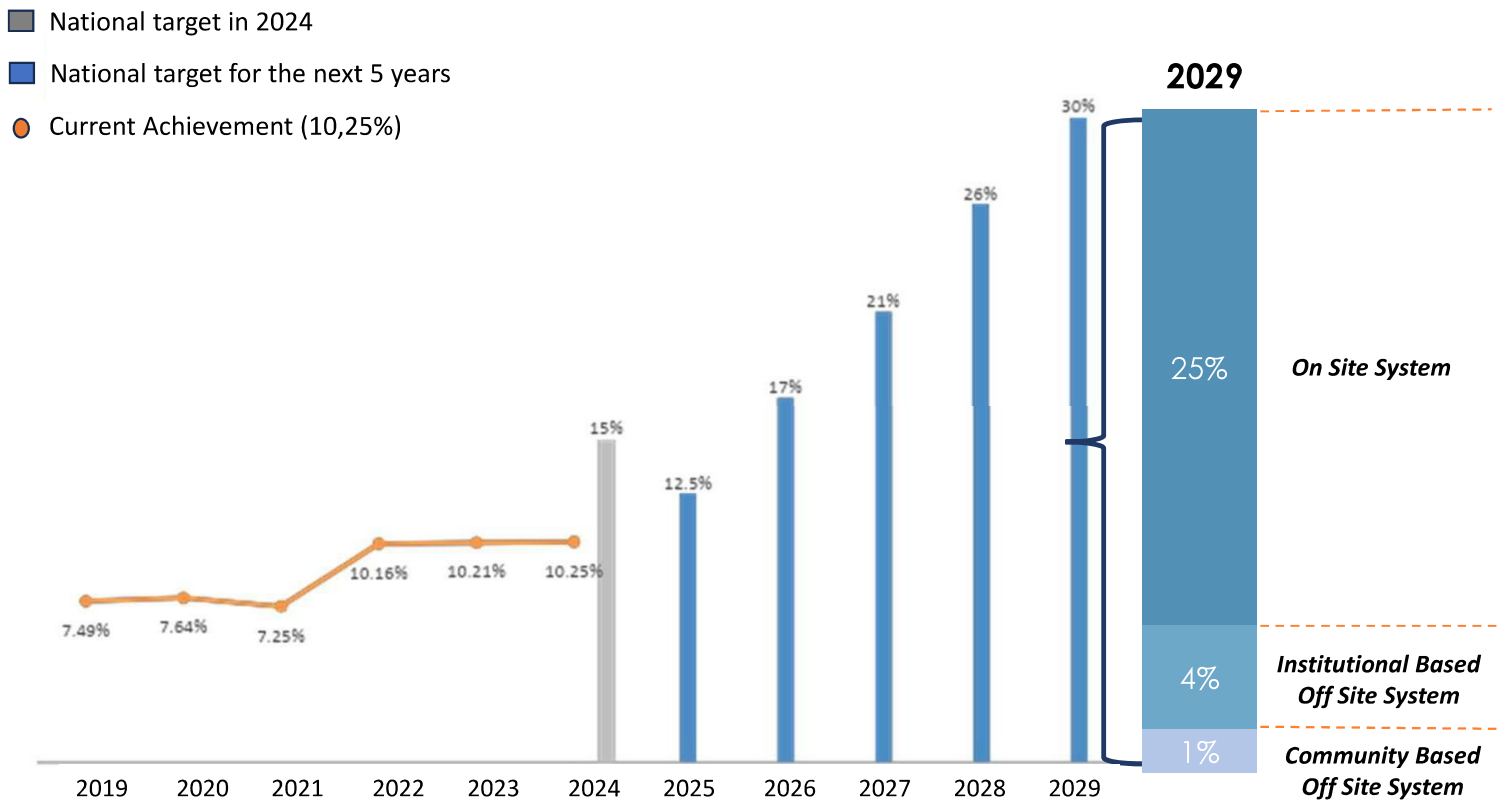
Challenges and issues/ Laws and general policies	Outline
Technical Aspect	Improving service coverage through enhancement of access and quality of domestic wastewater services, optimization of sanitation infrastructure performance, application of appropriate technologies, and strengthening the operation and maintenance system for service reliability.
Policy and Regulation	Ensure the presence of regional policies and regulatory frameworks that facilitate and promote the development and management of domestic wastewater systems.
Institutional Framework	Strengthening institutional capacity by separating the roles of the regulator and the operator, enhancing human resource competence in sanitation management, and developing an integrated sanitation data system.
Financing	Optimization of alternative financing sources through promoting innovative and creative financing mechanisms to support sanitation management, encouraging local governments in accessing alternative financing sources and strengthening their capacity in financing operation and maintenance of sanitation facilities.
Community Participation	Enhancing collaboration and partnership among stakeholders.



Objective 3. Resolving Common Challenges

Country: Indonesia

TARGET FOR 2029: Percentage of households with access to safely managed sanitation → **30%**



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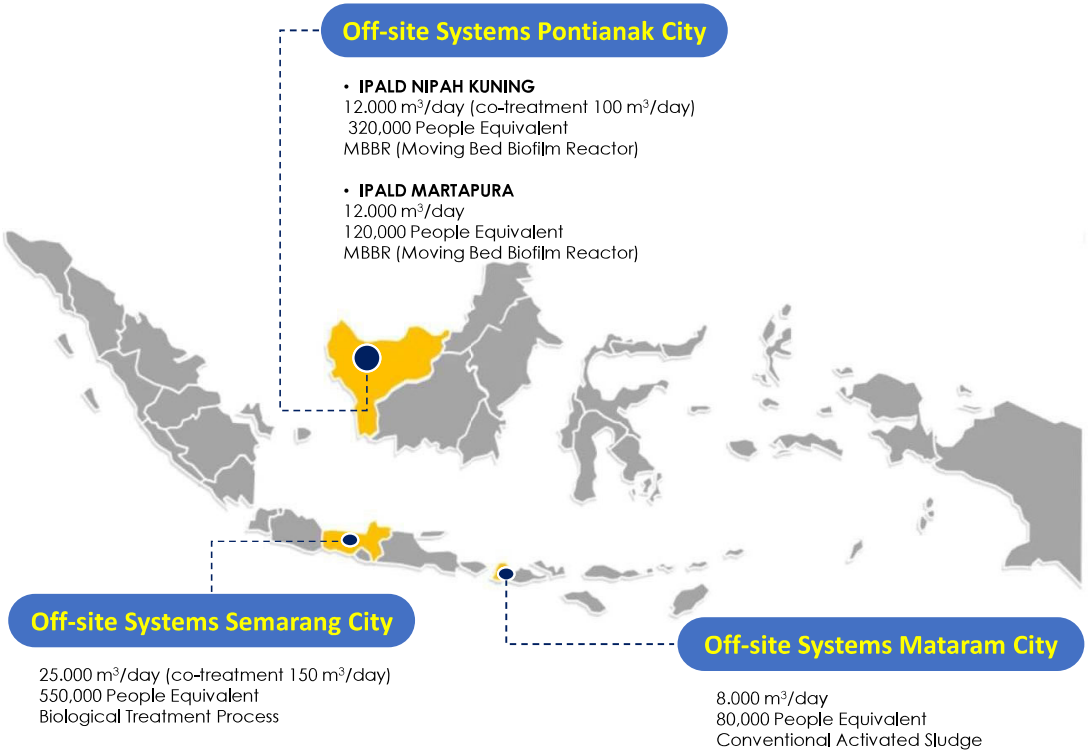
Development of Wastewater Infrastructure

Country: Indonesia



PROJECT OVERVIEW

The Citywide Inclusive Sanitation Project (CISP) is an initiative aimed at enhancing domestic wastewater management services through the establishment of Centralized Domestic Wastewater Management Systems (off-site systems) in three major Indonesian cities: Pontianak, Semarang, and Mataram. This project aims to increase access to climate-resilient, adequate, and safely managed sanitation services through the development of City-Scale Domestic Wastewater Treatment Plants (WWTPs) and their sewerage networks.

PROJECT LOCATIONS

- DKI Jakarta (for the NPMC) and in the cities of Pontianak, Semarang, and Mataram

SCOPE OF WORK

- Construction of city-scale Domestic Wastewater Treatment Plants (WWTPs) equipped with fecal sludge co-treatment facilities;
- Construction of domestic wastewater sewerage networks and their associated components/accessories.

Mataram City

Pontianak City

Semarang City

Development of Wastewater Infrastructure

Country: Indonesia

JSDP ZONE 1

PROJECT OVERVIEW

Jakarta Sewerage Development Project (JSDP) Zone 1 aims to improve the quality of water environments and sanitation access in DKI Jakarta, as well as to support the NCICD program. The Zone 1 Wastewater Treatment Plant (WWTP) will be located in Pluit, North Jakarta, with a treatment capacity of 240,000 m³/day and a total area of 3.9 hectares.

JSDP Zone 1 is targeted to serve three administrative cities — Central Jakarta, West Jakarta, and North Jakarta — covering eight districts, with an estimated service population of 989,389 people or approximately 220,000 household connections (SRs).

PROJECT LOCATIONS

- Zone 1 WWTP Location: Pluit, North Jakarta
- Service Areas: Central Jakarta, West Jakarta, and North Jakarta
- Coverage: Serving 8 districts and 41 sub-districts

SCOPE OF WORK

- Supervision Consultant for the Works Under Jakarta Sewerage Development Project (Zone 1)
- Package 1: Construction of WWTP
- Package 2: Construction of Sewers in Area 1-1
- Package 3: Construction of Sewers in Area 1-2
- Package 4: Construction of Sewers in Pilot Area

JSDP ZONE 6

PROJECT OVERVIEW

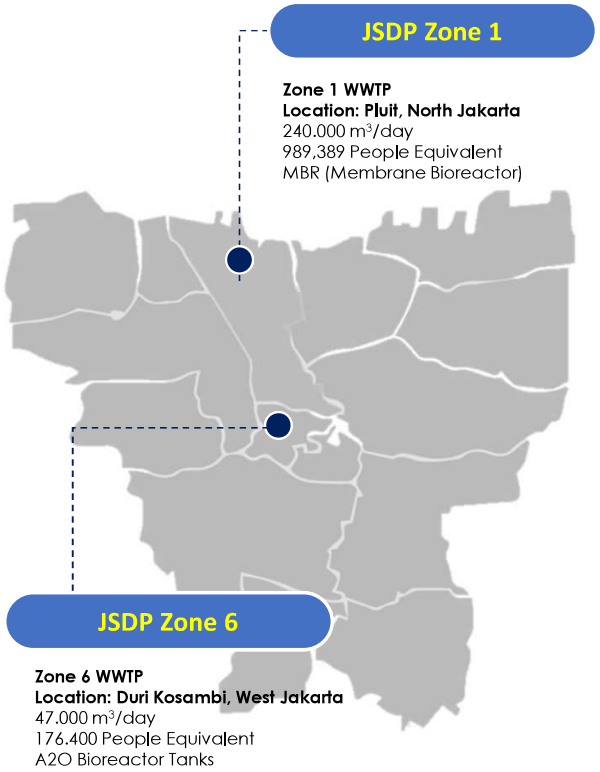
Jakarta Sewerage Development Project (JSDP) Zone 6 (Phase 1) aims to improve the quality of water environments and sanitation access in DKI Jakarta, as well as to support the NCICD program.
The Zone 6 Wastewater Treatment Plant (WWTP) will be located in Duri Kosambi, West Jakarta, with a treatment capacity of 47,000 m³/day and a total area of 7.13 hectares. JSDP Zone 6 (Phase 1) is targeted to serve two administrative cities — Central Jakarta and West Jakarta — covering 11 districts, with an estimated service population of 176,400 people.

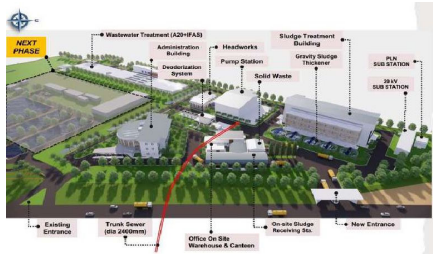
PROJECT LOCATIONS

Zone 6 WWTP Location: Duri Kosambi, West Jakarta

SCOPE OF WORK

- Consulting Services on Design and Supervision Jakarta Sewerage Development Project Zone 6 (Phase 1)
- Package 1: WWTP
- Package 2: Trunk Sewer
- Package 3: Service Pipe, Lateral Pipes and Persil Pipes in Model Area





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MINISTRY OF CONSTRUCTION
CONSTRUCTION INFRASTRUCTURE
STRUCTURE AUTHORITY

Drainage and wastewater treatment activities in Vietnam

"4th General Meeting" of the Asian Wastewater Management Partnership (AWaP)

Phnom Penh – November 2025

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Introductions

"The 4th General Meeting"
Asian Wastewater Management Partnership

PARTICIPANTs:

- Mr. Luong Ngoc Khanh, Deputy Head of Water Supply and Drainage Management Division
- Mr. Pham Ngoc Chinh, Specialist of Water Supply and Drainage Management Division
- Mr. Shibata Tatsuya, Sewerage Policy Advisor/ JICA Expert in MOC Vietnam
- Ms. Nguyen Thi Dao, Assistant to JICA Expert in MOC

MOC Headquater : 80 Tran Hung Dao str, Cua Nam ward , Hanoi , Vietnam.

Mục tiêu

SUSTAINABLE DEVELOPMENT GOALS

17 mục tiêu tổng thể đến năm 2030
Mục tiêu 6.3
"Giảm một nửa tỷ lệ nước thải đô thị chưa qua xử lý "

Vietnam Activities

- Improvement of legal framework and policies related to drainage and wastewater treatment
- Cooperation and Training to improve capacity, legal framework on drainage and wastewater treatment
- Investing in technical infrastructure for wastewater collection and treatment

Improvement/pefection of legal framework related to drainage and wastewater treatment.

This is our main goal to imprve and completion of legal framework for drainage and wastewater treatment in Vietnam

- Decree No. 80/2014/NĐ-CP dated August 6, 2014 of the Government on drainage and wastewater treatment
- Circular No. 04/2015/TT-BXD dated May 3, 2015 of the Ministry of Construction guiding the implementation of some articles of the Decree No. 80/2014/NĐ-CP dated August 6, 2014 of the Government on Drainage and wastewater treatment
- Circular No.13/2018/TT-BXD guiding sewerage service pricing
- Circular No.15/2021/TT-BXD guiding infrastructrure works for drainage and wastewater collection and treatment in urban and rural concentrated residential areas.
- Adjusted Orientation for development of drainage and wastewater treatment in Vietnam urban and industrial areas.
- Draft Law on Water Supply and Sewerage; regulations on strategy, master plan, planning for development of water supply and sewerage; investment projects for construction of water supply and sewerage works

Cooperation and Training for capacity enhancement in legal frameworks of drainage and wastewater treatment.

17th GGMeeting between MOC and MLIT 11/2024

MM signing ceremony between Can Tho Construction Department and Fukuoka City Road and sewerage Department, March 2025

Inauguration ceremony of Yen Xa Wastewater Treatment Plant – August 2025

JICA Training course “ Sewerage Administration” in Kitakiushu - 2023

Investment in construction of technical infrastructure works for wastewater collection and treatment

Up to July 2025, Vietnam have about 83 centralizied wastewater treatment plants in urban areas. The rate of collected and treated wastewater is about 18%, Total design capacity of WWTPs is about 2.064 millions m3/ day , actual capacity rate is about 1.063 millions m3/ day .

The total investment demand for drainage and wastewater treatment projects **by 2030** in centrally run cities and provinces is estimated about 8-10 billions USD. Therefore, investment capital from the Government or from mobilized other capital sources is needed to meet local drainage requirements **.**

Proposals and implementation of activities for Vietnam until 2030

• Conduct researches and evaluate current status of law enforcement in the field of drainage and wastewater treatment	• Development of national regulations (QCVN), and national technical standards (TCVN)	• Conduct surveys to collect , establish sewerage database systems	•Mobilize investment resources and develop drainage works in localities.	• Sharing experiences in management of drainage and wastewater treatment in each member country
Expertly to promulgate the Law on water supply and sewerage in 2027 (delayed as planned - 2025)	Review, revise and promulgate regulations and standards to ensure the appropriateness with Vietnam conditions.	Operate and exploit database portal of water supply and sewerage by 2026	Strengthen the cooperation between MOC and MLIT, bilateral cooperation between localities of Vietnam and Japan	Regularly share best practices among AWaP member countries

THANK YOU FOR YOUR ATTENTION!

Country Presentation of Bangladesh

18 November, 2025

Phnom Penh, Cambodia

Representation by:	**Md. Abdur Rahman**	**Deputy Secretary, Local Government Division.**
	Muhammad Nurul Amin	**Project Director, Chattogram WASA.**

Objective 1. Raising Awareness on Wastewater Management

Country: Bangladesh

Spreading the importance of wastewater management and to promote understanding of wastewater treatment among citizens and government officials.

Initiatives to promote hygiene in Bangladesh- To promote water supply, sanitation and hygiene activities, various programs are being organized through the joint initiative of national, international, and non-governmental organizations, including celebrations of the following national and international days and months:

- World Water Day (WWD): 22 March
- Menstrual-Hygiene Day (MHD): 28 May
- National Sanitation Month: October
- Global Hand Washing Day (GHD): 15 October
- World Toilet Day (WTD): 19 November
- Hand Hygiene for All (HH4A)
- South Asian Conference on Sanitation (SACOSAN)


HERKANDI SEWAGE TREATMENT PLANT
WASA
Dasherkandi Sewage Treatment Plant
STUDY TOUR 2025-26
BOYS' SECTION

Country: Bangladesh

Objective 2. Monitoring of Wastewater Management

The definition of the global indicator for SDG 6.3.1 “Proportion of wastewater safely treated” and the status of achievement in the past 10 years.

➢ Definition of, or how to calculate, the global indicator for SDG 6.3.1

This indicator indicates the diffusion rate of wastewater treatment facilities. The indicator is calculated by dividing the total number of people using wastewater treatment facilities such as sewage systems, rural community sewerage facilities, by the total population, and expressing the result as a percentage.

➢ Status of achievement in the past 10 years

Unit	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
%										

- Over the last 10 years, Bangladesh has focused on reducing open defecation and improving basic sanitation, achieving significant progress with the help of NGOs and the government. However, the development of centralized sewerage infrastructure remains low, and efforts have shifted towards more robust, "safely managed" systems that include the treatment of bath wastewater and fecal sludge.

- Reduced open defecation: Building on earlier efforts, the country has achieved near-elimination of open defecation, with coverage reaching approximately 99% by 2020.
- Increased basic coverage: The percentage of the population using at least basic sanitation services-facilities that are not shared with other households-rose to **59.3% by 2022.**
- Fecal sludge management (FSM): Recognizing that most of the population relies on on-site sanitation like septic tanks, there is a growing focus on the transport and treatment of fecal sludge. International partners and the government have launched pilot projects and drafted regulatory frameworks to improve FSM services.

Objective 3. Resolving Common Challenges

Country: Bangladesh

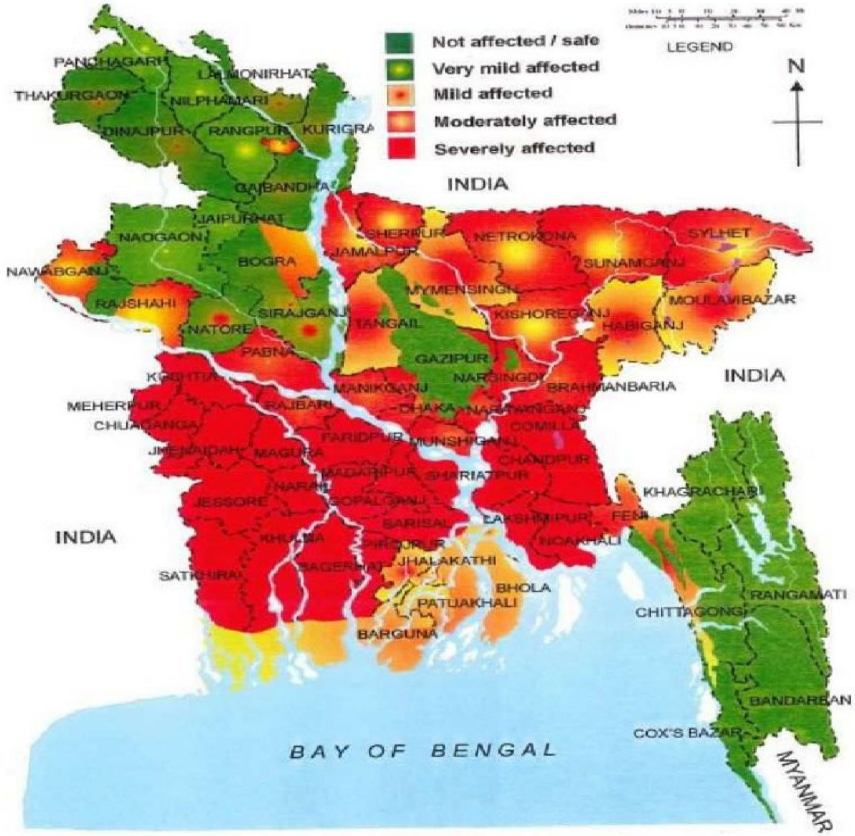
Challenges and issues, future targets or plans regarding wastewater management.

Challenges and issues/ Laws and general policies	Outline
Wide spread pollution	Untreated fecal sludge and wastewater, along with solid waste, have historically been discharged into the city's surface drains and the River, causing significant environmental and public health hazards.
Groundwater contamination	The city's high groundwater table and permeable soil make it highly susceptible to contamination from poor on-site sanitation, a major risk to drinking water sources.
Water logging	Obstructed drainage canals, due to pollution and encroachment, cause frequent and prolonged waterlogging, especially during the monsoon season.
Non-sewered sanitation	Many residents, particularly in low-income areas, use unimproved latrines, posing significant health risks.

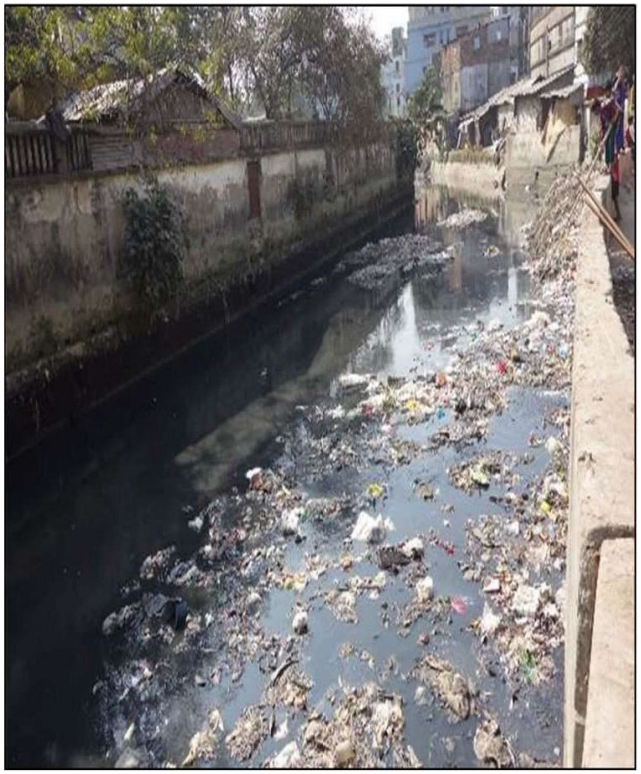
Challenges and issues/ Laws and general policies	Outline
Low-income communities:	Connecting informal settlements poses a challenge due to unclear land tenure and narrow lanes.
Institutional issues:	Projects have faced delays due to lack of funding and coordination problems between government agencies.
Inadequate infrastructure and resources:	Many areas, particularly peri-urban and rural ones, lack the necessary collection networks and treatment plants due to limited financial resources.
Climate vulnerability:	Increased flooding and rising sea levels affect sanitation facilities, particularly in coastal areas.
On-site sanitation:	While decentralized systems are common, the high population density in cities limits their effectiveness and can lead to groundwater contamination.

Wide Spread Pollution

Groundwater Contamination



Existing Situation of Sanitation



Non-Sewered Sanitation

Water Logging

Future Targets or Plans

- Sewerage Master Plan of two major cities like Dhaka and Chattogram completed.
- Establishing Large Scale Sewerage Treatment Plants and expanding of STP is under Construction in the major three cities like Dhaka, Chattogram and Khulna aiming under sewerage coverage by 2035.
- Construction of collection network is going on.

Dasherkandi Sewage Treatment Plant, Dhaka

Chattogram Sewage Treatment Plant

THANK YOU

Objective 1. Raising Awareness on Wastewater Management

Country: Japan

Please tell us about your activities based on the 2nd Work Plan (2023-2030), specifically spreading the importance of wastewater management and to promote understanding of wastewater treatment among citizens and government officials. Even if there are no new activities between 2023 and 2025, please describe the content of previous activities.

The 2nd Work Plan	Your activities
1.1 Spreading the importance of wastewater management and the outcome of AWaP through international conferences	• Participated in the 10th World Water Forum held in Bali, Indonesia (May 20-24, 2024): In the regional session (Asia-Pacific region) under the theme of "Smart Water Management for Resilience and Inclusive Water Services," MLIT presented Japan's efforts in the sewerage sector (flood prevention measures, fertilizer use, etc.) and introduced AWaP's collaboration.
1.2 Spreading information to promote understanding of the effectiveness of wastewater management to citizens and officials in partner countries	• Various activities for “Sewerage Day” the 10th of September: A commemorative day established in Japan to recognize the importance of sewerage and promote awareness of their significance. For this day in every year, local governments, etc. conducted various activities, e.g., wastewater treatment plants tours, PR posters display, to deepen understanding of the roles and benefits of sewer systems. • Creative manhole covers with regional designs: Local governments installed original manhole covers reflect the unique traits of the area, fostering a sense of pride among citizens regarding their sewerage. Also, local governments published and distributed manhole collection cards featuring creative manhole covers.

The 10th World Water Forum in 2024

PR Posters for “Sewerage Day” in 2025

Creative manhole covers of EXPO 2025 Osaka

Manhole collection cards published in April 2025

Objective 2. Monitoring of Wastewater Management

Country: Japan

Please tell us the definition of the global indicator for SDG 6.3.1 and the status of achievement in the past 10 years.

- Definition of, or how to calculate, the global indicator for SDG 6.3.1 “Proportion of wastewater safely treated”

This indicator indicates the diffusion rate of wastewater treatment facilities. The indicator is calculated by dividing the total number of people using wastewater treatment facilities such as sewage systems, rural community sewerage facilities, and Johkasou (Japan’s standard onsite wastewater treatment systems) by the total population, and expressing the result as a percentage.

- Status of achievement in the past 10 years

Unit	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
%	89.9	90.4	90.9	91.4	91.7	92.1	92.6	92.9	93.3	93.7

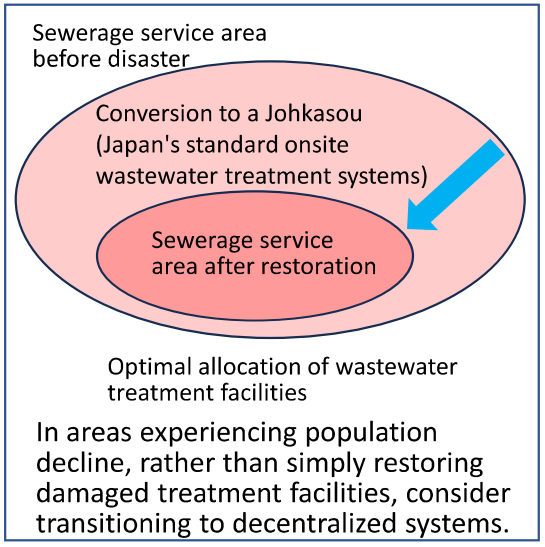
Objective 3. Resolving Common Challenges

Country: Japan

Please tell us about challenges and issues, future targets or plans regarding wastewater management. Even if there are no new initiatives between 2023 and 2025, please describe the content of previous laws and general policies.

Challenges and issues/ Laws and general policies	Outline
Optimal wastewater method	➢ Optimal wastewater system in areas experiencing population decline. ➢ Optimization in areas severely damaged by disasters, where community rebuilding accompanies rehabilitation efforts
Financial issue (Aging facilities)	➢ As the population declines, revenue from usage charge is decreasing, and measures to address the aging of facilities have also become an urgent issue. ➢ Strengthening the management foundation is necessary to steadily implement measures against aging facilities.

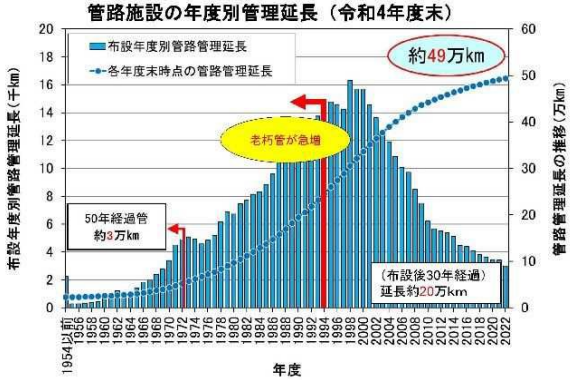
Severe damage to the sewer network caused by 2024 NOTO Earthquake



Optimal allocation of wastewater treatment facilities

In areas experiencing population decline, rather than simply restoring damaged treatment facilities, consider transitioning to decentralized systems.

Large-scale collapse of sewer in Saitama Prefecture in January 2025



Addressing aging infrastructure requires significant costs.

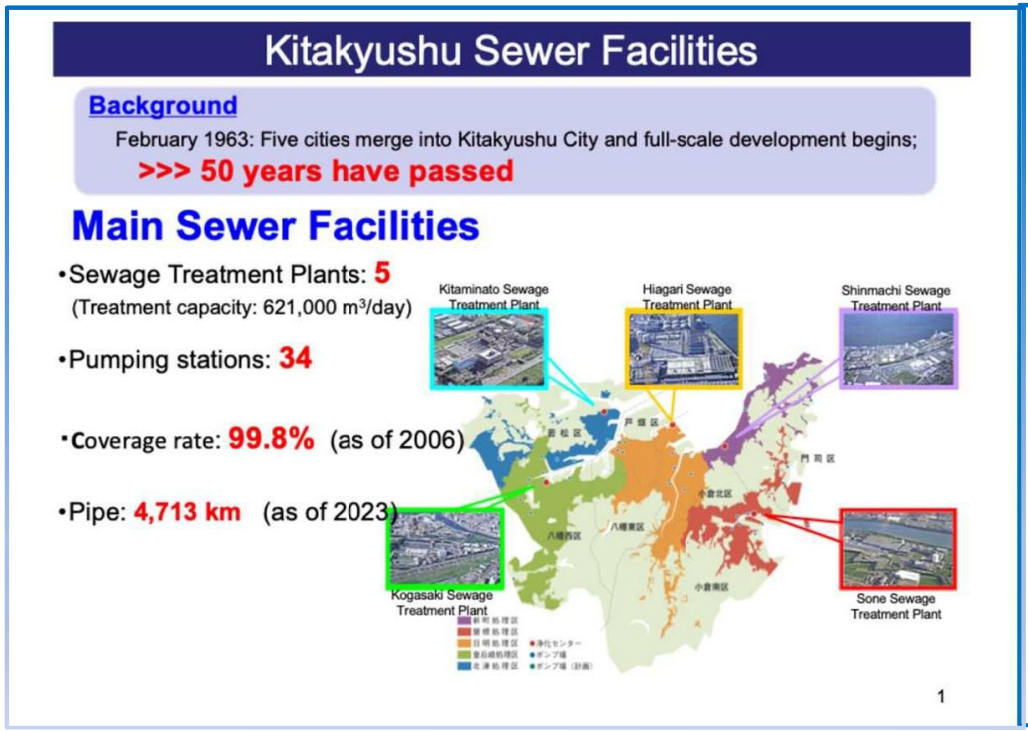
800 billion JPY (2018)

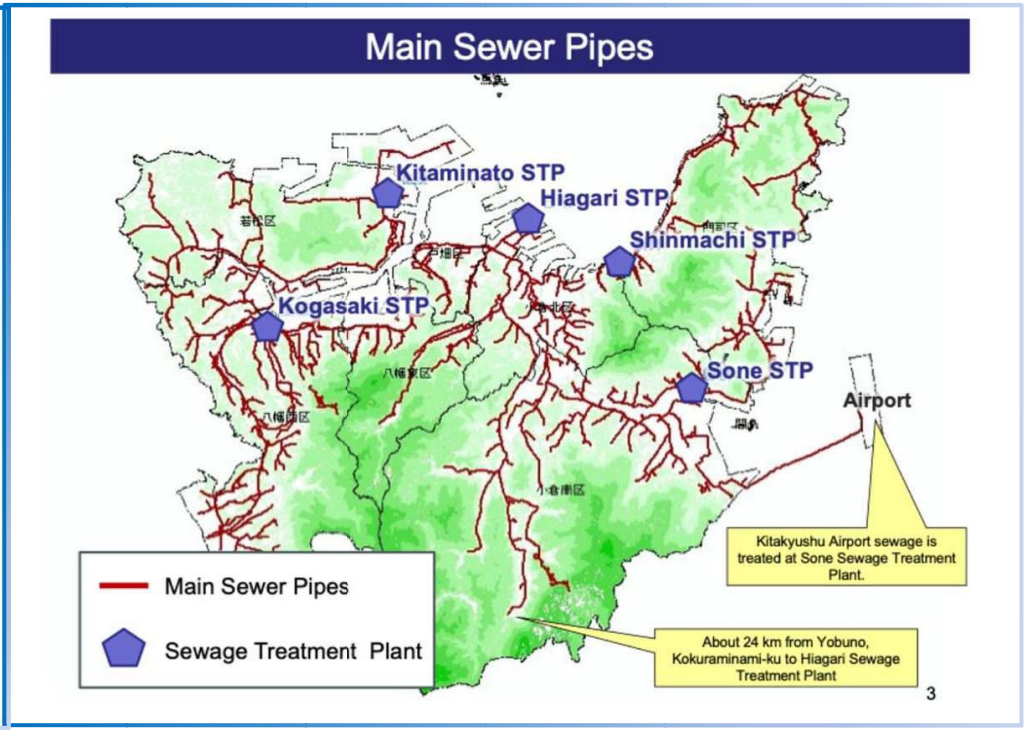
1,300 billion JPY (2048)

Estimated maintenance and renewal costs for sewerage facilities

Efforts to Expand Sewerage Systems in Kitakyushu City and International Cooperation Activities

JICA Long Term Expert Shinya fujii Tuesday, 18 November 2025





In 2006, the sewage treatment coverage rate reached 99.8%, and sewage infrastructure development was largely completed.

40

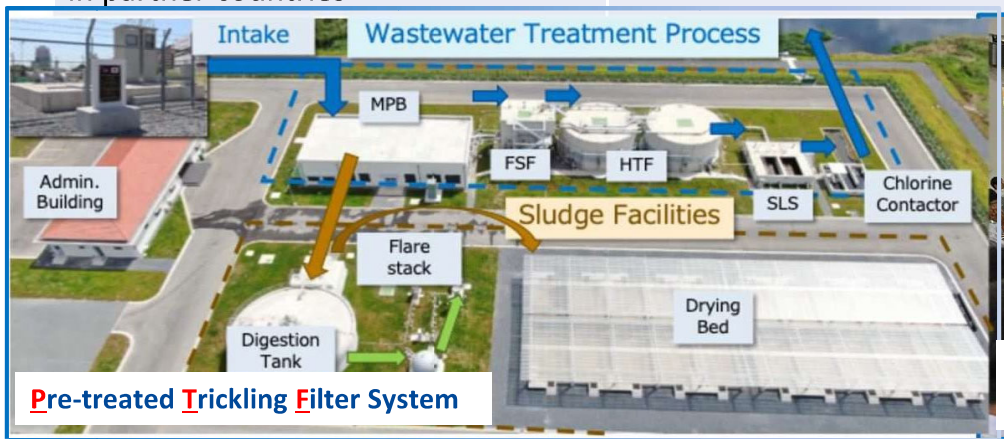
primary school
primary school

1 Overseas cooperation activities

Country:Kitakyushu City, Japan.

- Kitakyushu City's overseas cooperation activities, specifically the activities under the second Awap work plan period (2023-2030) in Cambodia where JICA long-term experts are dispatched, particularly regard.

The 2nd Work Plan	Your activities
1.1 The Importance of Sewage Management in Cambodia and the Purpose of Dispatching JICA Long-Term Experts.	(Background) Phnom Penh's first wastewater treatment plant was completed and began operations in 2023. However, the technical skills and knowledge of staff involved in overall sewerage management remain insufficient. This necessitates capacity building for personnel responsible for the plant's operation and maintenance, as well as the formulation of operational plans (the "Medium-to-Long-Term Operational Plan") to support wastewater management operations. (Purpose) To conduct activities aimed at strengthening the capacity of relevant agencies within the Ministry of Public Works and Transport (MPWT) and the Department of Public Works and Transport (DPWT).
1.2 Spreading information to promote understanding of the effectiveness of wastewater management to citizens and officials in partner countries	The project has established a basic policy for public awareness activity from a medium- to long-term perspective, and is creating a system for carrying out sustainable and self-driven awareness-raising activities. We have strengthened the relation with schools and conducting awareness-raising activities in high schools. We have proposed to the establishment of Sewerage Day to the government in order to raise public awareness of sewerage issues and to carry out effective and intensive educational activities.



Pre-treated Trickling Filter System


Public Awareness at a high school in Phnom Penh.


Public Awareness at a primary school in Kitakyushu city.

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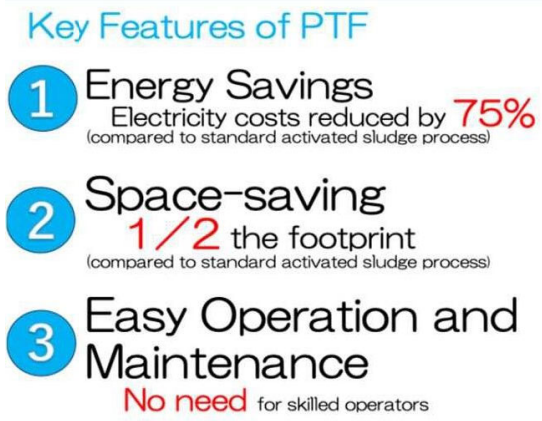
2. Challenges in Phnom Penh, Cambodia and Their Solutions

Country:Kitakyushu City, Japan.

Support for Formulating a “Medium-to-Long-Term Business Operation Plan” at the Phnom Penh Treatment Plant: Challenges Regarding Plant Expansion.

Challenges and issues/ Laws and general policies	Outline
2.1 Compliance with Cambodia's Domestic Wastewater Quality Standards.	The Cheng Ek Treatment Plant, now operational, was constructed with a capacity of 5,000 m³/day using Japan's unique PTF (Pre-treated Trickling Filter System) technology, funded by Japan's grant aid. This primarily targets BOD and SS. To also meet water quality standards for nitrogen, phosphorus, and other pollutants, so-called advanced treatment becomes necessary. This requires additional costs, larger treatment plant areas, and more complex operations, posing challenges that delay expansion and improvement.
2.2 Selection of Processing Methods for Expansion	The above PTF offers three major benefits: energy savings, space efficiency, and ease of operation and maintenance. It reduces electricity costs and allows for effective land use in urbanized Phnom Penh. Considering the ease of training local staff in operation and water quality management, future treatment methods must be developed in collaboration with our counterpart.Concurrently, we aim to provide “high-quality sewerage services at affordable rates commensurate with residents' economic capacity,” as desired by the government. Therefore, we strive for sustainable wastewater management that reflects cost recovery.



Meeting with MPWT

Country:Kitakyushu City, Japan.

3 Current Initiatives and Future Directions

(Current Initiatives) We are comparing and evaluating treatment methods based on existing infrastructure and approaches that meet water quality standards. This includes consideration of fees borne by residents. To gain residents' understanding regarding these fees, we are working to establish a basic policy for public awareness campaigns.

(Going forward)In the medium term, we aim to promote processing methods that can be swiftly implemented and easily operated. In the long term, we will provide planning support to our counterpart to achieve the ultimate form of a processing facility suitable for Phnom Penh.

First Joint Coordination Committee (JCC) Meeting

Thank you for your attention.

KINGDOM OF CAMBODIA

NATION RELIGION KING

Ministry of Public Works and Transport

General Department of Sewerage and Wastewater Management

The 4th General Meeting of Asia Wastewater Management Partnership (AWaP)

Presented by: CHAO Sopheak Phibal

General Director of the General Department of Sewerage and Wastewater Management

Tuesday November 18th, 2025

Contents

Objective 1: Raising Awareness on Wastewater Management

Objective 2: Monitoring of Wastewater Management

Objective 3: Resolving Common Challenges

Objective 1: Raising Awareness on Wastewater Management

The 2nd Work Plan	Activities
1.1. Spreading the importance of wastewater management and the outcome of AWaP through international conferences	▪ Attended the 16th International Infrastructure Investment and Construction Forum and Exhibition (16th IIICF) in Macao SAR, China, in June 2025. ▪ Attended the ADB Water and Urban Development Forum 2025 in May 2025 in Manila, Philippines. ▪ Knowledge Exchange Partnership Program on Modern Urban Wastewater Service in Australia, November 2024. ▪ The 5th Operations Committee of Asia Wastewater Management Partnership (AWaP), Tokyo, Japan, September 2024. ▪ Global Green Hub Korea 2024, in Busan, Republic of Korea, September 2025. ▪ Singapore International Water Week, Singapore, April 2024.
1.2. Spreading information to promote understanding of the effectiveness of wastewater management to citizens and officials in partner countries	▪ Awareness raising and behavior change communication (BCC), Oct 2025. ▪ 6th Biliteral meeting on technical cooperation on sewerage works (MLIT-MPWT), July 2024. ▪ National Dissemination Workshop on technical standard and guideline on sewerage system, Nov 2024. ▪ 1st JCC on project for capacity development for sewerage management (JICA-MPWT), Dec 2024. ▪ Short video clip on social media for people's awareness of the household connection in Siem Reap, WaSSIP. ▪ 5th Sub Technical working group of Sewerage work on Urban Wastewater and Sanitation meeting in July 2025.

Objective 1: Raising Awareness on Wastewater Management (Cont.)

Activities of Raising Awareness of Wastewater Management at National and International Levels

Objective 1: Raising Awareness on Wastewater Management (Cont.)

Activities of Raising Awareness of Wastewater Management at Public and Sub-National Levels

Provincial level workshops in Siem Reap and Battambang

Objective: to validate the proposed sanitation Behavior Change Communication (BCC) strategy and communication tools

BCC Campaign

Objective:

1. To increase community and public awareness of the importance of effective wastewater management.

2. To facilitate the engagement of community members with sanitation service providers, government projects, and non-governmental organizations, thereby bridging the gap between public demand and available household services.

Capacity building to sub-national authorities

Objective:

1. To provide practical knowledge on sanitation systems, sanitation services in their cities and sanitation rules and regulations.

2. To build their communication skills (BCC and Social marketing) for facilitate citizen engagement and and service uptake.

BCC Tools

Objective 2: Monitoring of Wastewater Management

- The indicator measures the **percentage of wastewater safely treated according to national standards** out of the **total wastewater generated** in the country.
- It reflects Cambodia's progress toward **SDG 6.3** on improving water quality and reducing pollution, based on data from the **Ministry of Planning (MoP)**, **MPWT**, and **MoE**.
- SDG 6.3.1 (%)$=\frac{\text{Volume of wastewater safely treated (meeting national standards)}}{\text{Total volume of wastewater generated}}$

Table: Status of Achievement in the past 10 years (Source: CSDGs 2016-2023)

	Indicator	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Targets 6.3 By 2023, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.	*6.3.1. Proportion of wastewater (Industrial Wastewater) Safely treated (based on national standard).*	12%	15%	19%	19%	23%	25%	25%	29%	33%	37%
	6.3.2. Proportion of wastewater (from capital city, Municipalities, and urban areas) Safely treated (based on national standard).	12%	15%	19%	19%	23%	25%	25%	25%	27%	30%

Objective 3: Resolving Common Challenges

Policy & Regulation

- Many policy and regulatory frameworks are still in the process of formulation and approval.
- The national tariff regulation and cost-recovery policy for wastewater services have not yet been finalized.

Planning

- Limited land for WWTP and sewerage development.
- Rapid urban and industrial growth increasing infrastructure demand.

Funding

- Insufficient funding and high reliance on donors.
- No sustainable cost-recovery mechanism.
- Limited private-sector investment in wastewater.

Public Awareness

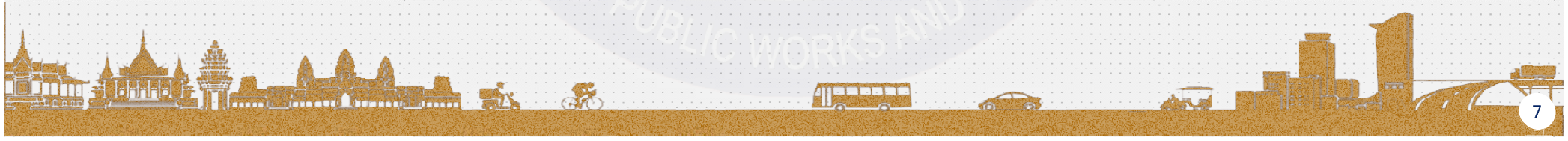
- Limited public understanding of the environmental impacts caused by the discharge of untreated wastewater.
- Reluctance among households to connect to the sewerage system.

HR Capital

- Shortage of technical staff, engineers and trained operators.
- Limited training and technical capacity.

Institutional

- Fragmented institutional responsibilities across multiple ministries.
- Limited data sharing.



Objective 3: Resolving Common Challenges (Cont.)

Public Consultation &Awareness

Issue/Challenges

Blockage of Sewer pipe

Direct discharge to water source

Rapid Urbanization

Thank You

For Your Attention

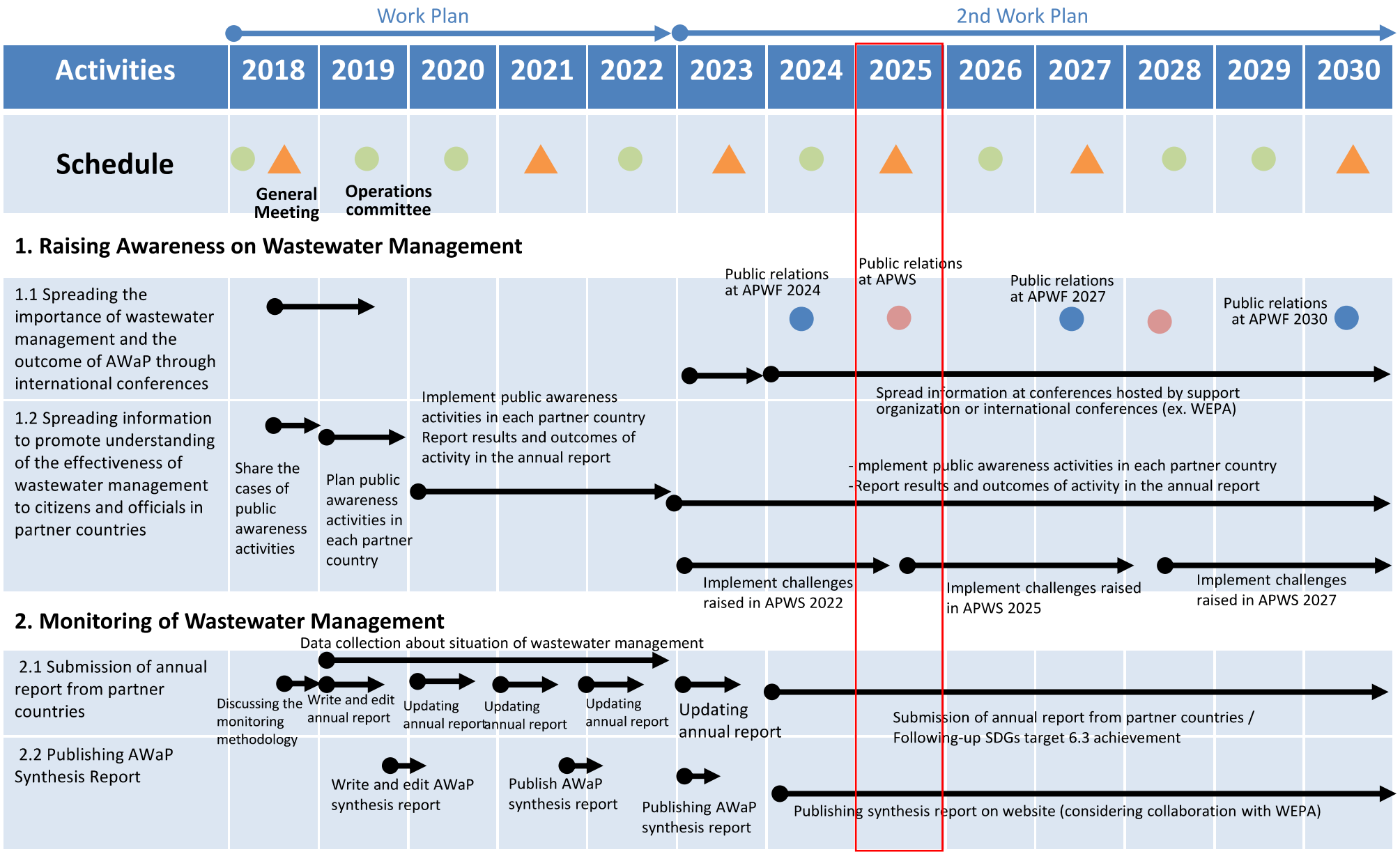
Document 3

Activities based on the 2nd Work Plan

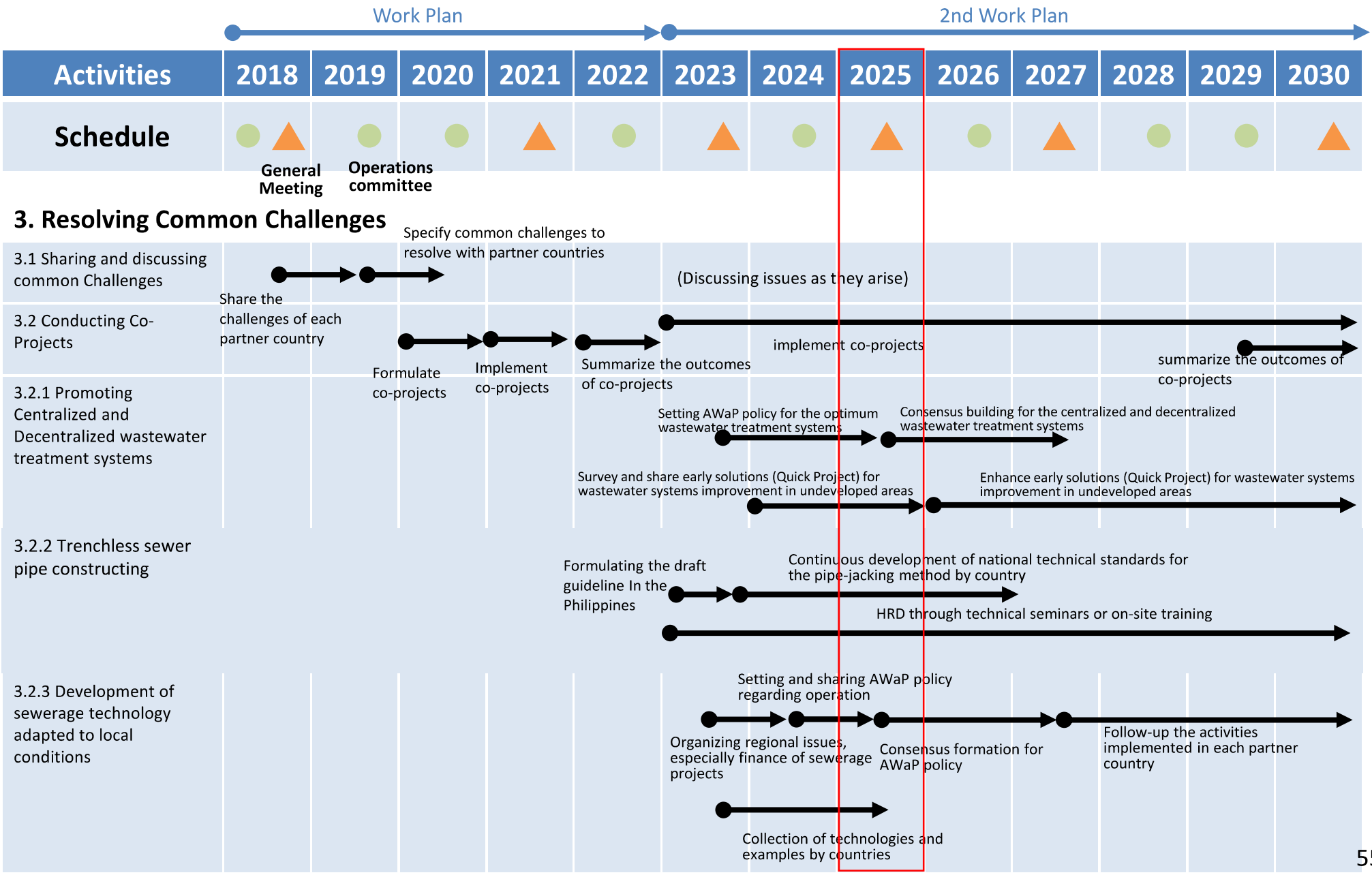
<Session 2> Activities based on the 2nd Work Plan

Reporting of the 2nd Work Plan from 2023 to 2025

Activities based on the Work Plan



The 2nd Work Plan for 2030



Past activities of AWaP

The 1st General Meeting (July 25,2018, Kitakyushu City)

- The participants agreed to continue the discussion among partner countries and concerned organizations for the implementation of **the 1st work plan for five years** (until 2023), which consists of three activities.
  - **①Raising Awareness on Wastewater Management**
  - **②Monitoring of Wastewater Management**
  - **③Resolving Common Challenges**
- The participants confirmed their intention to actively engage in the activities of AWaP based on the work plan.

group photo

The 2nd General Meeting (August 18,2021, online)

- **Three solutions to common challenges were agreed upon**.
  - **① Improving the sewer system by combining centralized and decentralized wastewater treatment systems**
  - **② Sewer pipe laying using the Trenchless Sewer Pipe Construction Method (trenchless method)**
  - **③ Development of sewerage technologies adapted to local conditions**
- Partner countries shared their activities and challenges.

group photo

Past activities of AWaP

The 3rd General Meeting (August 1, 2023, Sapporo City)

- **Reviewed the 1st Work Plan activities**
- **Compiled the 2nd Work Plan** to achieve SDG wastewater-related targets by addressing common wastewater management issues.

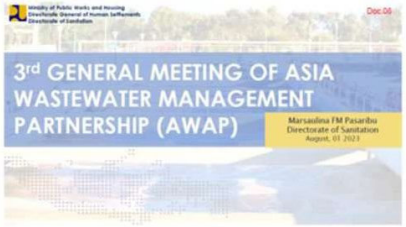
Cambodia

Cambodia's progress report

Mr. Chao S. Phibal

Scenes of the 3rd General Meeting

Indonesia



Indonesia's progress report

Ms. Marsaulina Farida Masniari Pasaribu

Philippines

Phlippines's progress report

Mr. Michael T. Alpasan

Japan

Japan's progress report

Mr. Shu Nish

Vietnam

Vietnam's progress report

Mr. Luong Ngoc Khanh

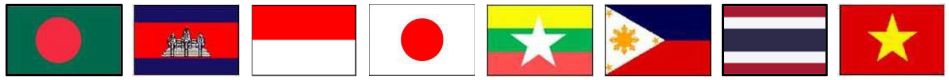
Past activities of AWaP

The 5th Operations Committee (September 24, 2024, Tokyo)

- Approved the admission of two new partner countries, Bangladesh and Thailand
- Information sharing and opinion exchange based on the Second Work Plan agreed upon at the 2023 General Meeting.
  - Topic 1: The AWaP policy for optimal wastewater treatment systems
  - Topic 2: Organizing regional issues, especially the finance of sewerage projects
  - Topic 3: Collection of technologies and examples by countries
  - Topic 4: Setting AWaP indicators for wastewater treatment

group photo

The 2nd Work Plan for 2030



Activities	2023	2024	2025	2026	2027	2028	2029	2030
Schedules	▲ General Meeting	● Operations committee	▲	●	▲	●	●	▲

1. Raising Awareness on Wastewater Management

1.1 Spreading the importance of wastewater management and the outcome of AWaP through international conferences	Public relations at WWF 2024 ●		● Public relations at APWS		● Public relations at APWF 2027	●		● Public relations at APWF 2030
	Spread information at conferences hosted by support organization or international conferences (ex. WEPA) →							
1.2 Spreading information to promote understanding of the effectiveness of wastewater management to citizens and officials in partner countries	-Implement public awareness activities in each partner country (ex. Expansion of KIZUNA Festival (Cambodia), IECs (Philippines), Training Courses (Vietnam) to other AWaP country) -Report results and outcomes of activity in the annual report →							
	Implement challenges raised in APWS 2022 →		Implement challenges raised in APWS 2025 →		Implement challenges raised in APWS 2027 →			

2. Monitoring of Wastewater Management

2.1 Submission of annual report from partner countries	Updating annual report →	Submission of annual report from partner countries / Following-up SDGs target 6.3 achievement →						
2.2 Publishing AWaP Synthesis Report	Publishing AWaP synthesis report →	Publishing synthesis report on website (considering collaboration with WEPA) →						

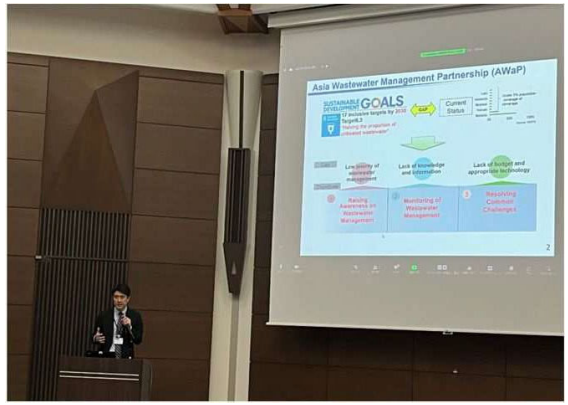
Raising Awareness on Wastewater Management

1.1 Spreading the importance of wastewater management and the outcome of AWaP through international conferences

- Participated at **the 10th World Water Forum (WWF10)** held in Bali, Indonesia (May 20-24, 2024)
- In one of the regional sessions (Asia-Pacific region) under **the theme of "Smart Water Management for Resilience and Inclusive Water Services,"** MLIT presented Japan's efforts in the sewerage sector (**flood prevention measures, fertilizer use, etc.**), and introduced the **AWaP network and activities**.

Other

- Participated at **The 19th WEPA Annual Meeting and International Workshop** held in Hayama, Japan (Jan 30 - Feb 1, 2024)
- In the **International Workshop,** MLIT introduced the initiatives of AWaP.



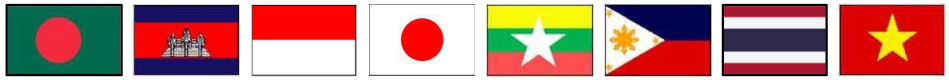
Raising Awareness on Wastewater Management

1.2 Spreading information to promote the understanding of the effectiveness of wastewater management to citizens and officials in partner countries

Activities aiming at mainstreaming wastewater management are being implemented in AWaP members.

	Activities and Achievement
Cambodia	Community engagement under the Water Supply and Sanitation Improvement Project, WaSSIP, in Siem Reap City, Siem Reap Province.
Indonesia	・CSS XXI 2023 is a meeting held at national level by AKKOPSI to share experience and knowledge about successes, obstacles, and challenges faced in providing access to safely managed sanitation facilities. ・Webinar Habitat 2023 was held at national level to share an overview and information regarding the provision and access to safely managed sanitation facilities through potential for business development in the sanitation sector and the involvement of partners in providing sanitation services ・Publication of guidelines for regular desludging
Japan	Various activities for the “Sewerage Day” held on the 10th of September: A commemorative day established in Japan to recognize the importance of sewerage and promote awareness on its significance. During this day every year, local governments and other actors conduct various activities, - e.g., wastewater treatment plants tours, PR posters display - to deepen the understanding of the roles and benefits of sewerage systems.
Philippines	
Vietnam	Has participated in training courses for staff in central, local governments, and related organizations through activities such as JICA training courses.

The 2nd Work Plan for 2030



Activities	2023	2024	2025	2026	2027	2028	2029	2030
Schedules	▲ General Meeting	● Operations committee	▲	●	▲	●	●	▲

3. Resolving Common Challenges

3.1 Sharing and discussing common Challenges	(Discussing issues as they arise)
3.2 Conducting Co-Projects	implement co-projects summarize the outcomes of co-projects
3.2.1 Promoting Centralized and Decentralized wastewater treatment systems	Setting AWaP policy for the optimum wastewater treatment systems Consensus building for the centralized and decentralized wastewater treatment systems Survey and share early solutions (Quick Project) for wastewater systems improvement in undeveloped areas Enhance early solutions (Quick Project) for wastewater systems improvement in undeveloped areas
3.2.2 Trenchless sewer pipe constructing	**Continuous development of national technical standards for the pipe-jacking method by country** Formulating the draft guideline In the Philippines HRD through technical seminars or on-site training
3.2.3 Development of sewerage technology adapted to local conditions	Setting and sharing AWaP policy regarding operation Consensus formation for AWaP policy Follow-up the activities implemented in each partner country Organizing regional issues, especially finance of sewerage projects Collection of technologies and examples by countries

Initiatives on Pipe Jacking Methods in Each Country

Cambodia

MLIT prepared a Draft Standards (1st Edition) and provided it to MPWT in March 2023.
MPWT and MLIT are discussing standardization.

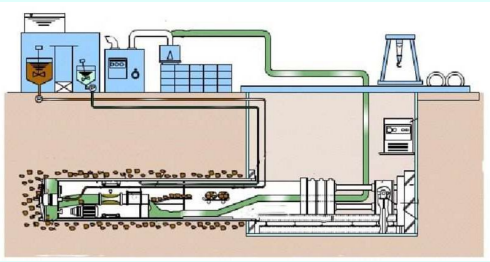
Discussion at the 6th bilateral meeting (Jul. 2024)

Indonesia

Toward the formulation of a Draft standards(1st Edition), MLIT coordinated with Institut Teknologi Bandung on the content of the draft prepared in 2022.

The Japan-Indonesia Technical Seminar (Feb. 2022)

Pipe Jacking Methods



Philippines

MLIT prepared a Draft Standards (1st Edition) and provided it to DPWH in March 2024.
DPWH and MLIT are discussing standardization.

Technical Seminar on Pipe Jacking Methods in the Philippines (Oct. 2024)

Vietnam

MOC and MLIT formulated a Draft Standards (1st Edition) in March 2014.
MOC and MLIT formulated a Draft Standard (7th Edition) in FY 2023.
Some contents in the Standard have been converted to **TCVN (Vietnam National Standards)**

Discussion at the 17th bilateral meeting (Nov.2024)

Japan

Design and estimation standards for Pipe Jacking Methods were established in 1988.

Since then, revisions have been continuously made every few years, taking into account **the latest technological trends** and **actual conditions**.

Discussion topics of the 4th General Meeting

Discussion topics in the 4th General Meeting

We are going to discuss the following topics based on the 2nd work Plan.

Topic1

Setting and sharing AWaP policy for mainstreaming wastewater management and finance

Topic2

Setting AWaP policy for optimum wastewater treatment systems

Topic3

Collection of technologies and case studies by each country

Topic 1
Setting and sharing AWaP policy for mainstreaming wastewater management and finance

Topic 1: Setting and sharing AWaP policy for mainstreaming wastewater management and finance

Activities	2023	2024	2025	2026	2027	2028	2029	2030
Schedules	▲ General Meeting	● Operations committee	▲	●	▲	●	●	▲
3.2.3 Development of sewerage technology adapted to local conditions	Organizing regional issues, especially finance of sewerage projects → Setting and sharing AWaP policy regarding operation		Consensus formation for AWaP policy		Follow-up the activities implemented in each partner country			
	Collection of technology and example by country							

- The construction of sewerage facilities is not the end of the project, but the effectiveness of the sewerage system will be realized only when it is put into use.
- The 5th Operations Committee discussed the appropriate combination of taxes, fees, and bond issuance to secure financial resources.
- AWaP aims to consolidate a shared understanding on ways to secure financial resources and propose activities that deepen recognition of this understanding

From the 5th AWaP Operations Committee Materials

The three main sources of funding for projects are possible.

Taxes (≒subsidies) from individuals and businesses	Tariffs paid by households, businesses (beneficiary)	Transfers from outside such as international aid , NGOs, PPPs

- For example, the total capital investment cost for sewerage facilities in Kitakyushu exceeded $7.5 billion over the last 40 years.

		Financing Mechanism			Tariff-Setting Principles	
Project	Country	National Government	City Government	Beneficiary contribution	Cost Recovery of CAPEX	Cost Recovery of OPEX
Kitakyushu Wastewater Management Project	Japan	26% subsidy	65% municipal bonds & 6% general account of the city	3% beneficiary contribution	PARTIAL cost recovery from sewer user change	PARTIAL cost recovery from sewer user change

CAPEX = capital expenditure, OPEX = operating expenditure.

＊ no transfer in Kitakyushu

Kitakyushu Overview：Population 900,000, Area 492Km^2

sited: https://www.adb.org/sites/default/files/publication/215956/mechanisms-wastewater-sanitation.pdf

Setting and sharing AWaP policy for mainstreaming wastewater management and finance

In the case of Japan,
tariffs are collected together with water charges.
In addition to the Kitakyushu example, many municipalities have set water and wastewater tariffs at the same level. The collected tariffs from residents are reinvested in projects for operational and maintenance costs.

Wastewater service charge	
wastewater volume (m3／month)	Unit Price
0-10	Basic ¥634
11-15	¥141/m3
26-50	¥208/m3
51-200	¥257/m3
201-1,000	¥307/m3
1,000-10,000	¥407/m3
10,000-	¥412/m3

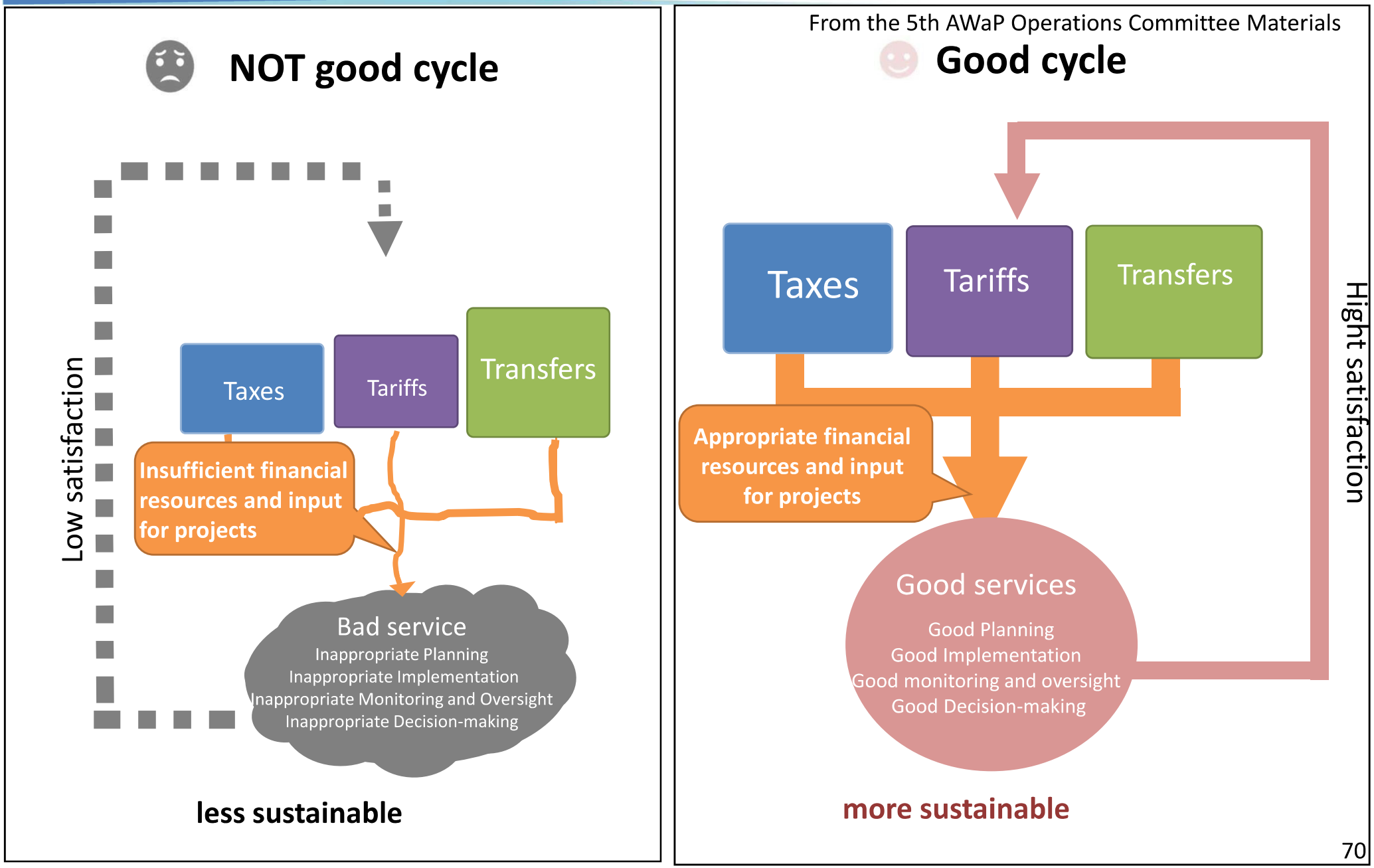
Water charge （13mm）	
Water volume (m3／month)	Unit Price
0-10	Basic ¥900 +¥10/m3
11-25	¥122/m3
26-50	¥156/m3
51-200	¥208/m3
201-1,000	¥288/m3
1,001-	¥310/m3

(Reference) Unit prices of the wastewater service charge and water charge

From the 5th AWaP Operations Committee Materials

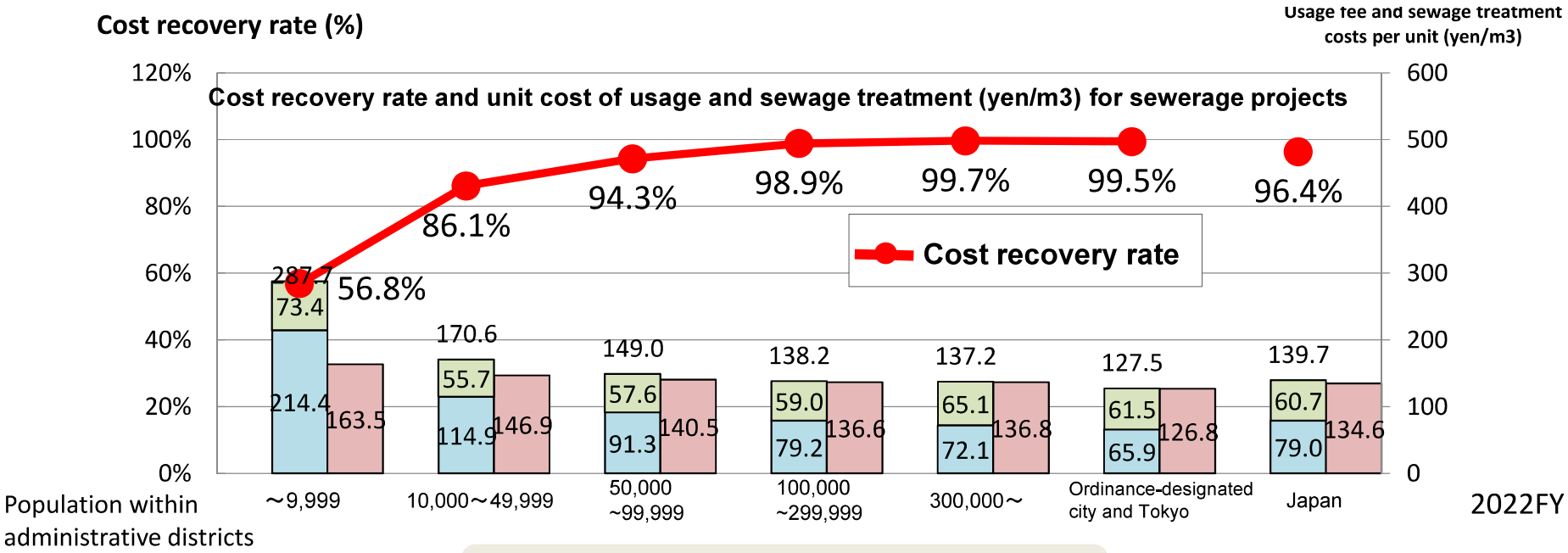
Effective use of these sources is a key component for a successful project cycle.

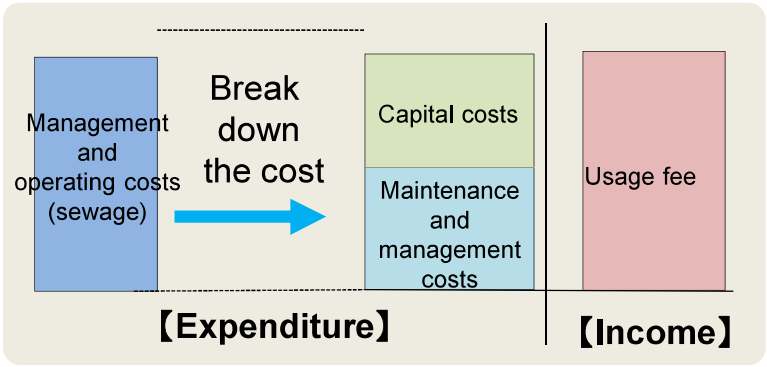
From the 5th AWaP Operations Committee Materials



Sewerage Financial Status in Japan

- A Public Sewerage System Administrator may establish sewerage usage fees and collect fees from persons using Public Sewerage Systems pursuant to the provisions of Prefectural or Municipal Ordinances.
- The smaller the population, the lower the cost recovery rate.
- In order to maintain sewerage services, it is important to formulate management strategies and improve management soundness.





Setting and sharing AWaP policy for mainstreaming wastewater management and finance

Member countries approaches（from the 5th Operations Committee)

- I was surprised to discover that the wastewater charge in Japan is higher than the water charge. In Indonesia, the wastewater charge equals 20% of the water charge (Indonesia).
- Cambodia is trying two experimental wastewater fee collection systems. One system combines wastewater bill with water bill and 10% of the water bill is charged for wastewater services . The charge of the other system is based on the land use and building types.
- We are keen to learn from Japan how to raise public awareness, which could enable the government to collect fees for wastewater services. Currently, the wastewater charge collection rate is only 10% of that of the drinking water, which is relatively low (Vietnam).
- To attract more investors, we need to increase the rate of fee collection. We are interested in strategies for short and long-terms improvements in fee collection from households. We consider private companies or governmental support when considering attracting investors (Vietnam).

Setting and sharing AWaP policy for mainstreaming wastewater management and finance

Member countries approaches（from Annual Report)

Cambodia

- There are two systems for collecting wastewater fees: charging 10% of water fees or charging based on land use and building size. The authority will unanimously opt for the former.
- Urban areas collect usage fees, but rural areas are unable to do so.

Indonesia

- Focus on APBN (national government funding), since APBD (local government funding) cannot afford the investment in sewerage project.
- Considers utilizing other funding sources (donor agencies) to compensate for insufficient investment budgets
- Interested in public-private partnerships (BOT model)
- Setting fees by considering both facility operating costs and the target of wastewater service accessibility (connection rate).

The Philippines

- Service providers in each region collect usage fees from their service areas

Setting and sharing AWaP policy regarding mainstreaming and finance

Analysis

- Since each member country collects a wastewater service fee, the collection rates are still low, and its costs are not fully recovered.
- Some argue that raising public awareness is necessary to ensure sufficient collection of usage fees.
- On the other hand, the extent to which usage fees should cover costs remains unaddressed. Without clearly demonstrating the basis for setting usage fees, gaining public understanding will be difficult.

AWaP shares the policy of aiming to secure sustainable funding sources for providing safely managed wastewater services and share each country's efforts to achieve them.

Draft AWaP policy for mainstreaming wastewater management and finance

AWaP partner countries confirm that establishing a fiscal system is necessary for the development, operation and maintenance(O&M) and management of wastewater treatment facilities, and share the following policies.

- To promote the development of wastewater treatment facilities and ensure their sustainable O&M and management it is essential that all people and society understand the importance of wastewater management and position it as a national priority policy issue—that is, mainstream wastewater management.
- The administrative department responsible for wastewater treatment and environmental affairs in partner countries should collaborate with local governments to raise public awareness regarding wastewater treatment for all people and society, based on water usage patterns and urban/environmental conditions, and strive to mainstream wastewater management.
- The administrative departments responsible for wastewater treatment and environmental affairs in partner countries should strive to establish systems that secure the necessary financial resources for promoting the development of wastewater treatment facilities and ensuring their sustainable O&M and management through mainstreaming wastewater management. In establishing the system, we will conduct studies in collaboration with local governments, taking into account existing social and fiscal systems, and strive to appropriately combine funding sources (bonds, taxes, user fees).
- The administrative departments responsible for wastewater treatment and environmental affairs in partner countries should share and learn from each other's efforts to mainstream wastewater treatment and establish fiscal systems, thereby fostering better initiatives.

Setting and sharing AWaP policy for mainstreaming wastewater management and finance

Rising environmental awareness among the public

Following the rapid economic recovery after World War Ⅱ, various environmental problems began to emerge around 1950, including deteriorating water quality in public waterways, air pollution, and foul odors. The public became acutely aware of the environmental degradation, and public demand for environmental countermeasures grew strong. In November 1970, an extraordinary Diet session was convened to debate pollution countermeasures intensively. Fourteen environmental-related laws were enacted or revised, including the revised Sewerage Act and the Water Pollution Prevention Act.

Scenes of Tokyo in the 1960s and 1970s (Source: Tokyo metropolitan government)

Citizens demanding environmental measures
(Source: Tokyo metropolitan government)

(Source: The Asahi Shimbun Company)

【Reference】 Efforts for Mainstreaming Wastewater Management in Japan (Background of the Pollution Diet)

Domestic

Rapid deterioration of the water environment due to urbanization and industrialization

Despite corporate pollution incidents, such as the Honshu Paper Edo River Plant incident and the four major pollution problems that occurred, the government prioritized economic recovery.

Some local governments carried out unique pollution countermeasures through progressive forces

The Supreme Court decided to shift the burden of proof regarding causation and negligence in pollution lawsuits

Basic Law for Environmental Pollution was enacted in August, 1967, but the preservation of the living environment required harmony with sound economic development, and corporate responsibility remained unclear.

The government lost support due to public dissatisfaction against its passive approach to pollution issues

International

Concepts such as “Spaceship Earth” and “The Limits to Growth” were introduced, heightening awareness that Earth is a closed and finite system, accelerating concerns about future environmental and resource crises.

Earth Day was held around the world on April 22, 1970, and had a significant influence on the subsequent progress of the environmental protection movement.

President Nixon issued a special message on pollution, criticizing Japanese industry for not allocating sufficient funds for pollution control

Prime Minister Sato stated, “The Japanese production system that ignores pollution will lead to international isolation.”

Pollution Diet: Held in November 1970, intensive discussions took place on environmental issues, resulting in the enactment of 14 laws aimed at environmental protection.

Established the Central Pollution Control Headquarters

Pollution Diet

Pollution Diet in 1970
(Source: The Asahi Shimbun Company)

Mainstreaming Wastewater Management: Overview

1868-1890

From the late 19th century, as countermeasures against epidemics such as cholera, water supply and sewerage systems became major policy priorities. However, due to financial constraints, the policy prioritized the development of water supply systems, and sewerage development did not become a mainstream priority.

Japan‘s first modern sewer system
Kanda sewer(1884)
(Source: Tokyo metropolitan government)

1890-1941

The Sewerage Act was enacted in 1900, accompanied by a national treasury subsidy system. Nevertheless, the financial burden of developing sewerage systems was considerable, and as epidemics began to decline, few municipalities pursued sewerage projects.

Japan‘s first sewage treatment plant begins operation.
Mikawashima WWTP (1922)
(Source: Tokyo metropolitan government)

Postwar

Public concern over the deterioratinn of the water environment grew together with the economic recovery after WW Ⅱ. Consequently, assigning the role of “preserving water quality in public water regions” to sewerage systems heightened the government's recognition of the importance of sewerage projects, leading to progress in establishing legal and fiscal frameworks.

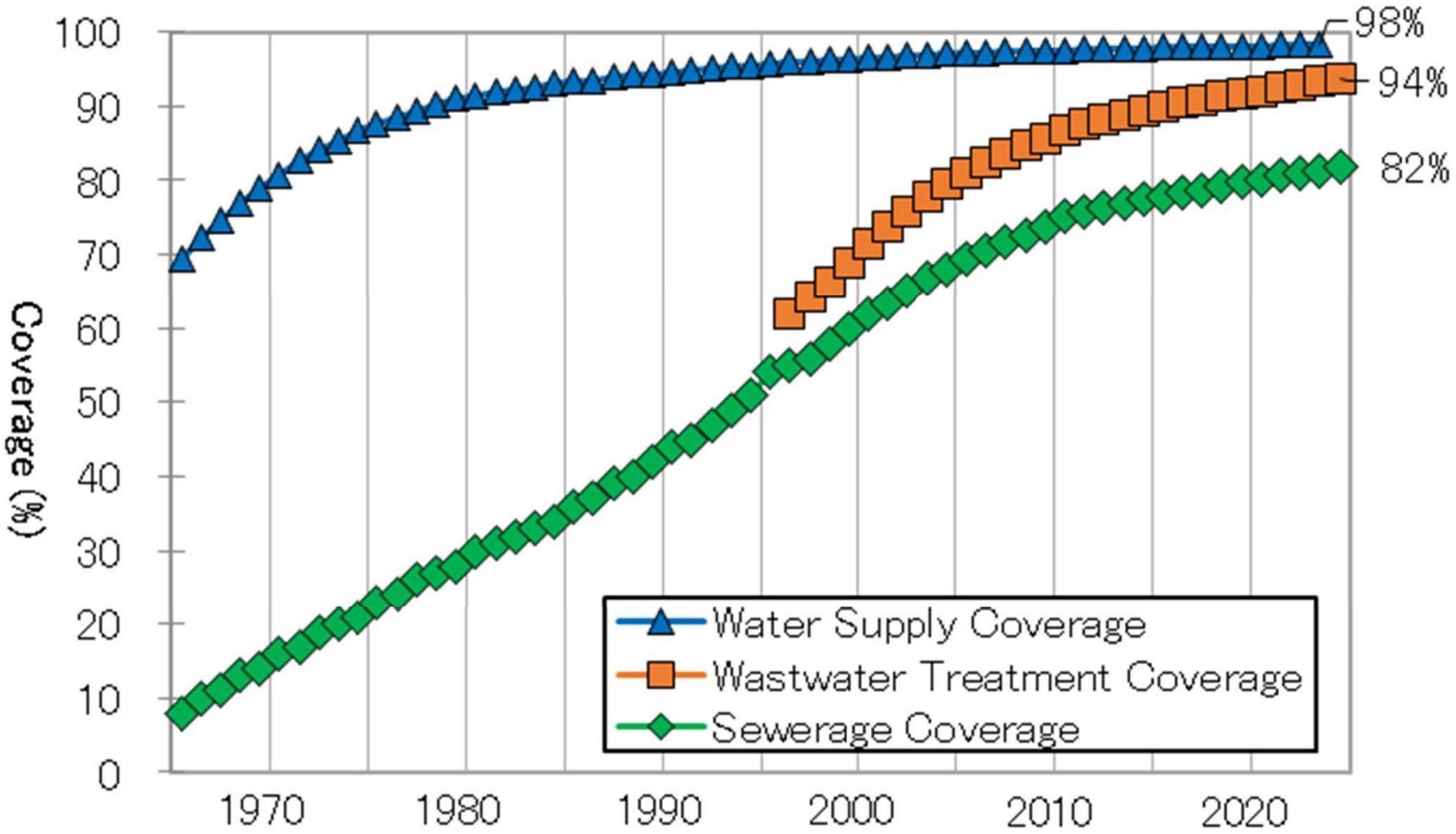
Water Quality Improvement
in Kitakyushu City’s Dōkai Bay
(Source: Kitakyushu city)

The Effectiveness of Wastewater Treatment Facility Development and Cost Burden

In Japan, discussions about the appropriate fiscal system for wastewater projects have been ongoing since 1955. The benefits of wastewater treatment facilities include both private advantages for users and public benefits for the entire population. Consequently, costs should be allocated based on the principle of beneficiary pays.

	Development of Wastewater Treatment Facilities	
Benefits	✓ Improvement of the residential environment ✓ Enhancement of land asset value	✓ Improving urban environments ✓ Enhancement of public health ✓ Preservation of water quality in public water bodies
Beneficiary	✓ Benefits only residents of areas that are equipped with wastewater treatment facilities and can enjoy them	✓ Benefits all citizens should enjoy equally, regardless of individual ability to pay ✓ Water quality conservation in public waterways should serve administrative purposes
	Personal benefit	Public benefit
Cost bearer	Beneficiaries bear the burden to the extent that specific individuals are deemed to benefit Funding sources: Usage fees, beneficiary contributions	Services that public entities should provide responsibly Funding sources: Taxes, bond issuance(borrowing)

Trend of Sewerage Coverage

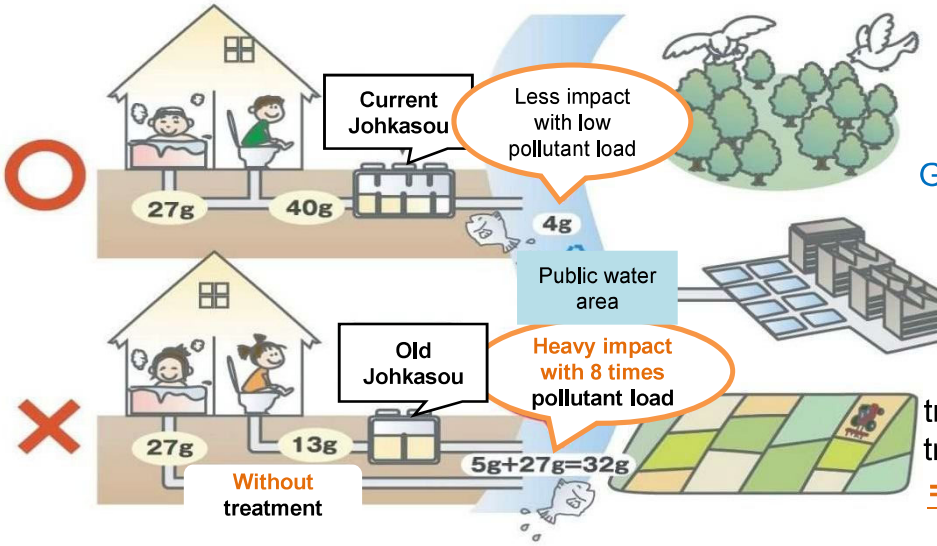


The development of centralized treatment facilities requires time. In Japan, during the implementation period, efforts were made to properly manage existing Johkasou and pit latrines, thereby minimizing environmental impact.

Policy on Decentralized Domestic Wastewater Treatment Systems in Japan

Amendment to the Johkasou Act: Prohibition of New Installations of old type Johkasou systems

- Johkasou is a decentralized wastewater treatment system designed to treat domestic wastewater generated by households, buildings, and similar facilities.
- In the period of rapid economic growth in Japan, many the old type of Johkasou (Tandoku-shori type) was installed for treating black water.
- During the 1960s and 1970s, untreated gray water was one of the causes of widespread water pollution in Japan.
- In the 1980s, a new type of Johkasou (Gappei-shori type), capable of treating both black water and gray water, was developed. The installation of old type Johkasou was prohibited starting in 2001. Additionally, national and municipal subsidies were available for converting the old-type to the current type Johkasou, including in-house piping work.
- Approximately 3.4 million units of the old type Johkasou are still in use across Japan. The transition from the old-type to the current type remains a significant challenge in Japan.
- **In selecting a decentralized domestic wastewater treatment system, it is essential to ensure that the system is capable of treating not only blackwater but also gray water.**



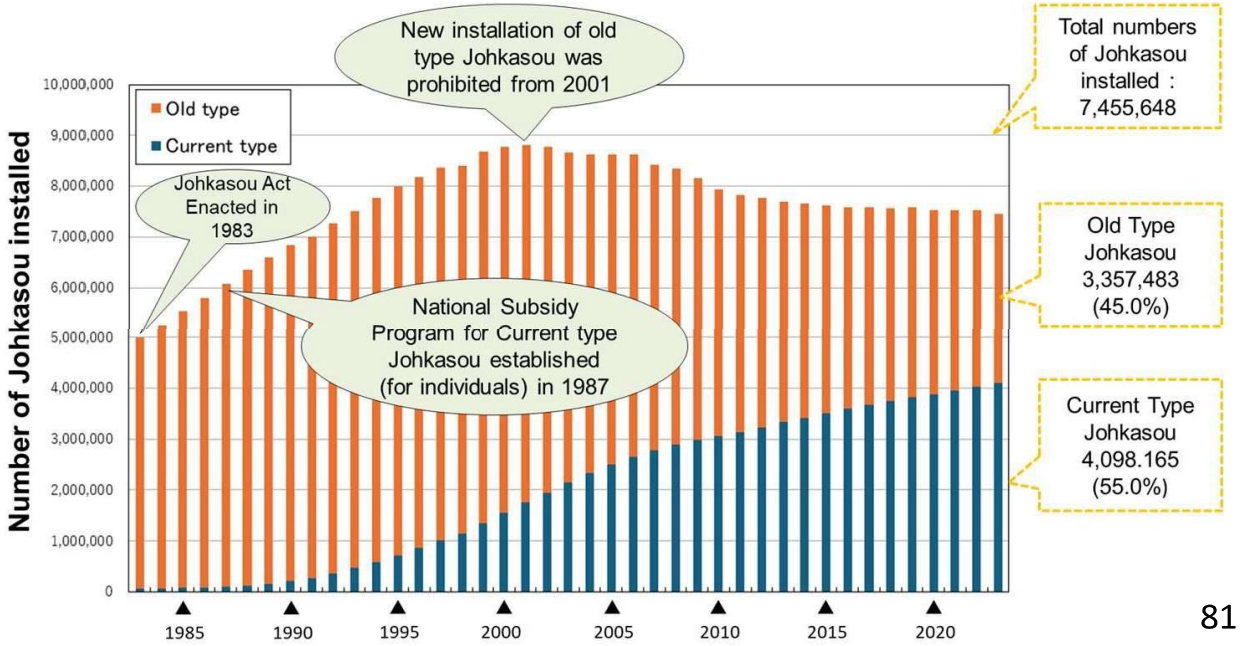
Current type Johkasou

Both Black water & Gray water are treated

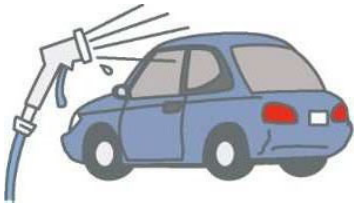
Old type

Only Black water is treated and have low treatment performance

⇒ Heavy impact with 8 times pollutant load



Development of Domestic Wastewater Treatment Plan



Municipal Waste Management Plan

Article 6, Paragraph 1 of the Waste Management and Public Cleansing Act

Municipal Waste Management Master Plan (long-term)

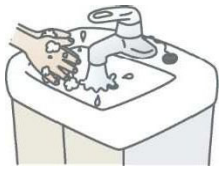
Municipal Waste Management Implementation Plan (short-term)

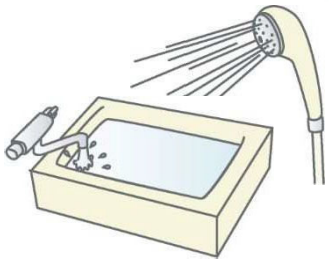
Waste Management Master Plan

Domestic Wastewater Treatment Master Plan

Waste Management Implementation Plan

Domestic Wastewater Treatment Implementation Plan





Domestic Wastewater Treatment Basic Plan

It requires all municipalities to formulate a 'Basic Plan for Domestic Wastewater Treatment' and to determine the treatment methods and treatment levels for domestic wastewater from a long-term perspective (10 to 15 years).

Domestic Wastewater Treatment Implementation Plan

It requires all municipalities to formulate a 'Domestic Wastewater Treatment Implementation Plan' and specify the projects for each fiscal year there are necessary for implementing the 'Domestic Wastewater Treatment Basic Plan'.

→ **Efficient** development plans tailored to local conditions

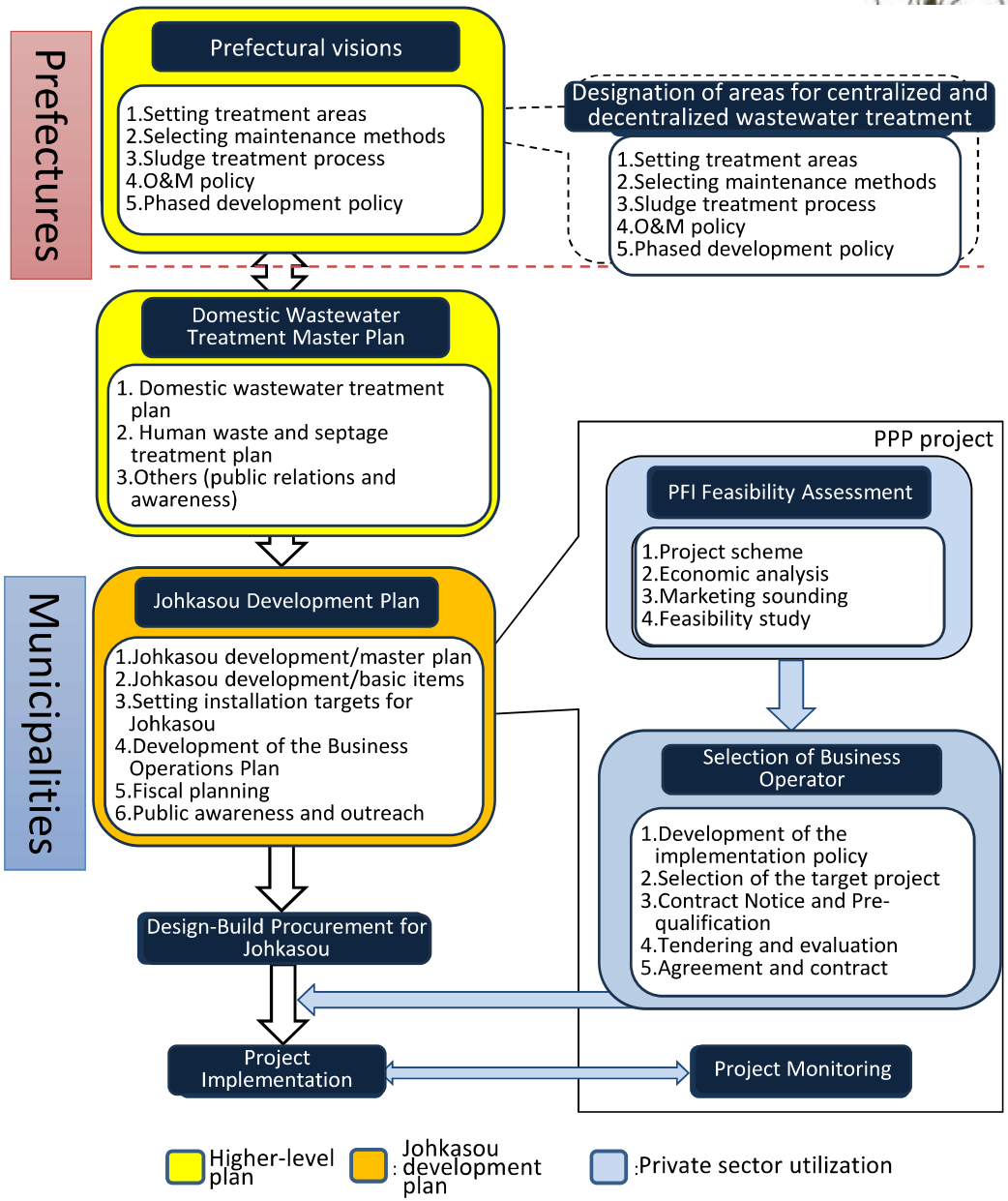
[Advantages and disadvantages of on-site and off-site treatment systems, fiscal conditions, housing density, impact on rivers, and projected population trends, etc. should be considered.]

Domestic Wastewater Treatment Master Plan and Johkasou Development

The Domestic Wastewater Treatment Master Plan establishes long-term basic policies concerning the treatment of human waste and domestic wastewater under the "Municipal Waste Management Master Plan" established pursuant to Article 6, Paragraph 1 of the Waste Disposal and Public Cleaning Act (Act No. 137 of 1970).

The Johkasou Development Plan specifies the project details (**Public Sewerage Development Promotion Project, etc.**) for the concrete installation of Johkasou under the "Domestic Wastewater Treatment Master Plan."

To promote the development in Johkasou, it is necessary to **formulate and revise the Domestic Wastewater Treatment Master Plan** in municipalities based on **prefectural visions**, and to formulate the Development Plan for designated Johkasou areas as a **Johkasou Development Plan**.



Inspection and Maintenance of Johkasou

Legal inspection by Article 7

Purpose
Confirm if construction/ installation and treatment performance are good.

Contents
・Visual inspection
・Water quality inspection
・Document inspection

Timing of implementation
Three to eight months after starting operation

Responsible organization
Specified inspection agency, which is a public service corporation of the prefecture.

Operation/ Maintenance

Purpose
Maintain a normal treatment performance

Contents
・Sludge accumulation
・Water quality
・Mechanical apparatus
・Replenish disinfectant

Frequency
Over three times a year, depending on the size and the treatment process

Responsible organization
Johkasou maintenance vendor, who is licensed by the prefectural governor.

Desludging

Purpose
Recover normal treatment performance normally

Contents
・Removing sludge
・Cleaning the Johkasou
・Confirming if there are faults or defects inside the Johkasou

Frequency
Once a year

Responsible organization
Johkasou desludging vendor, who is registered by the mayor.

Legal inspection by Article 11

Purpose
Confirm if the maintenance and desludging is done appropriately, and if the treatment performance is good.

Contents
・Visual inspection
・Water quality inspection
・Document inspection

Frequency
Once a year

Responsible organization
Specified inspection agency, which is a public service corporation of the prefecture.

Ref: Night Soil Treatment and Decentralized Wastewater Treatment System in Japan, MOEJ

The number of Johkasou Technicians / Vendors in Japan

Ex: Registered Johkasou Operator : **41,816** people, Registered Johkasou Inspector : **1,495** people
Johkasou Maintenance Vendor: **12,129** vendors, Johkasou Desludging Vendor : **6,310** vendors,
Johkasou Installation Vendor : **25,017** vendors

Ref: FY 2024 Survey Results on Guidance and Promotion of Johkasou, MOEJ

Topic 2
Setting AWaP policy for optimum wastewater treatment systems

Topic 2: Setting AWaP policy for optimum wastewater treatment systems

Activities	2023	2024	2025	2026	2027	2028	2029	2030
Schedule	General Meeting	Operations committee						
3.2.1 Promoting Centralized and Decentralized wastewater treatment systems	Setting AWaP policy for the optimum wastewater treatment system →		Consensus building for the centralized and decentralized wastewater treatment systems →					
	Survey and share early solutions (Quick Project) for wastewater systems improvement in undeveloped areas →				Enhance early solutions (Quick Project) for wastewater systems improvement in undeveloped areas →			

- The optimal combination of wastewater treatment systems is an important theme for developing efficient wastewater treatment systems.
- At the 5th Operations Committee, while introducing Japanese examples, initiatives in various countries were discussed. A shared understanding emerged that the optimal placement of wastewater treatment facilities is essential.
- Establish a common understanding of wastewater treatment systems and incorporate it into the AWaP policy framework, proposing activities to deepen policy comprehension.

Approaches Toward Optimal Placement of Wastewater Treatment Facilities (From the 3rd General Meeting)

Statements by Countries on the 2nd Work Plan

- In Vietnam, it is essential to clarify various definitions regarding wastewater treatment, including centralized and decentralized systems.

- In the Philippines, only urban areas have developed, and decentralized treatment systems may be more suitable for the Philippines as an island nation. We still need a clear definition of decentralized and centralized treatment.

- Indonesia has a similar situation to that of an island country like the Philippines. Areas with small populations lack sewerage systems, so the sewerage connection rate is low.

Chair's Summary of the 3rd General Meeting

Definitions of centralized and decentralized treatment systems need to be clarified. The section defining an optimized wastewater treatment system should clearly explain centralized and decentralized treatment systems.

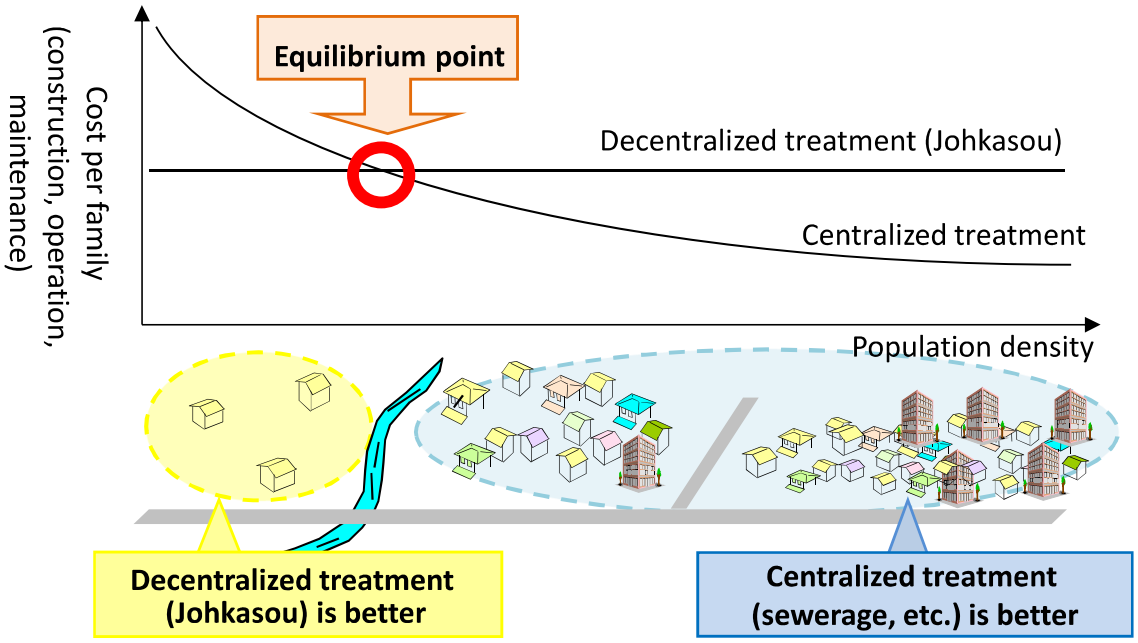
Concept for Optimal Wastewater Treatment systems in Japan

Rural sewerage system is a wastewater treatment facility used in rural areas.

Johkasou is the preferred wastewater treatment facility in areas of low population density.

Sewerage system is a wastewater treatment facility in urban area.

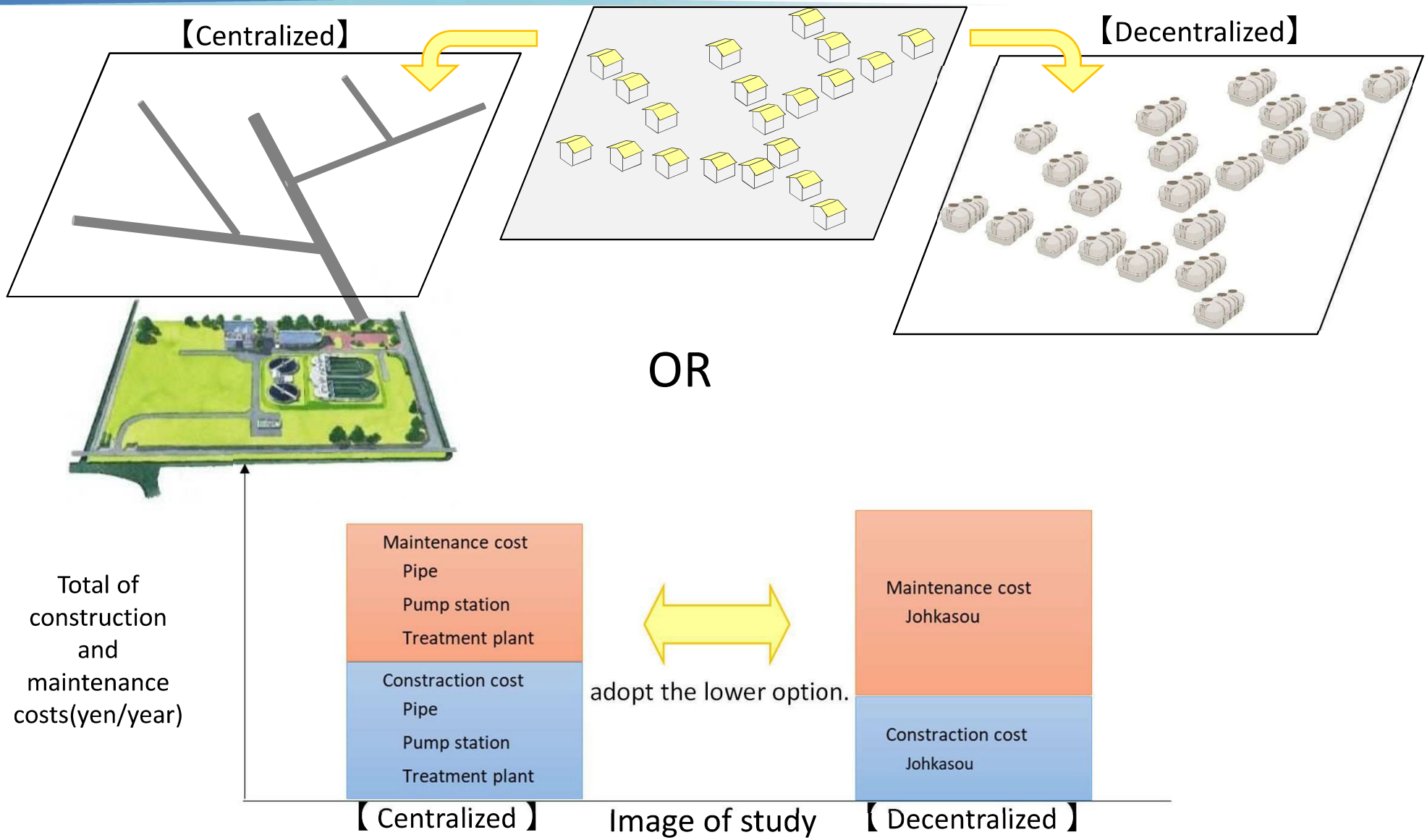
Municipal governments are creating up master plans for wastewater treatment that take into account **the characteristics of the wastewater treatment systems and local factors** such as population density, in order to develop efficient wastewater treatment facilities.



・Compare **the total cost of all expenses (construction and maintenance)** incurred during the expected period of use of the facility, converted to an amount per year of the facility use

・Depending on the population density, the area where centralized or decentralized system should be selected will change.

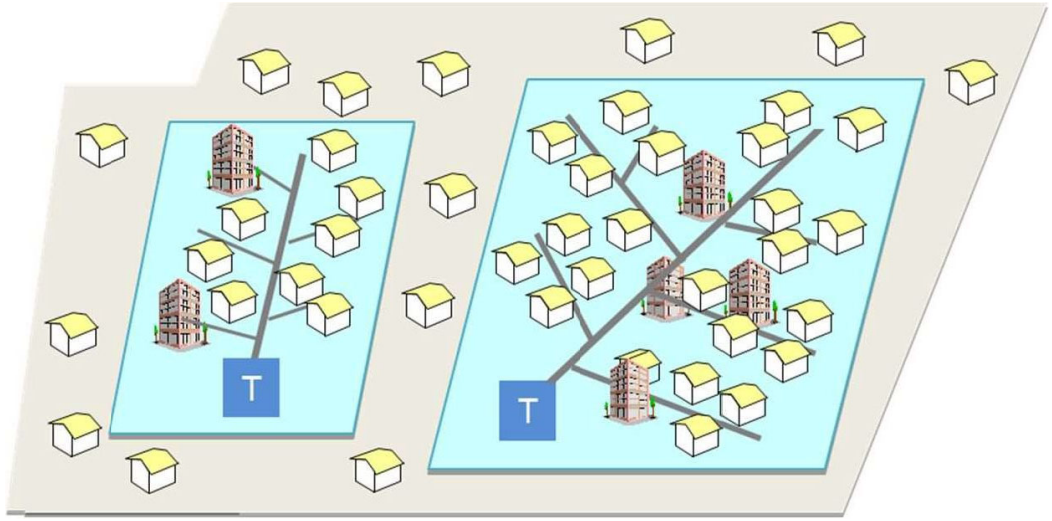
Specific methods (examples and examination of centralized or decentralized systems)



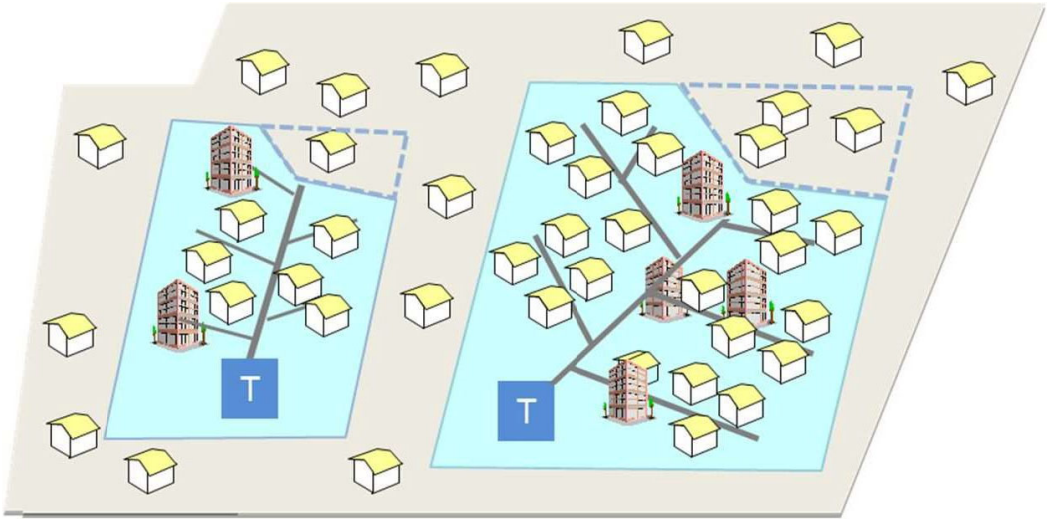
Compare the total cost of all expenses (construction and maintenance) incurred during the expected facility usage period, converted to an amount per year of facility usage.

A plan that takes time into consideration

From the 5th AWaP Operations Committee Materials



The planned scope of centralized system to be implemented.



Revised scope of centralized system to be implemented.

- Periodically verify the contents of the plan to confirm that the areas chosen for centralized/decentralized are optimal.
- **Review the area of centralized/decentralized according to the verification results**.

Optimum wastewater treatment systems

Efforts for Optimal Placement of Wastewater Treatment Facilities in Member Countries (From the 5th Operations Committee)

- In Indonesia, the government began implementing regulations in 2017 that distinguish between on-site (decentralized) and off-site (centralized) systems for domestic wastewater management, promoting an approach similar to Japan's.

- In the Philippines, securing land for WWTP construction is extremely difficult. Consequently, securing land unfortunately becomes the top priority when selecting locations for WWTPs.

- Cambodia places the highest priority on establishing a policy for optimal wastewater treatment systems, which is also the policy as a member.

- Cambodia has begun introducing optimized wastewater treatment systems, starting with Johkasou and natural drainage treatment systems. It now seeks to learn strategies for evolving toward more advanced systems like those in Japan.

Efforts for Optimal Placement of Wastewater Treatment Facilities (From Annual Reports)

Indonesia

Define decentralized/centralized systems based on population

ON-SITE	Less than 10 households (population under 50)
Residential scale WWTP	Population 50 or more, under 20,000
OFF-SITE	Population 20,000 or more
Special scale WWTP	Targets high-rise buildings, etc.

Optimum wastewater treatment systems

Efforts for Optimal Placement of Wastewater Treatment Facilities (From Annual Reports)

Vietnam

On-site	Targeted for 50 m^3/d or less, with treatment facilities installed within residential properties
Treatment by group	Wastewater treatment facilities of 50 to 200 m^3/d, serving groups of adjacent residences
Treatment by zone	Wastewater treatment facilities of 200 to 1,000 m^3/d, serving specific administrative districts

Cambodia Aim to determine the optimal placement by considering future population projections and other factors.

The Philippines There are differences depending on the business entity.

Japan

- Wastewater treatment facility planning, or centralized or decentralized system layouts, is determined by considering regional characteristics and economic factors, such as life-cycle costs.
- Based on plans that specify the type of wastewater facilities (centralized/decentralized systems) and the planned schedule for their establishment, each local government strives to efficiently and effectively establish wastewater treatment facilities.
- The plan content is reviewed periodically.

Analysis

• At the 3rd General Meeting, the AWaP Secretariat proposed discussing the optimization of decentralized and centralized systems. Still, some countries expressed the view that the definitions of decentralized and centralized treatment should be clarified.

• Indonesia and Vietnam reported in the AWaP Annual Report that they have defined decentralized and centralized systems. However, the definitions differ between the two countries.

• Countries are aiming to differentiate the use of decentralized and centralized systems.

The definitions of decentralized processing and centralized systems already vary across countries, making it difficult to establish a standard definition for AWaP. AWaP will share the understanding that the optimization of decentralized and centralized systems is the responsibility of each business entity, to be implemented systematically and proactively.

Draft AWaP policy for optimum wastewater treatment systems

AWaP partner countries recognize that wastewater treatment facilities include decentralized systems serving one or more households based on population density, topography, and regional connectivity, as well as centralized systems serving community or city-wide areas, and share the following policy.

- An optimal deployment of wastewater treatment facilities, combining decentralized and centralized treatment systems, is necessary to ensure all people have access to properly managed wastewater treatment services.
- It is important for administrative departments responsible for wastewater treatment and environmental affairs and local governments in partner countries to take the lead in creating deployment plans for the efficient and effective development of wastewater treatment facilities.
- The deployment plan for wastewater treatment facilities determines the wastewater treatment services citizens receive. When developing this plan, we should fulfill our accountability to citizens by considering not only economic factors but also regional characteristics such as water environment conservation, construction feasibility, and the difficulty of securing land.
- To enable early operation of wastewater treatment services, it is important for administrative departments and local governments responsible for wastewater treatment and environmental affairs in partner countries to take the lead and systematically and progressively develop wastewater treatment facilities while considering the status of related infrastructure, such as water supply systems. Furthermore, they should periodically review deployment plans to reflect changes in social conditions.
- The administrative departments responsible for wastewater treatment and environmental affairs in partner countries should share initiatives related to the optimal deployment of wastewater treatment facilities, learn from each other, and develop better approaches.

Optimum wastewater treatment systems（CWIS）

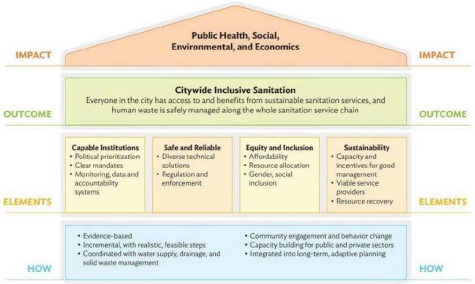
- A simple project of wastewater treatment facilities development is insufficient for improving the sanitation environment of an entire city. In recent years, the City-Wide Inclusive Sanitation (CWIS) approach has gained attention.
- CWIS views the public sector as having a mission to be inclusive and provide sanitation access for all people. It aims to achieve urban sanitation not only through centralized/decentralized wastewater treatment, but also by establishing comprehensive sanitation policies and sharing responsibilities with the private sector.

Guiding CWIS themes from the 2017 Call to Action

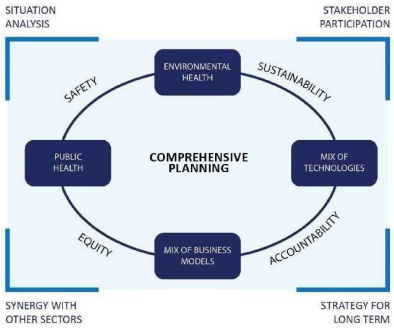
(Source: Bill and Melinda Gates Foundation)

CWIS SERVICE FRAMEWORK			
CORE CWIS OUTCOMES	EQUITY	SAFETY	SUSTAINABILITY
	Services reflect fairness in distribution and prioritization of service quality, prices, and deployment of public finance/ subsidies.	Services safeguard customers, workers, and communities from safety and health risks—reaching *everyone* with safe sanitation.	Services are reliably and continually delivered based on effective management of human, financial and natural resources.
CORE CWIS FUNCTIONS	RESPONSIBILITY	ACCOUNTABILITY	RESOURCE PLANNING AND MANAGEMENT
	An authority(ies) executes a clear public mandate to ensure safe, equitable, and sustainable sanitation for all.	Authorities' performance against their mandate is monitored and managed with data, transparency and incentives.	Resources—human, financial, natural, assets—are effectively managed to support execution of mandate across time/space.

Bill and Melinda Gates foundation



ADB



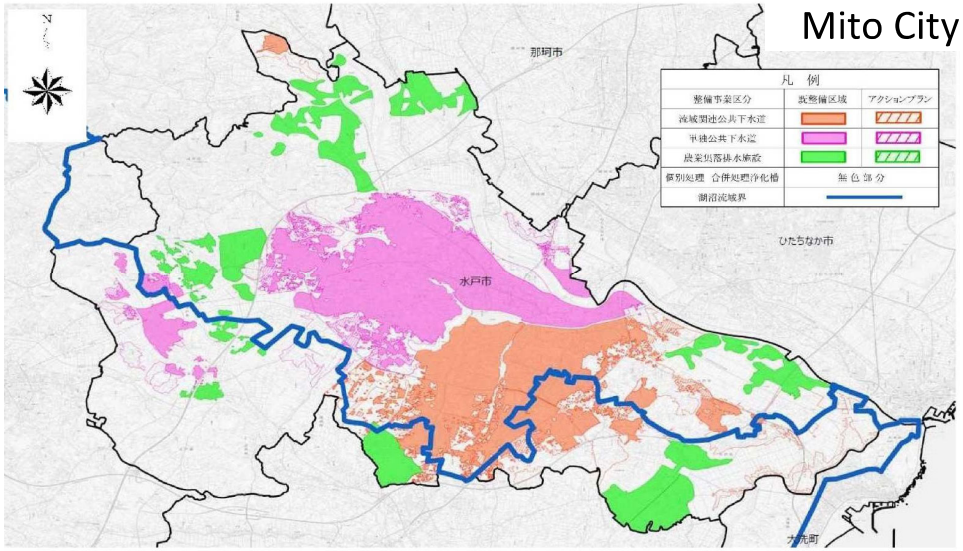
Eawag

Frameworks proposed by various institutions for CWIS

Optimum wastewater treatment systems: Responsibility for wastewater treatment

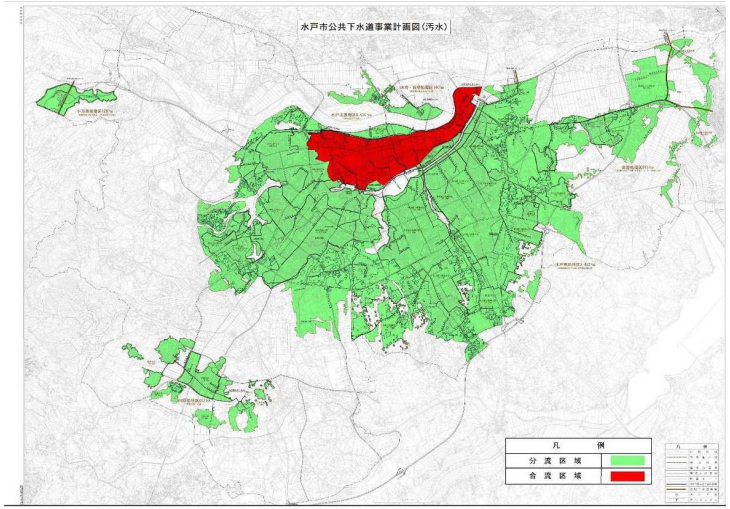
- Japan's Basic Act on Waste Management stipulates that municipalities bear responsibility for waste treatment, including domestic wastewater.
- Municipalities formulate Basic Plans for domestic wastewater treatment, which specify wastewater treatment processes, and implement wastewater treatment projects based on these plans.

Mito City



Optimal layout plan for wastewater treatment facilities

(Source: Mito city)



Development of public sewerage (Source: Mito city)

Installation and maintenance support for household wastewater treatment facilities

- Subsidies for installation
- Awareness campaigns and guidance on maintenance
- Development of sludge treatment facilities

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Topic 3
Collection of technologies and case studies by each country

Topic 3; Collection of technologies and case studies by countries

Activities	2023	2024	2025	2026	2027	2028	2029	2030
Schedules	▲ General Meeting	● Operations committee	▲	●	▲	●	●	▲
3.2.3 Development of sewerage technology adapted to local conditions	Organizing regional issues, especially finance of sewerage projects	Setting and sharing AWaP policy regarding operation	Consensus formation for AWaP policy	Follow-up the activities implemented in each partner country				
	Collection of technology and example by country							

- We believe that the approaches and experiences of each country in relation to wastewater treatment can be used as a reference for each other.
- At the 5th Operations Committee, proposals regarding the collection's content and format were made and received approval from all the participating countries.
- The specific contents of the collection, as proposed through Japanese case studies and Annual Reports, have been compiled into a separate volume.

Sharing techniques and case studies to achieve goals

- It is possible that the technologies and case studies of other countries could be of use in addressing the issues faced by each country.
- **We collect and share technologies and case studies** that contribute to achieving the goals set out in SDG 6.3.

Collection Methods

- Collecting proven technologies and effective systems as examples
- **The secretariat selects technologies and case studies and shares them with your countries**

Collection examples

Theme	Subjects	Technology/case study in Japan
Plan	Optimal combination, Early onset of effect	Master plan of centralized and decentralized methods, Quick-project
Pipe	Efficient construction	Pipe-jaking method
Treatment	Efficient construction, Stabilization, Energy saving	Johkasou (decentralized wastewater treatment system), PTF, POD
Sludge	Reuse, Stabilization	
Management	Cost recovery, Asset management	
Renewal	Capacity enhancement, Optimal capacity	

Sample format for Collection of technologies and examples by countries

Format

Technology/ Case study	(Name of technology/policy)

Theme	Plan	Pipe	Treatment	Sludge	Management	Renewal
Subject						

Outline	Effects of introduction

Note:	(Nation)

Document 4

Activities plan for the coming year

(Update of the 2nd Work Plan and Future schedule)

Update of 2nd Work Plan

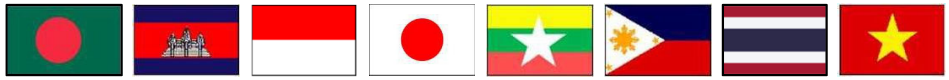
SDG Achievement Status of AWaP Partner Countries

- The calculating approaches for sewerage coverage rates vary by country.
- While the 5th Operations Committee discussed establishing common indicators for sewerage coverage rates, the secretariat will propose seeking the specific indicators necessary to achieve SDG 6.3.

	Definition	Proportion(%)	
		2016	2024
Bangladesh	Dividing the total number of people using wastewater treatment facilities		
Cambodia	Ratio wastewater safely treated by total volume of wastewater generated	12	37
Indonesia	This indicator is calculated by dividing the total number of households with access to safely managed sanitation and the total number of households in Indonesia. The result is presented in percentage.	67.96	83.6
Japan	The percentage of people with access to domestic wastewater treatment facilities	90.4	93.7
Philippines	Proportion of wastewater flows from households that is treated and discharged in compliance with national and local standards. Includes household wastewater transferred through sewers to a wastewater treatment plant, released into an on-site treatment system and released into an on-site system for which fecal sludge is emptied and transported to a treatment plant.		68
Thailand			
Vietnam	The rate of collected and treated wastewater		18

(From Progress report for 4th AWaP General Meeting)

The 2nd Work Plan for 2030



Activities	2023	2024	2025	2026	2027	2028	2029	2030
Schedule	General Meeting	Operations committee						

1. Raising Awareness on Wastewater Management

1.1 Spread the importance of wastewater management and the outcome of AWaP through international conferences	WEPA International Workshop; Public relations at WWF 2024; Public relations at UN Water conference 2026; Public relations at WWF 2027; Spread information at conferences hosted by support organizations or international conferences (ex. WEPA)
1.2 Spread information to promote understanding of the effectiveness of wastewater management to citizens and officials in partner countries	-Implement public awareness activities by each partner country (ex. Expansion of KIZUNA Festival (Cambodia), IECs (Information and Education Campaigns) (Philippines), Training Courses (Vietnam) to other AWaP countrys); Implement challenges raised in APWS 2022; (Implement challenges raised in Next APWS)

2. Monitoring of Wastewater Management

2.1 Submission of annual report from partner countries	Updating annual report; Submission of annual report from partner countries / Follow SDGs target 6.3 achievement
2.2 Publishing AWaP Synthesis Report	Publishing AWaP synthesis report; Publishing AwaP synthesis report on website (considering collaboration with WEPA)

The 2nd Work Plan for 2030

Activities	2023	2024	2025	2026	2027	2028	2029	2030
Schedule	General Meeting	Operations committee						

3. Resolving Common Challenges

3.1 Mainstreaming wastewater management	Setting and sharing AWaP policy regarding mainstreaming and financing Organizing regional issues, especially finance of sewerage projects Consensus formation for AWaP policy Follow-up the activities implemented by each partner country
3.2 Promote Centralized and Decentralized wastewater treatment systems	Setting AWaP policy for optimum wastewater treatment systems Consensus building for centralized and decentralized wastewater treatment systems Survey and share early solutions (Quick Project) for wastewater system improvement in undeveloped areas Follow-up of the activities implemented by each partner country
3.3 Trenchless sewer pipe constructing	Continuous development of national technical standards for the pipe-jacking method by involved countries Formulating the draft guidelines In the Philippines HRD through technical seminars or on-site training
3.4 Sharing and discussing sewerage technologies and case studies adapted to local conditions	Collection of technologies and case studies by countries Discussion on challenges beyond the SDGs6.3
3.5 Sharing and discussing common challenges	(Discussing issues as they arise)

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Future schedule

Future schedule

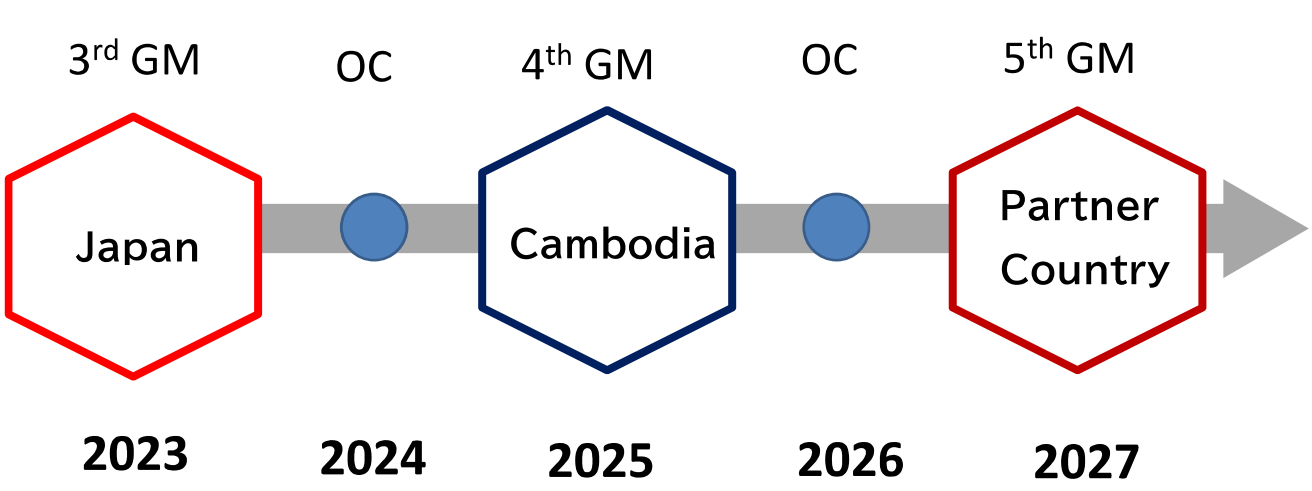
This is future schedule this and coming year.

Year	Month	memo
2025	November	The 4th General Meeting in Cambodia
2025	December	Send document regarding this year's annual report from AWaP
2026	February	Due day for annual report
2026	Summer	The 6th Operations Committee in Tokyo

Future General Meetings and Operations Committees

◯ The AWaP Implementation Guideline states that AWaP should hold the General Meeting once every two years. The AWaP member country may host the General Meetings on a rotating basis.
◯ The AWaP secretariat is considering to hold the Operations Committee between August and October 2026 and the 5th General Meeting between August and October 2027.
◯The AWaP member country may hold the General Meeting in turn following the proposal of the 2nd General Meeting in 2021.

Image of the meeting host



GM: General Meeting
OC: Operation Committee

Appendix

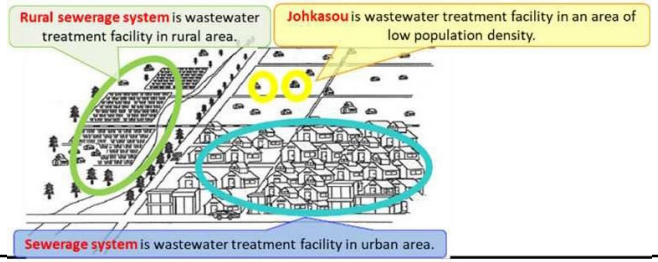
Collection of technologies and case studies by each country

Collection of technologies and case studies by each country

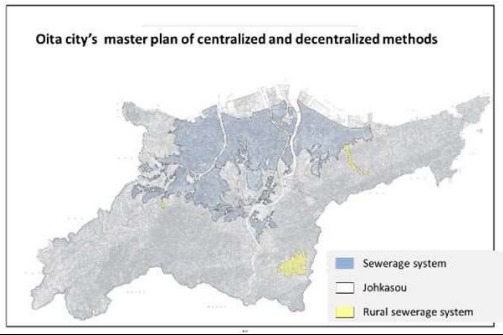
Case study	Master plan for diffusion methods of centralized and decentralized facilities

Theme	Plan	Pipe	Treatment	Sludge	Management	Renewal
Subject	Optimal combination					

- To efficiently disseminate wastewater treatment facilities, local governments formulate a "prefectural concept plan" for selecting efficient and appropriate diffusion methods based on the characteristics of various wastewater treatment facilities, their economic efficiency, and social condition changes.
- In the prefectural concept plan, the selection of wastewater treatment systems (decentralized or centralized) is determined by comparing LCCs, while also considering regional characteristics.



- Plans are being developed throughout the country under the leadership of the prefectural governments. Sewerage projects are carried out based on these plans, making the investment in projects efficient and not duplicated.
- Since the plans are based on a unified scientific method, citizens are more likely to be convinced whether decentralized or centralized treatment is chosen.



(Source: Oita city)

Note:

Japan

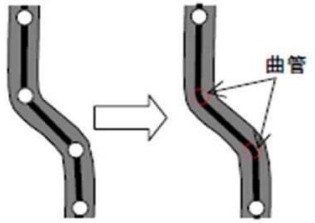
Collection of technologies and case studies by each country

Technology	Quick-project

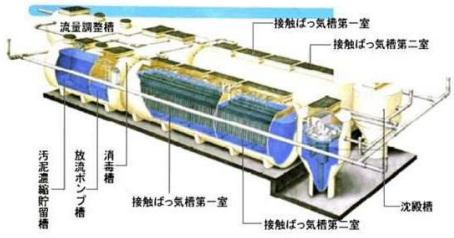
Theme	Plan	Pipe	Treatment	Sludge	Management	Renewal
Subject						

Many local governments in Japan are experiencing social changes, such as a decline in population, which is leading to financial difficulties. To tackle these urgent issues, the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) has introduced a new approach to sewerage development since 2017. This approach involves demonstrating new technologies for prompt and cost-effective wastewater management projects. It aims to evaluate their effectiveness and provide recommendations for their adoption.

After evaluating five sewer lining technologies and three wastewater treatment methods, guidelines for their adoption have been published. Among these, sewer construction methods and road designs have been implemented by 181 municipalities. Additionally, four municipalities have adopted prefabricated ultra-small-scale wastewater treatment facilities.



道路線形に沿った管きょ施工



(Source: MLIT)

Note:

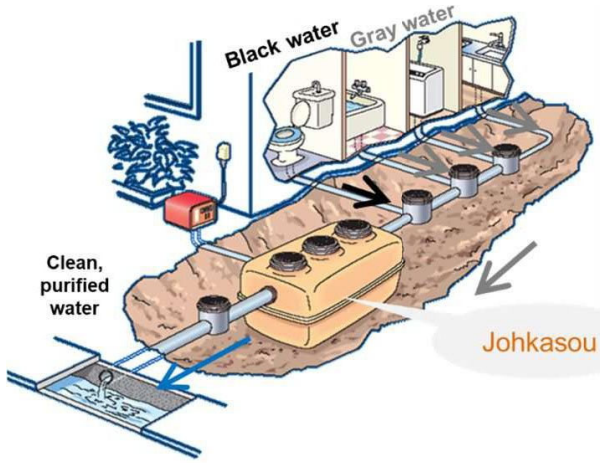
Japan

Collection of technologies and case studies by each country

Technology	Johkasou

Theme	Plan	Pipe	Treatment	Sludge	Management	Renewal
Subject			Efficient construction			

- Johkasou is a decentralized wastewater treatment system that can treat not only night soil but also other gray water including kitchen/laundry wastewater.
- Johkasou can be installed in individual houses and buildings.



Small size (5 to 50 PE, ≦ 10m^3/day)

- Johkasou shows the same level of treatment performance as the sewerage system.
- Since water treated in Johkasou can be directly discharged to drains and rivers, sound water cycle and river water quantity are ensured in the region.
- Johkasou can start servicing at a low cost and in a short period of time.
- The number of Johkasou units installed outside of Japan has been increasing (over 64,000 units as of the end of 2024).
- Installation of Johkasou will contribute to improving the water and hygienic in urban, suburban and rural areas.

Note:

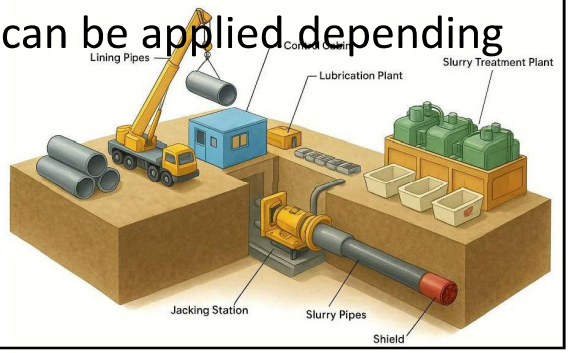
Japan

Collection of technologies and case studies by each country

Technology	Pipe-jacking method

Theme	Plan	Pipe	Treatment	Sludge	Management	Renewal
Subject		Construction method				

- Pipe jacking is a trenchless construction method used for installing underground pipelines without the need for extensive trench excavation.
- This technique is especially effective in urban settings and beneath busy roads, where traditional open-cut construction methods pose significant challenges.
- Various jacking techniques, including curve jacking, can be applied depending on the ground conditions and project requirements.



- Minimizes impact on road traffic, allowing construction while maintaining urban functions.
- Has a minimal effect on existing underground infrastructure and buildings.
- Shortens the construction period, especially for the installation of deep sewers.
- Improves safety and reduces social costs.
- Increasingly adopted overseas as an efficient and less disruptive method for urban infrastructure development.

Note:

Japan

Collection of technologies and case studies by each country

Technology	PTF (Pre-treated Trickling Filter System)

Theme	Plan	Pipe	Treatment	Sludge	Management	Renewal
Subject			Stabilization/ Energy saving			

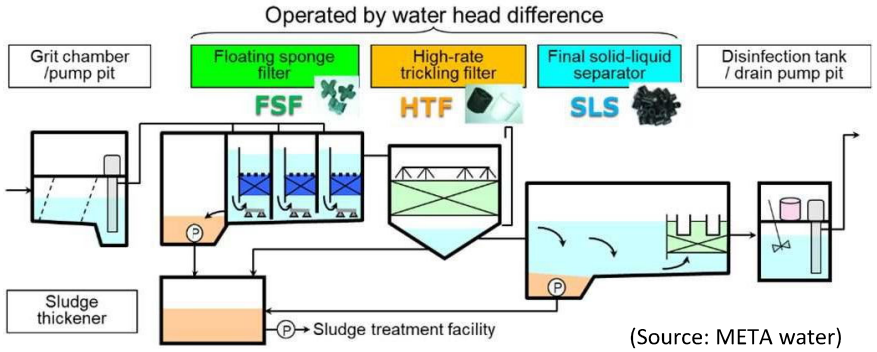
- The PTF process consists of three steps.

① Remove SS and solid BOD by filtration

② Remove soluble BOD by biofilter on the surface of the carrier.

③ Remove SS slough off from the carrier by sedimentation and filtration

- The PTF process does not require aeration and is based on the water head difference.



(Source: META water)

- The following performance has been confirmed through demonstration tests in Danang City, Vietnam.

① <u>Treatment performance</u>

The BOD and SS concentrations of the treated water must satisfy the following values.
BOD: 30 mg/L or less
SS: 30 mg/L or less

② <u>Electricity consumption per unit</u>

The electricity consumption per unit inflow volume required for wastewater treatment must be 0.1 kWh/m^3 or less.

- This technology has been introduced to wastewater treatment facilities in Hai Phong City, Vietnam, and Phnom Penh, Cambodia.

Note:

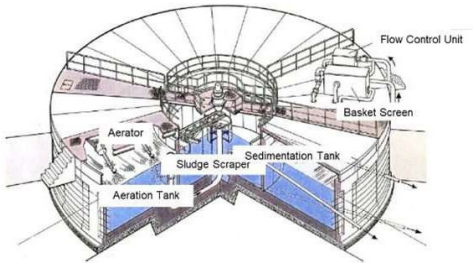
Japan

Collection of technologies and case studies by each country

Technology	Prefabricated Oxidation Ditch (POD)

Theme	Plan	Pipe	Treatment	Sludge	Management	Renewal
Subject						

- POD is a packaged system consisting of a reaction tank (activated sludge treatment) and a final sedimentation tank.
- Standard designs are made for every 100 m3/d from 300 m3/d to 1,200 m3/d
- The main structure consists of factory-made, prefabricated, reinforced concrete parts.



(Source: Japan Sewage Works Agency)

- System is highly reliable as a wastewater treatment facility
- Saves design labor and construction period, being a packaged system
- Stable treatment of T-N and T-P
- Easy maintenance
- In Japan, the system has already been installed in approximately 200 locations.
- Good treatment performance has been verified through various demonstration tests in Cambodia.

Note:

Japan

MLIT
Ministry of Land, Infrastructure, Transport and Tourism

Ministry of the Environment
Government of Japan

The 4th General Meeting of

Asia Wastewater Management Partnership

November 18, 2025

2. AWaP Activities

2-2 Site tour at the wastewater treatment plant in Phnom Penh

The Sire Tour of Cheung Aek Sewage Treatment Plant in Phnom Penh was held on November 19, 2025.

Briefing Materials

Phnom Penh Capital Administration (PPCA)

Department of Public Works and Transport (DPWT-PP)

The Operation System:
"Cheung Aek Sewerage Treatment Plant"

Present By Mr. SO Vuthy

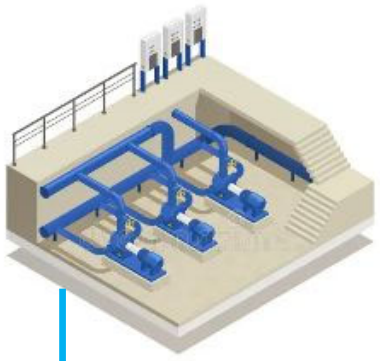
Chief, Choeung Aek Sewerage Treatment Plant
Department of Public Works and Transport of Phnom Penh
Phnom Penh Capital Administration

November 19th, 2025

Content

1. General Introduction
2. Project Background
3. The current statue of Cheung Aek Sewerage Treatment Plant
4. Daily inspection
5. Flow direction of site visit

I. General introduction



Sewerage system

Pumping stations

Significant **INCREASE** of **WASTEWATER** quantity

- **Population inhabitants** Growth
- **Urbanization** Development
- **Industrialization** Widening

Call for urgent **NEEDED** of **WASTEWATER TREATEMENT PLANT**

Wastewater Treatment Plant

1

I. General introduction (Cont…)

Item	Contents
Population	2,281,951 inhabitants
Major Industries	Commerce, Industrial, and Tourism
Water Supply rate	85% (982,000m3/day)
Total Sewer length	1,062km (combined system)
Total road network	approximately 2,700 km
Treatment Facilities	**1 Fecal Sludge Treatment Plant (70m^3/day), 1 Wastewater Treatment Plant (5000m^3/day)**
Total pumping stations	15 Pumping station

2

II. Project background

Phase 1: The project for Capacity Development for Sewerage Management of Phnom Penh Capital Administration and Ministry of Public Works and Transport

Purpose of the Project

- The Project is properly treat the sewerage water in Phnom Penh and **to minimize the amount of water pollution** in Lake Cheung Aek through the construction of new sewerage treatment facilities
- To contributing to the **protection and improvement of water quality**, and the **sanitation and living environment** of Lake Cheung Aek.

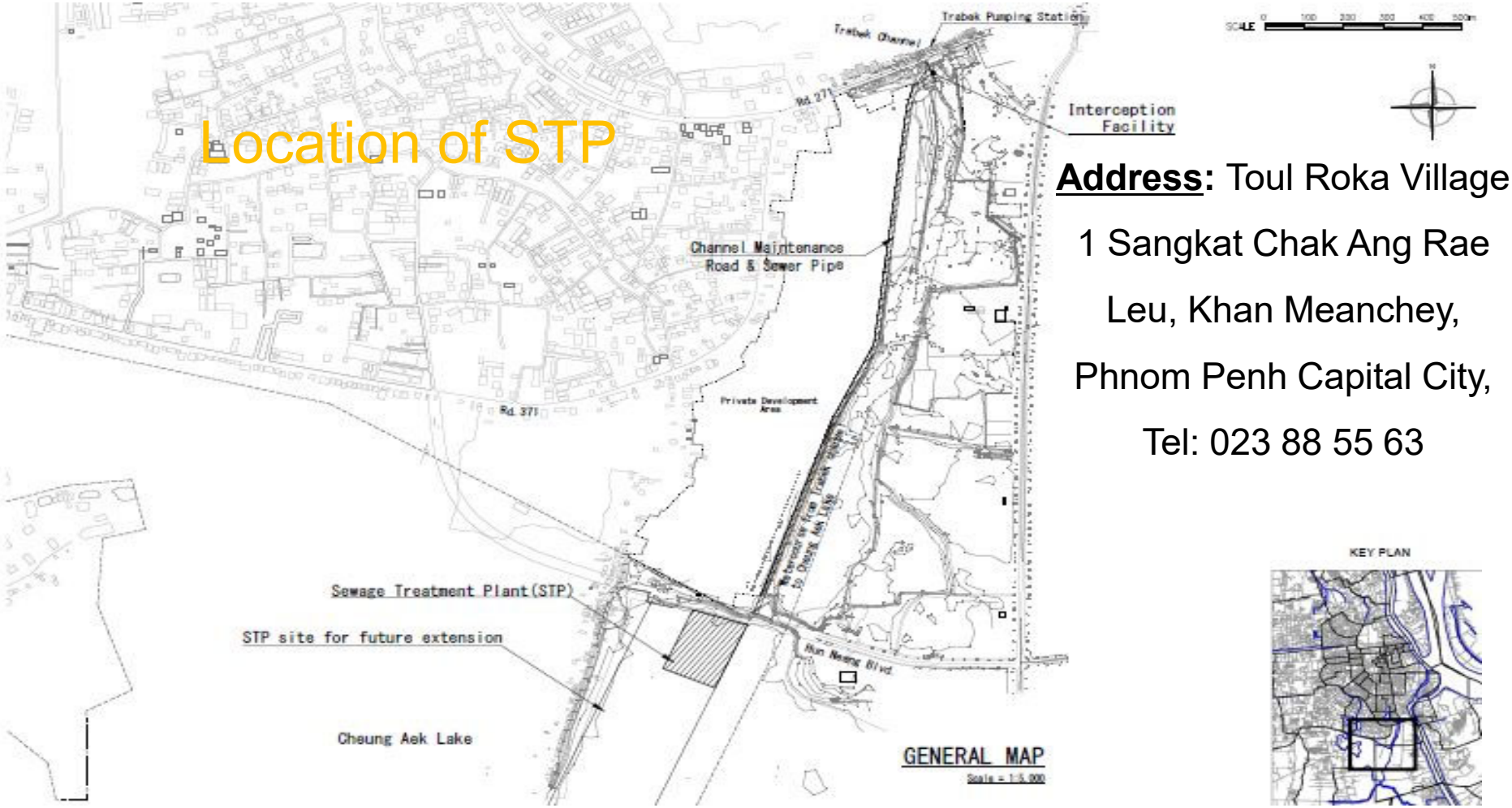
Outline of the project

- Treatment capacity: **5000m3/day**
- The grant amount is **2.777 billion yen or 25 millions USD, JAPAN Grant Aid, JICA**
- The future expansion of the treatment plant by **282,000m3/day**.

Cheung Aek Wastewater Treatment Plant

II. Project background (Cont…)

Location of STP



Address: Toul Roka Village

1 Sangkat Chak Ang Rae

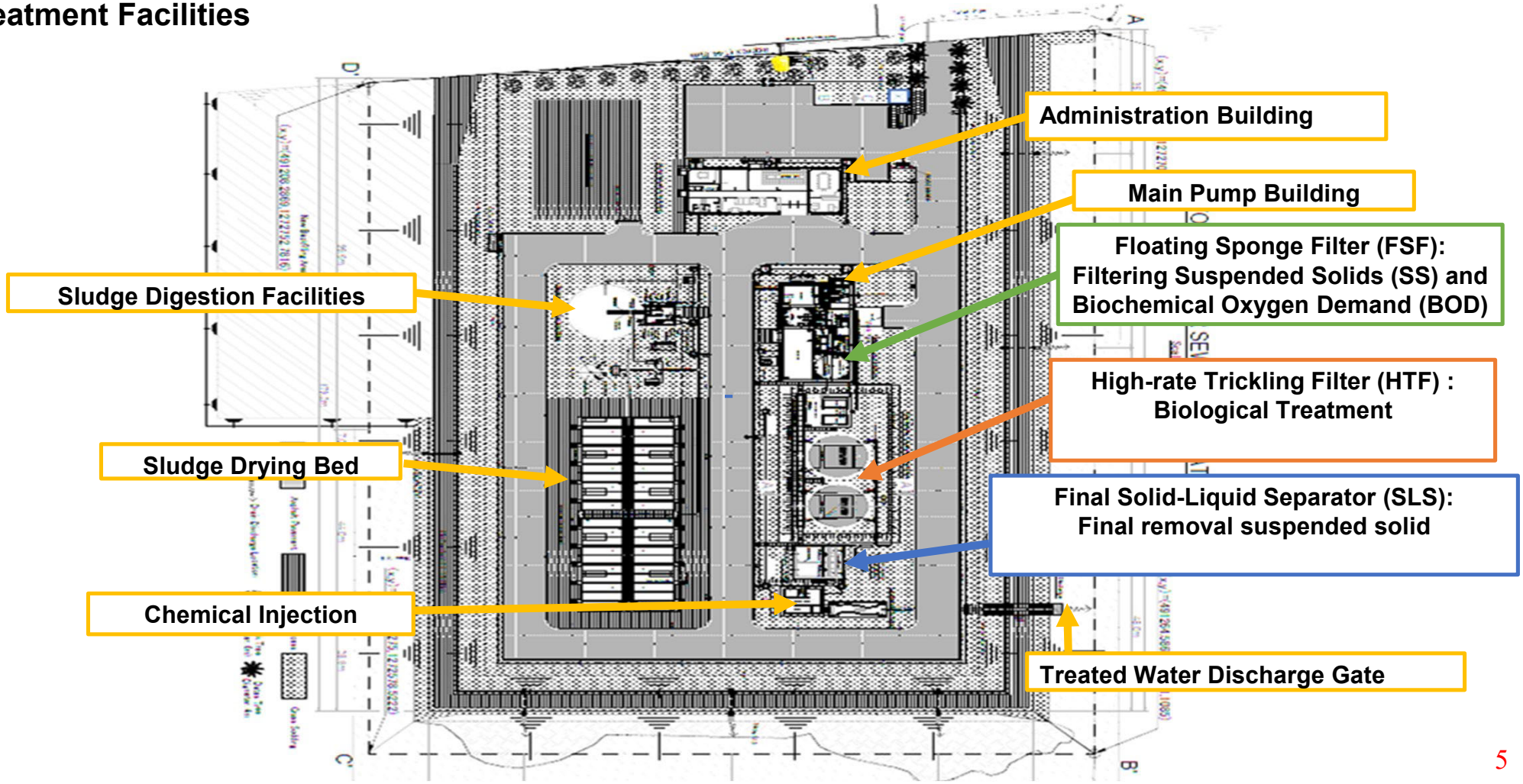
Leu, Khan Meanchey,

Phnom Penh Capital City,

Tel: 023 88 55 63

II. Project background (Cont…)

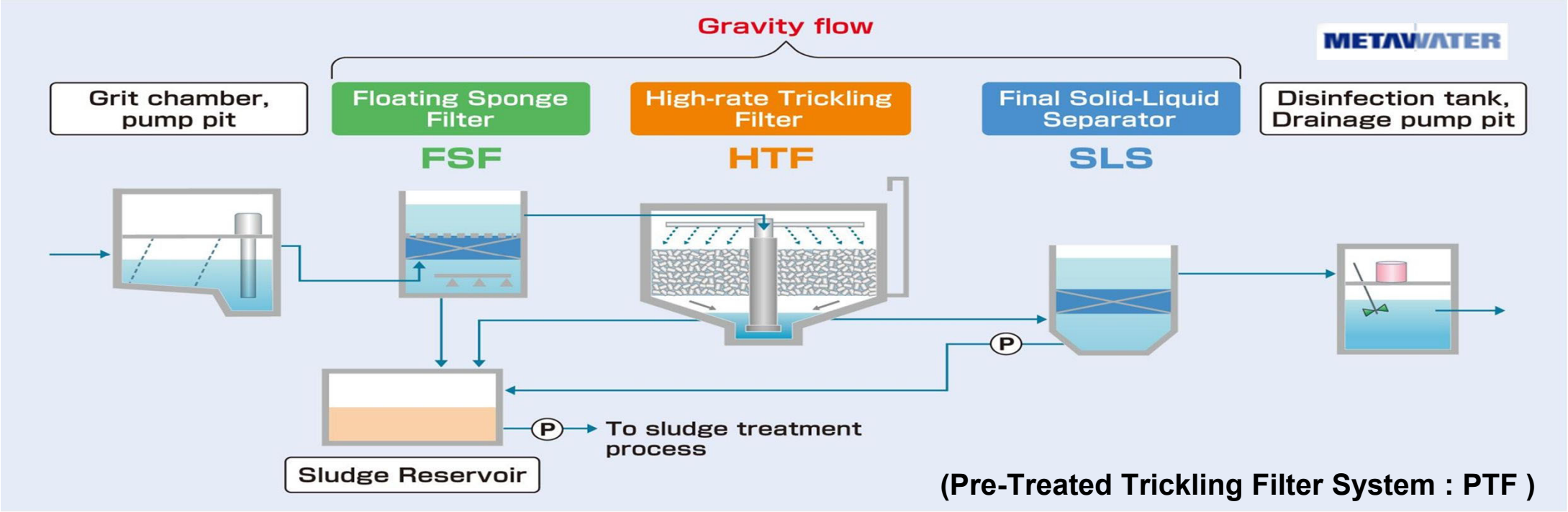
❖ **Treatment Facilities**



5

II. Project background (Cont…)

❖ **Treatment Technology**



(Pre-Treated Trickling Filter System : PTF)

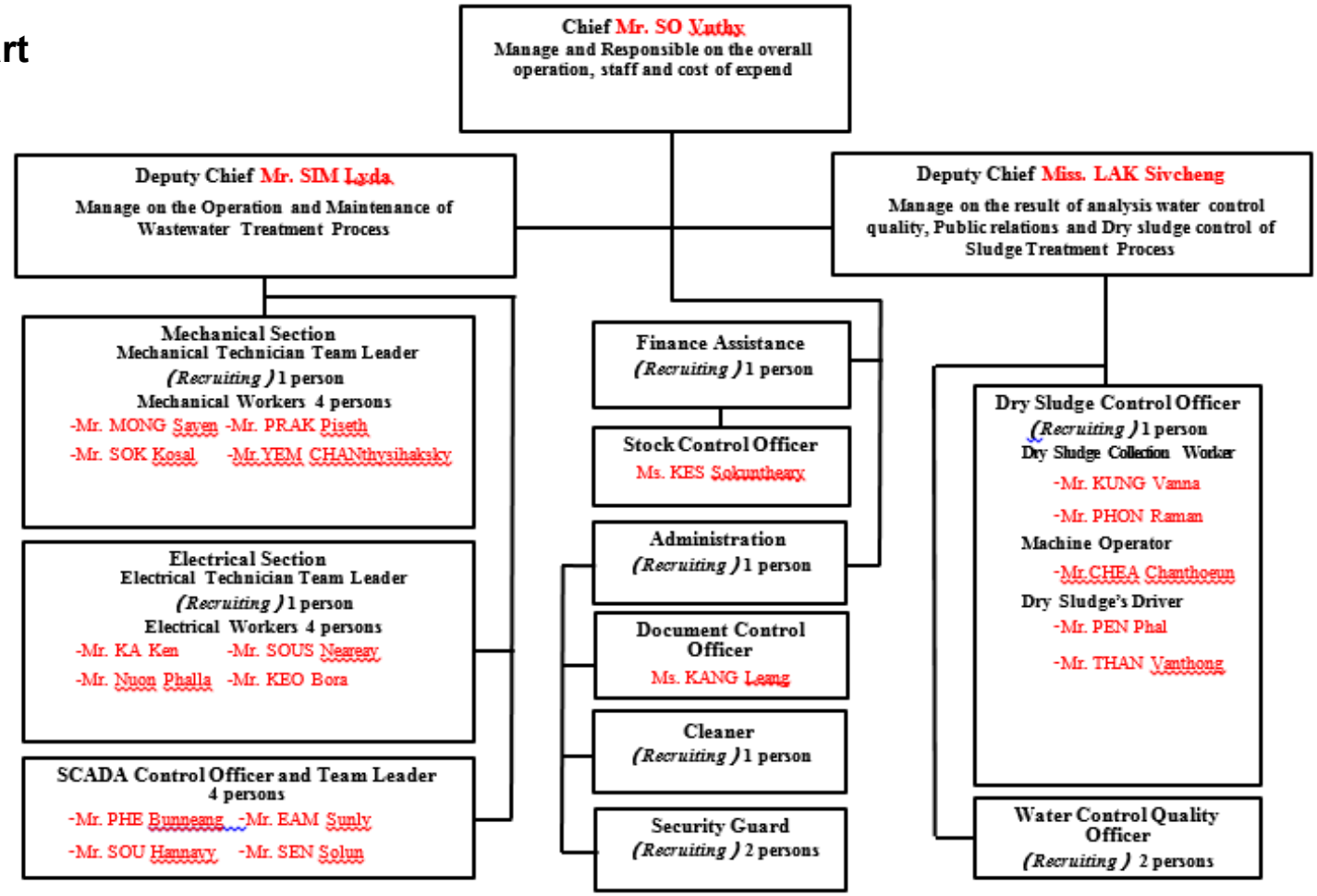
Floating Sponge Filter (FSF)	Removal of debris, SS and particulate BOD
High-rate Trickling Filter (HTF)	Removal of soluble BOD
Solid-Liquid Separator (SLS)	Removal of SS (detached biofilm etc.)

6

II. Project background (Cont…)

II. Project background (Cont…)

❖ **Organization Chart**

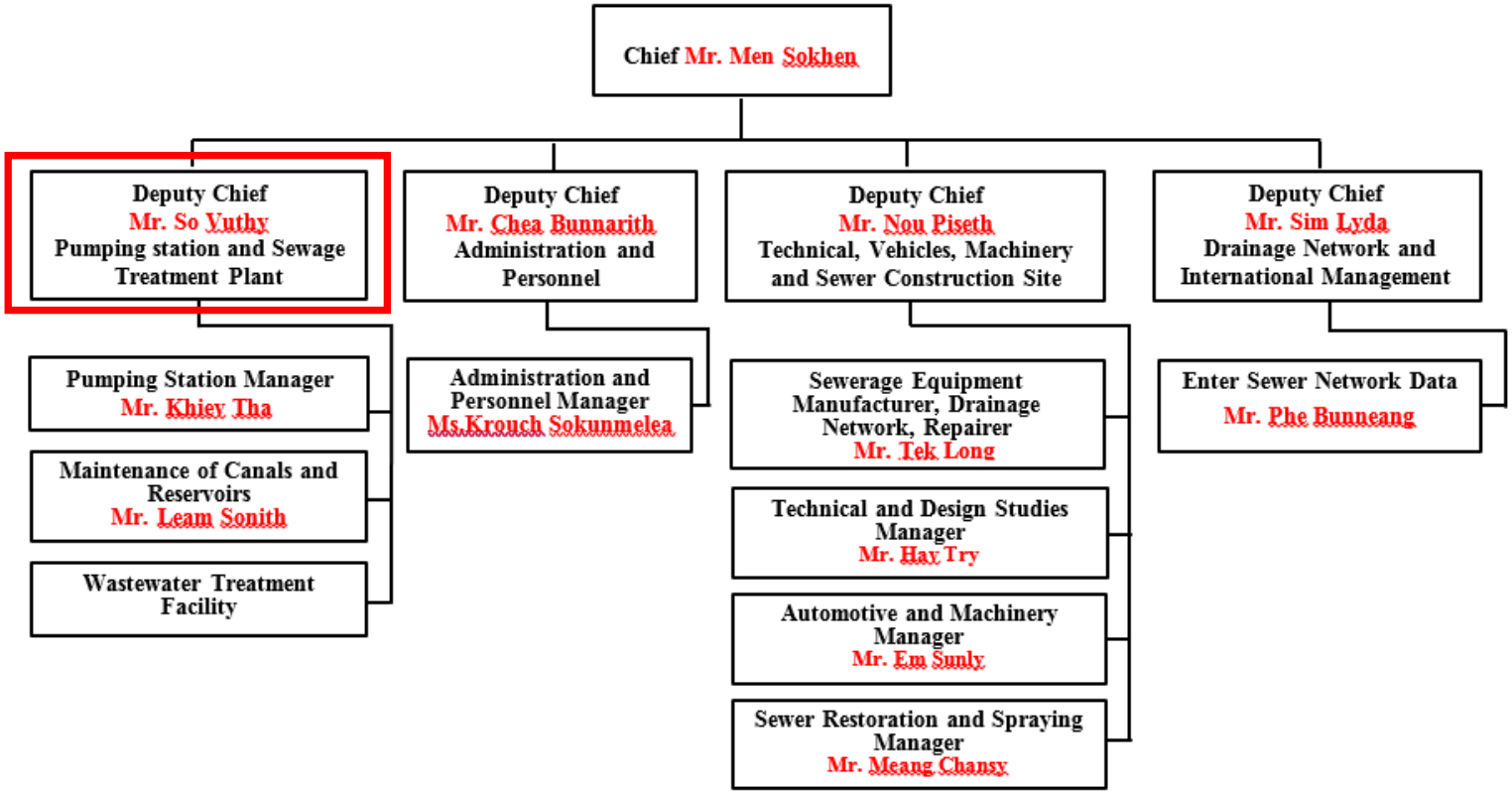


Organization Chart "Cheung Aek Sewerage Treatment Plant"

8

II. Project background (Cont…)

Organization Chart
Drainage Pumping Station and Sewerage Treatment Plant Office
Referent: Prakas 398, dated 04 December 2017 on the organization and functioning of the Department of Public Works and Transport of Phnom Penh



II. Project background (Cont…)

Organization Chart
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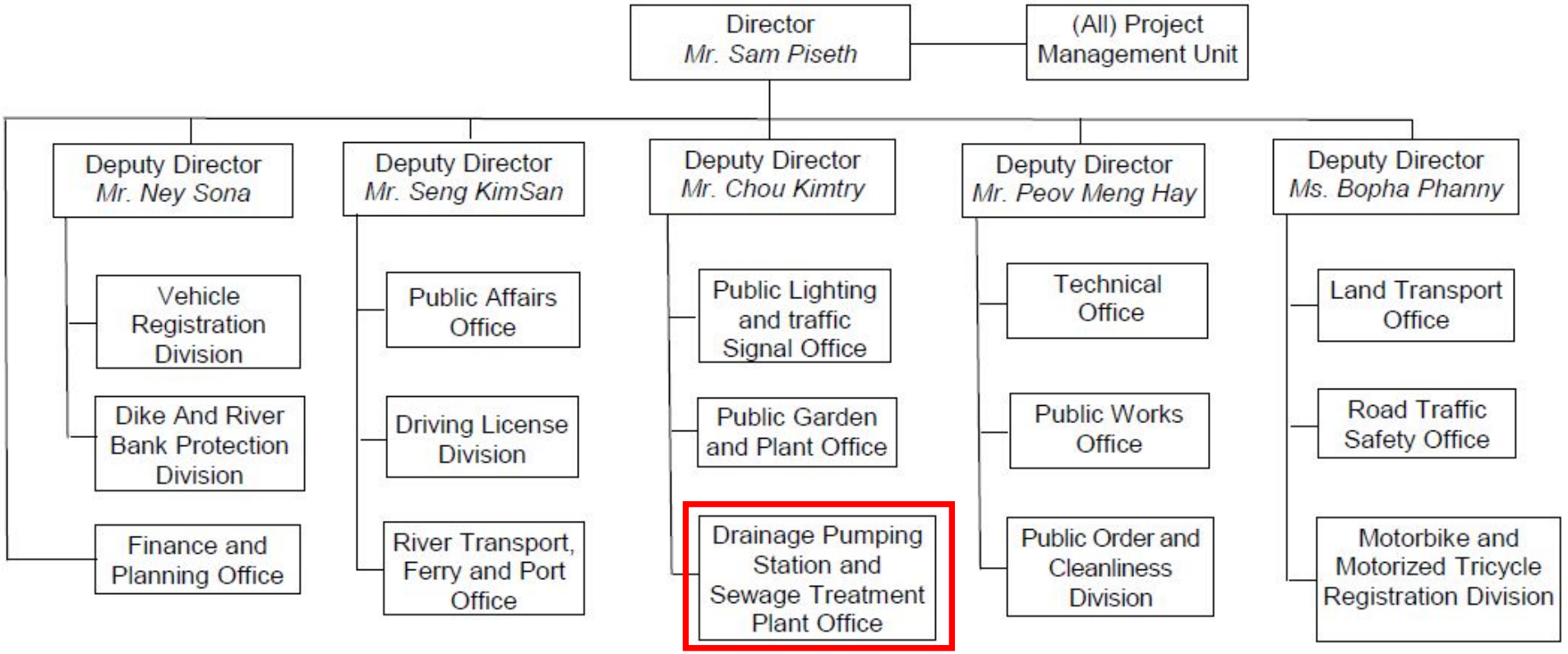


III. Current status of Choeung Aek Sewerage Treatment Plant

- Totally 22 staffs，3 women（Expected to increase 50 staffs in the future）
- Divided 4 operation group, operated in 24hrs（4 to 5 members per group）
- Operator responsible on：

  - **Monitor and operate system of WWTP Plant**
  - **Conduct daily inspection basis**
    (Daily checklist-Equipment and Scada)
  - **Monitor water quality and adjust chemical dosage**
  - **Repaired any fault or damages**
  - **Maintenance and washing equipment**
  - **Sludge collection and refill sand layer**
  - **Record and report of daily operation data**
  - **Other assign tasks**

IV. Daily inspection

(Photos 1)

Checking the current flow of treated water flow

Checking the Thickened Sludge Transfer pump at main pump building facilities

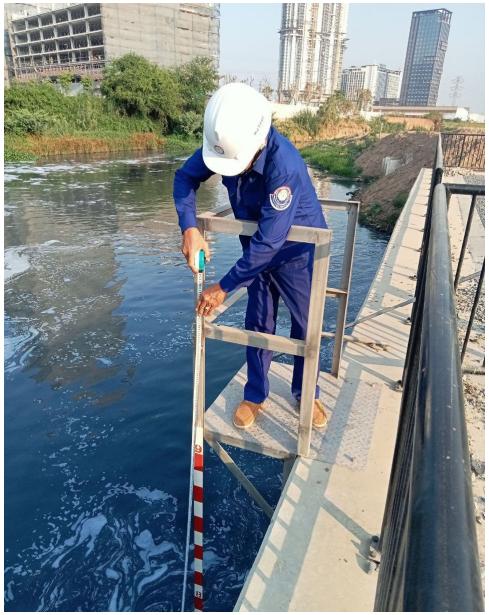
Inject grease on rotating rack

Record current of control panel

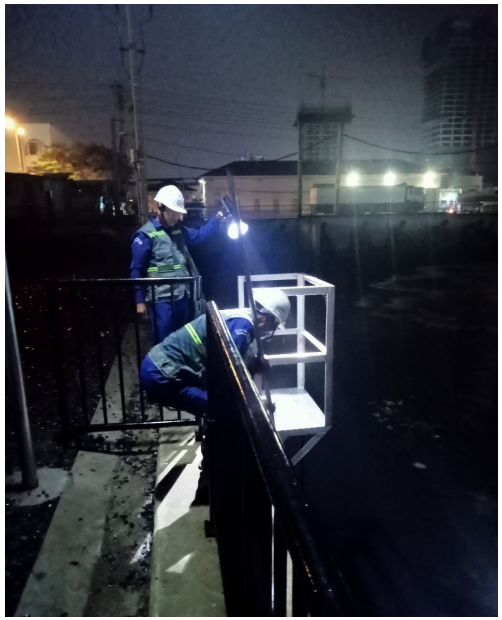
IV. Daily inspection (Cont.…)

(Photos 2)

Checking the intake flow rate



Measuring the level of raw water intake

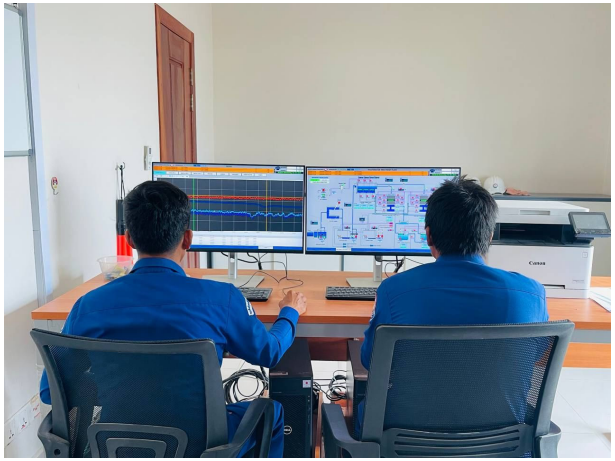


Removing trash which stuck at the screen

Checking the discharge pressure

IV. Daily inspection (Cont.…)

(Photos 3)



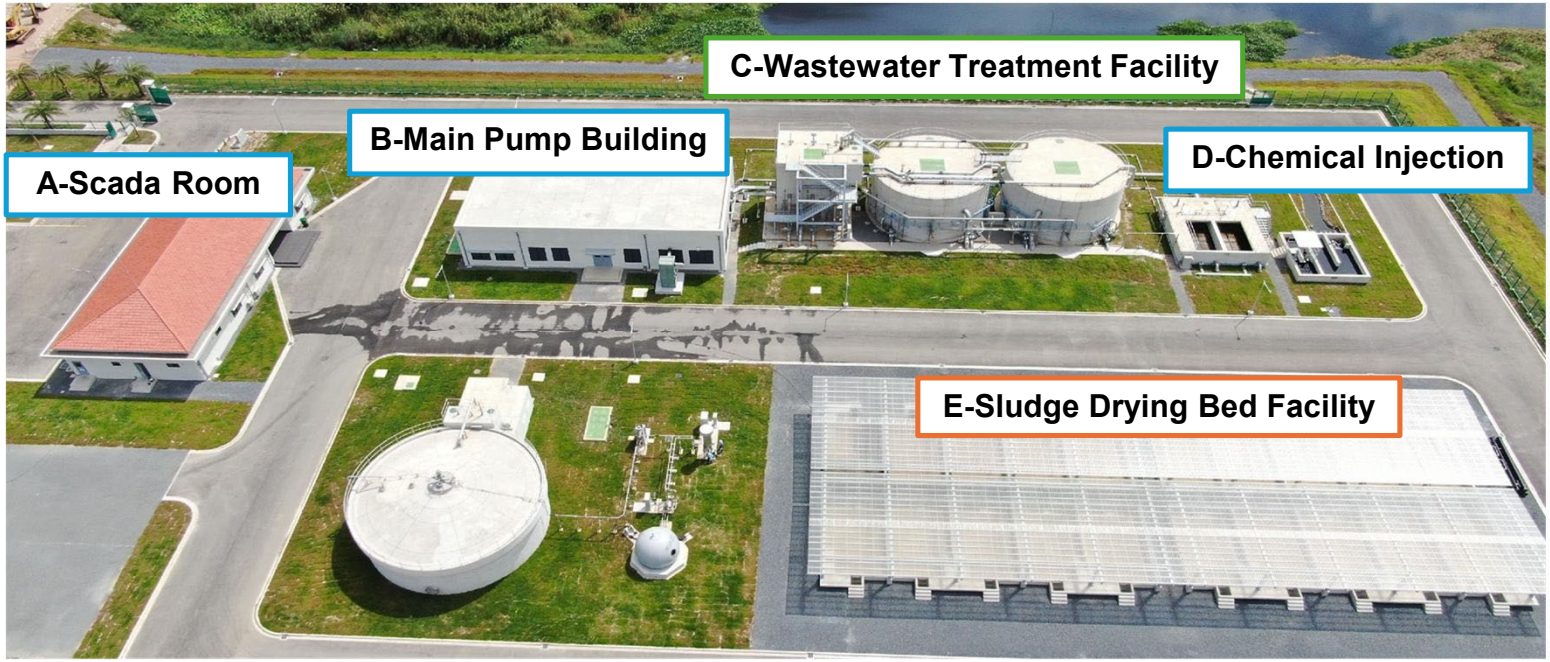
Monitoring the operation through SCADA system

Dry sludge collection

Water quality testing

Checking the current flow of treated water flow

V. Flow direction of site visit



Group 1 B ▷ C ▷ D ▷ E ▷ A (Waiting time 10 min)

Group 2 A ▷ B ▷ C ▷ D ▷ E (Waiting time 10 min)

Group 3 (Waiting time 10 min) A ▷ B ▷ C ▷ D ▷ E

Thank you for attention!