

# **The Second General Meeting of Asia Wastewater Management Partnership (AWaP)**

**18<sup>th</sup> August 2021**

**Online**

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## **The Second 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 an essential target for wastewater management among the different selected goals and targets: SDG target 6.3, which aims to halve the proportion of untreated wastewater by 2030 as its one of the goals. 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 the achievement of 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.

Among the different meeting agenda items, the participating countries discussed the implementation guidelines and the work plan of AWaP. Based on these implementation guidelines, the partnership consists of government officials from Asian countries engaged in policy-making for wastewater management and other related fields. The main objectives of AWaP are to organize regular meetings, share information on wastewater management, and discuss solutions for future improvements in this field. AWaP targets the mainstreaming of wastewater management in each participating country and satisfies 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 the achievement of the SDG wastewater-related targets by 2030.

The 2nd AWaP General Meeting will share the activities of participating countries and the challenges of wastewater management and discuss plans for future activities.

#### **2. Contents of meeting**

The 2nd General Meeting will focus on the following topics for information sharing and discussion.

- Reporting on AWaP Activities and Summary of Common Challenges
- Proposal on the AWaP Activities for Resolving Common Challenges
- Proposal for the Future AWaP General Meetings and Operations Committee

Before the General Meeting, a seminar will introduce Japanese technologies for wastewater treatment and stormwater management.

# **The Second Asia Wastewater Management Partnership (AWaP) Online General Meeting 2021**

## **Program**

- Date: Wednesday, August 18, 2021
- Time: 15:00-17:00 (JST)
- Chair: Dr. Taku FUJIWARA: Professor, Kyoto University
- Facilitator: Dr. Pierre Flamand, Manager - International Affairs, Japan Sanitation Consortium (JSC)

### **15:00 Commemorative Photograph**

#### **Opening Remarks by Mr. Ryuji Uematsu**

Mr. Ryuji Uematsu: Director General for Sewerage and Wastewater Management Department, Water and Disaster Management Bureau, Ministry of Land, Infrastructure, Transportation and Tourism (MLIT)

#### **Introduction of Participants**

### **15:15 Purpose of the Meeting**

Prof. Taku FUJIWARA

### **15:20 Concept and Achievements of AWaP**

Mr. Hirokazu Misho: Deputy Director, Sewerage Planning Division, Sewerage and Wastewater Management Department, Water and Disaster Management Bureau, Ministry of Land, Infrastructure, Transport and Tourism (MLIT)

### **15:25 Session1: Reporting on AWaP Activities and Summary of Common Challenges**

#### **Cambodia**

Mr. CHAO Sopheak Phibal: Deputy Director General, General Directorate of Sewerage and Wastewater Management (GDSWM), Ministry of Public Works and Transport (MPWT)

#### **Indonesia**

Ir. Prasetyo, M. Eng: Director of Sanitation, Directorate of General Human Settlements, Ministry of Public Works and Housing (MPWH)

#### **Philippines**

Ms. Maria Catalina E. Cabral: Undersecretary for Planning, PPP and Information Management Service, Department of Public Works and Highways (DPWH)

#### **Vietnam**

Dr. Mai Thị Liên Hương: Ass. Professor, Director General, Administration of Technical



Infrastructure, Ministry of Construction (MOC)

### **Japan**

Mr. Kazuhiro Nitta: Chief Sewerage Planning Division, Sewerage and Wastewater Management Department, Water and Disaster Management Bureau, Ministry of Land, Infrastructure, Transport and Tourism (MLIT)

### **Summary of the Annual Report 2020 and Common Challenges**

Mr. Hirokazu Iwasaki: Director General, International Affairs Department, Japan Sewage Works Agency (JS)

### **Discussion**

## **16:05 Session2: Proposal on the AWaP Activities for Resolving Common Challenges**

Mr. Hirokazu Misho: Deputy Director, Sewerage Planning Division, Sewerage and Wastewater Management Department, Water and Disaster Management Bureau, Ministry of Land, Infrastructure, Transport and Tourism (MLIT)

### **Centralized and Decentralized wastewater treatment systems**

Mr. Hirokazu Iwasaki: Director General, International Affairs Department, Japan Sewage Works Agency (JS)

### **Trenchless sewer pipe constructing**

Mr. Masayuki Anezaki: Overseas Incubation Division Infrastructure Management Headquarters, Nihon Suido Consultants Co., Ltd.

### **Development of sewerage technology adapted to local conditions**

Mr. Masaaki Ito: Overseas Sales Section, Business Promotion Department, Pump & Jet Division, ISHIGAKI COMPANY, Ltd.

### **Discussion**

## **16:40 Session3: Proposal for the Future AWaP General Meetings and Operations Committee**

Mr. Hirokazu Misho: Deputy Director, Sewerage Planning Division, Sewerage and Wastewater Management Department, Water and Disaster Management Bureau, Ministry of Land, Infrastructure, Transport and Tourism (MLIT)

### **Discussion**

## **16:50 Chairman's Summary**

Prof. Taku FUJIWARA

## **17:00 Closure of the Meeting**

Time lags

- Cambodia, Indonesia, Vietnam (JST-2h)
- Philippines (JST-1h), business hours until 16:00

# List of Participants

AWaP Country

August 18,2021

No.	Country	Name	Organization	Position
1	Cambodia	H.E. Kem Borey	Ministry of Public Works and Transport (MPWT)	Under Secretary of State
2	Cambodia	H.E. Samrangdy Nam	General Directorate of Sewerage and Wastewater Management (GDSWM) / Ministry of Public Works and Transport (MPWT)	Director General
3	Cambodia	Mr.CHAO S. Phibal	General Directorate of Sewerage and Wastewater Management (GDSWM) / Ministry of Public Works and Transport (MPWT)	Deputy Director General
4	Cambodia	Mr. Im Vibol	Sewerage Techniques and Research Department (STRD) / GDSWM	Director
5	Indonesia	Mr. Prasetyo, M. Eng	Directorate General of Human Settlements, Ministry of Public Works and Housing (MPWH)	Directorate of Sanitation
6	Japan	Dr. Taku FUJIWARA (Chair)	Kyoto University	Professor
7	Japan	Mr. Ryuji Uematsu	Sewerage and Wastewater Management Department, Water and Disaster Management Bureau, Ministry of Land, Infrastructure, Transport and Tourism (MLIT)	Director General
8	Japan	Mr. Jun Tsumori	Sewerage International Affairs and Engineering Office, Sewerage Planning Division, Sewerage and Wastewater Management Department, Water and Disaster Management Bureau, MLIT	Director
9	Japan	Mr. Youhei Okami	Sewerage Planning Division, Sewerage and Wastewater Management Department, Water and Disaster Management Bureau, MLIT	Director for Overseas Projects of Sewerage
10	Japan	Mr. Hiroyasu Kawashima	Water Environment Division, Environmental Management Bureau, Ministry of the Environment (MOE)	Deputy Director
11	Philippines	Ms. Maria Catalina E. Cabral	Department of Public Works and Highways (DPWH)	Undersecretary for Planning, PPP and Information Management Service
12	Philippines	Ms. Dolores M. Hipolito	Unified Project Management Office (UPMO) - Flood Control Management Cluster (FCMC), Department of Public Works and Highways (DPWH)	Project Manager III
13	Vietnam	Dr. Mai Thị Liên Hương	Administration of Technical Infrastructure, Ministry of Construction (MOC)	Ass. Professor, Director General
14	Vietnam	Msc. Luong Ngoc Khanh	Drainage and Wastewater Treatment Management Division, Administration of Technical Infrastructure, Ministry of Construction of Vietnam (MOC)	Head

# List of Participants

## Japanese Public Organization

August 18,2021

No.	Country	Name	Organization	Position
1	Japan	Mr. Hirokazu IWASAKI	International Affairs Department, Japan Sewerage Works Agency (JS)	Director General
2	Japan	Mr. Akihiro Miyazaki	Environmental Management Group, Global Environment Department, Japan International Cooperation Agency (JICA)	Deputy Director General
3	Japan	Mr. Hideaki Matsuoka	Environmental Management Group, Global Environment Department, Japan International Cooperation Agency (JICA)	Director
4	Japan	Mr. Mitsuo Kitagawa	Japan International Cooperation Agency (JICA)	Senior Adviser
5	Japan	Mr. Masahiro Yasuda	Infrastructure Engineering Department, Japan International Cooperation Agency (JICA)	Assistant Director
6	Japan	Mr. Norihide Tamoto	Advisor For Sewerage Policy in Vietnam, Japan International Cooperation Agency (JICA)	Long-term JICA Expert
7	Japan	Mr. Keiichi Kitagawa	The Project for Capacity Development for Sewerage Management of Phnom Penh Capital Administration and Ministry of Public Works and Transport, JICA	Long-term JICA Expert
8	Japan	Mr. Atsushi Takahashi	The Project for Capacity Development for Sewerage Management of Phnom Penh Capital Administration and Ministry of Public Works and Transport, JICA	Long-term JICA Expert
9	Japan	Mr. Kairi Komatsu	The Project for Capacity Development for Sewerage Management of Phnom Penh Capital Administration and Ministry of Public Works and Transport, JICA	Long-term JICA Expert
10	Japan	Mr. Matsuo Tanaka	Advisor For Sewerage Policy in Indonesia, Japan International Cooperation Agency (JICA)	Long-term JICA Expert
11	Japan	Mr. Kazuyuki Yagi	Institute for Global Environmental Strategies (IGES)	Programe Manager
12	Japan	Dr. Binaya Raj Shivakoti	Institute for Global Environmental Strategies (IGES)	Senior Policy Researcher
13	Japan	Ms. Yukako Inamura	Institute for Global Environmental Strategies (IGES)	Policy Researcher
14	Japan	Dr. Ngoc-Bao Pham	Institute for Global Environmental Strategies (IGES)	Research Manager
15	Japan	Ms. Yurie SHIRAKAWA	Japan Education Center of Environmental Sanitation	Resercher
16	Japan	Mr. Masanori HATADA	Japan Sanitation Consortium (JSC)	Executive Director

# List of Participants

Japanese Private Company, presentator of session2

August 18,2021

No.	Country	Name	Organization	Position
1	Japan	Mr. Masayuki Anezaki	Overseas Incubation Division Infrastructure Management Headquarters, Nihon Suido Consultants Co., Ltd.	
2	Japan	Mr. Masaaki Ito	Overseas Sales Section, Business Promotion Department, Pump & Jet Division, ISHIGAKI COMPANY, Ltd.	

# List of Participants

AWaP Secretariat

August 18,2021

No.	Country	Name	Organization	Position
1	Japan	Mr. Hirokazu Mishou	Sewerage Planning Division, Sewerage and Wastewater Management Department, Water and Disaster Management Bureau, MLIT	Deputy Director
2	Japan	Mr. Kazuhiro Nitta	Sewerage Planning Division, Sewerage and Wastewater Management Department, Water and Disaster Management Bureau, MLIT	Chief
3	Japan	Ms. Rio OWADA	Office for Promotion of Johkasou, Waste Management Division, Environmental Regeneration and Material Cycles Bureau, Ministry of the Environment (MOE)	Subsection Chief
4	Japan	Dr. Pierre FLAMAND (Facilitator)	Japan Sanitation Consortium (JSC)	Manager - International Affairs

## **Purpose of Meeting**

**Session1: Reporting on AWaP Activities and  
Summary of Common Challenge**

**Session2: Proposal on the AWaP Activities for  
Resolving Common Challenges**

**Session3: Proposal for the Future AWaP General  
Meetings and Operations Committee**

## **Concept and Achievements of AWaP**



# The Second General Meeting of the Asia Wastewater Management Partnership (AWaP)

18<sup>th</sup> August 2021

**Secretariat of the Asia Wastewater Management Partnership (AWaP)**

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

and

Ministry of the Environment (MOE), Japan

## Concept of the Asia Wastewater Management Partnership (AWaP)

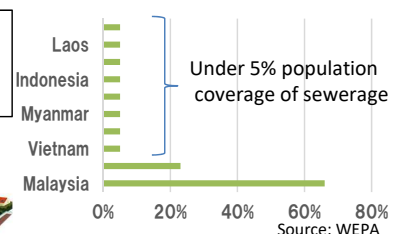
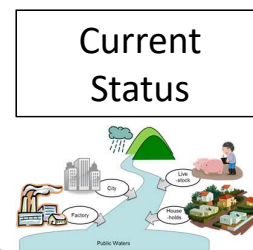
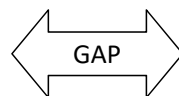
**SUSTAINABLE DEVELOPMENT GOALS**



**17 inclusive targets by 2030**

**Target 6.3**

**“Halving the proportion of untreated wastewater”**



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 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 project**





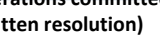

- Pilot project on new technologies
- Model projects for the introduction of new ideas and technologies
- Project to establish technical/policy guidelines

## AWaP Activities plan (as of 2018, 1<sup>st</sup> AWaP General Meeting)

Activities	2018	2019	2020	2021	2022
<b>Schedules</b>	 				 
<b>1. Raising Awareness on Wastewater Management</b>					
1.1 Spreading the importance of wastewater management and the outcome of AWaP through international conferences	Discuss with various organizations including supporting organizations about coordination on spreading information	Spread information at conferences hosted by support organization or international conferences			
1.2 Spreading information to promote understandings of the effectiveness of wastewater management to citizens and officials in partner countries	Share the cases of public awareness activities	Plan public awareness activities in each partner country	Implement public awareness activities in each partner country	Report results and outcomes of activity in the annual report	
<b>2. Monitoring of Wastewater Management</b>					
2.1 Submission of annual report from partner countries	Discussing the monitoring methodology	Write and edit annual report	Update annual report	Update annual report	Update annual report
2.2 Publishing AWaP Synthesis Report		Write and edit AWaP synthesis report		Publish AWaP synthesis report	
<b>3. Resolving Common Challenges</b>					
3.1 Sharing and discussing common challenges	Share the challenges of each partner country	Specify common challenges to resolve	Discussion with partner countries		
3.2 Conducting Co-Projects			Formulate co-projects	Implement co-projects	Summarize the outcomes of co-projects

3

## Achievements of AWaP Activities

Activities	2018	2019	2020	2021	2022
<b>Schedules</b>	 		 		
<b>1. Raising Awareness on Wastewater Management</b>					
1.1 Spreading the importance of wastewater management and the outcome of AWaP through international conferences	Discuss with various organizations including supporting organizations about coordination on spreading information	Not implemented: Spread information at conferences hosted by support organization or international conferences			
1.2 Spreading information to promote understandings of the effectiveness of wastewater management to citizens and officials in partner countries	Share the cases of public awareness activities	Plan public awareness activities in each partner country	Implement public awareness activities in each partner country	Not implemented: Report results and outcomes of activity in the annual report	
<b>2. Monitoring of Wastewater Management</b>					
2.1 Submission of annual report from partner countries	Discussing the monitoring methodology	Write and edit annual report	Verification annual report	Update annual report	
2.2 Publishing AWaP Synthesis Report		Write and edit AWaP synthesis report			
<b>3. Resolving Common Challenges</b>					
3.1 Sharing and discussing common challenges	Share the challenges of each partner country	Specify common challenges to resolve	Discussion with partner countries		
3.2 Conducting Co-Projects			Adjustment co-projects	Not implemented: Formulate and implement co-projects	

4

## **Session 1**



# Second General Meeting of Asia Wastewater Management Partnership, AWaP

By *CHAO Sopheak Phibal*, Deputy Director General  
General Directorate of Sewerage and Wastewater Management,  
GDSWM/MPWT Cambodia  
18 August 2021

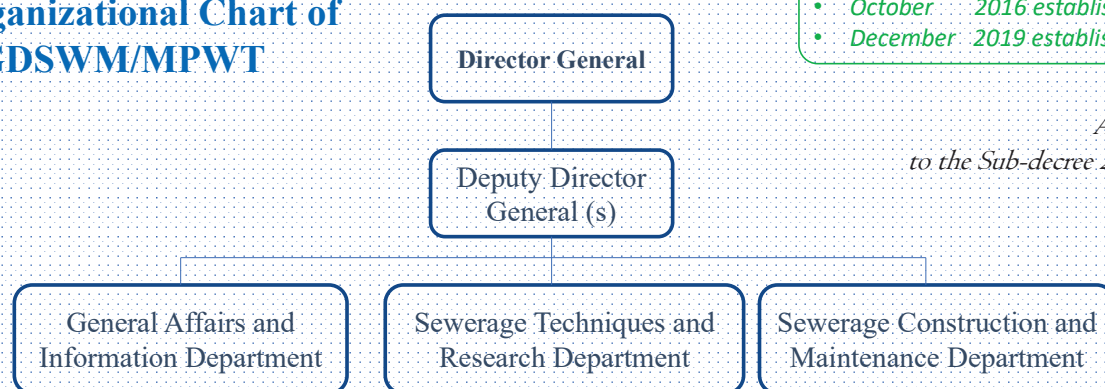
Co-Secretariat, MLIT & MOE Japan  
Organizer: AWaP Secretariat



Aug 18, 2021 Virtual 2<sup>nd</sup> GM/AWaP



## 1. Organizational Chart of GDSWM/MPWT



### Background

- October 2016 established **SMCD/MPWT**
- December 2019 established **GDSWM/MPWT**

According to Annex I  
to the Sub-decree 220 ANKr.BK, dated  
December 17, 2019

- ✓ Develop policies, regulation, strategies, master plans and development plans for sewerage systems, sludge management sites and wastewater treatment systems in the Kingdom of Cambodia.
- ✓ Develop technical instruments related to construction, operation and maintenance of sewerage systems, wastewater treatment systems and sewage sludge management site.
- ✓ 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>



#### Overall Performance

- ✓ Country Ranking 102/165
- ✓ Country Score 64.5%
- ✓ Regional average 65.7%

#### SDG Dashboards and Trends

- ✓ SDG6 Clean Water and Sanitation

#### International Spillover Index

- ✓ 98.8%

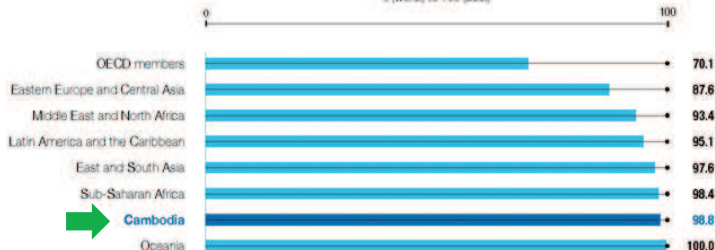
Source: Sustainable Development Report 2021



\*Cambodia is on track but major challenges.

#### INTERNATIONAL SPILLOVER INDEX

0 (worst) to 100 (best)



Sustainable Development Report 2021 The Decade of Action for the Sustainable Development Goals

## 2. Cambodia Brief Report

East and South Asia

#### OVERALL PERFORMANCE

COUNTRY RANKING

**Cambodia**  
**102**/165

COUNTRY SCORE



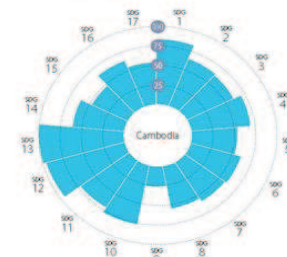
REGIONAL AVERAGE: 65.7

STATISTICAL PERFORMANCE INDEX

0 (WORST) TO 100 (BEST)



#### AVERAGE PERFORMANCE BY SDG



#### SDG DASHBOARDS AND TRENDS



## 3. Specific Activities and Achievement / CAMBODIA

Objectives	Main AWaP activities	Specific Activities in My Country	Specific Achievements in My Country
Raising Awareness on Wastewater Management	1.1 Spreading the importance of wastewater management and the outcome of AWaP through international conferences	<ul style="list-style-type: none"> <li>Capacity building program on the wastewater sector included in the Institute of Techo Sen Public Works and Transport Curriculum</li> <li>3rd SubTWG on Urban Wastewater and Sanitation on 09 June 2021</li> <li>Pre-FS on selected towns conducted in Svay Rieng in fiscal year 2019-2020</li> <li><b>Assistance and Cooperation from DPs</b> <ul style="list-style-type: none"> <li>Japan through JICA (TCP and Experts)</li> <li>WB/ADB/AFD/EDCF/Australia etc                             <ul style="list-style-type: none"> <li>Sewer connection program</li> <li>Wastewater strategies</li> <li>Awareness raising and communication</li> <li>City wise inclusive sanitation in Phnom Penh</li> <li>A high-level framework for cost recovery and financing</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Some TCP and project cooperation scheme committed and being studied to the timeframe even Covid-19 Pandemic.</li> <li>Sense of responsibility and good coordination from relevant line ministries resulted in establishment of high-level inter-ministerial committee headed by deputy prime minister, minister of MEF Cambodia.</li> <li>Development and Implementation Plans.</li> </ul>
	1.2 Spreading information to promote understandings of the effectiveness of wastewater management to citizens and officials	<ul style="list-style-type: none"> <li>Japan-Cambodia Kizuna Festival 2017-2019</li> <li>GDSWM's Publicity on Facebook/Website and Meetings/Conferen.</li> <li>Clean City Campaign in Siem Reap City</li> <li>The awareness raising activities at elementary schools conducted by Phnom Penh DPWT and Kitakyushu City under KUSANONE project.</li> </ul>	<ul style="list-style-type: none"> <li>Expansion more coverage areas both on wastewater campaign and sewerage system development.</li> <li>Few soft components committed in pipelines.</li> </ul>



## 4. Issues and Actions Taken / CAMBODIA

Items	Your Answers
Issues Found through the Preparation of Annual Report and Monitoring	<ul style="list-style-type: none"> <li>• <i>Little awareness of wastewater management and recorded</i></li> <li>• <i>Limited information on wastewater management and recorded</i></li> <li>• <i>Insufficient budget and technical capability expertise</i></li> <li>• <i>Shortage of wastewater treatment facilities, engineers and unsecure funds for O&amp;M</i></li> </ul>
Actions Taken to Resolve Issues	<ul style="list-style-type: none"> <li>• <i>Prepare template, checklist or other customize sample reports for record keeping.</i></li> <li>• <i>Prioritize the wastewater works, ensure budget and use collective efforts to achieve it based on sound data and science and guided by SDG 6.</i></li> <li>• <i>Introduce package technologies for centralized and decentralized WWTP, In-house group training and introduce user-pay basis principle or other fee-charge principle.</i></li> </ul>



Co-Secretariat, MLIT & MOE Japan  
Organizer: AWaP




Aug 18, 2021 Virtual 2<sup>nd</sup> GM/AWaP

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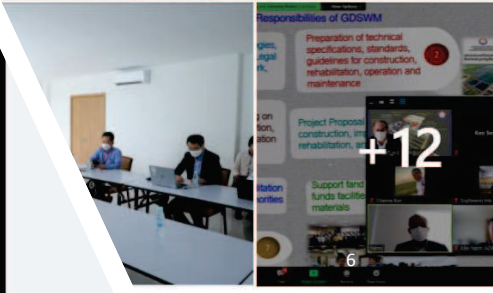

**ក្រសួងសាធារណការ និងដឹកជញ្ជូន Ministry of Works and Transport - MPWT**  
 June 10 · 🌐

គំរូប្រជុំអនុគណៈកម្មការក្រុមការងារបច្ចេកទេសស្តីពីទឹកកខ្វក់ និងអនាម័យក្នុងទីក្រុង តាមរយៈ ប្រព័ន្ធនៃអ៊ីនធឺណិត។  
 នៅថ្ងៃពុធ ១៤រោច ខែជេស្ឋ ឆ្នាំឆ្លូវ ត្រីស័ក ព.ស.២៥៦៥ ត្រូវនឹង ថ្ងៃទី១២ ខែសីហា ឆ្នាំ២០២១ នៅទីស្តីការគ្រួសារ ឯកឧត្តម គឹម ប៊ុន អនុរដ្ឋលេខាធិការក្រសួងសាធារណការ និងដឹកជញ្ជូន បានអញ្ជើញដឹកនាំគំរូប្រជុំអនុគណៈកម្មការក្រុមការងារបច្ចេកទេសស្តីពីទឹកកខ្វក់ និងអនាម័យ ក្នុងទីក្រុង ដោយមានការចូលរួមផ្តល់ព័ត៌មាននានាទទួលបានបន្ត ក្រុមការងារបច្ចេកទេស និងការចូលរួមតាមប្រព័ន្ធនៃអ៊ីនធឺណិត។ See More

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**២១ កក្កដា ២០២១៖ ឯកឧត្តមទេសរដ្ឋមន្ត្រី ស៊ី...**  
 Pi Seth, Villa Byban and 56K others  
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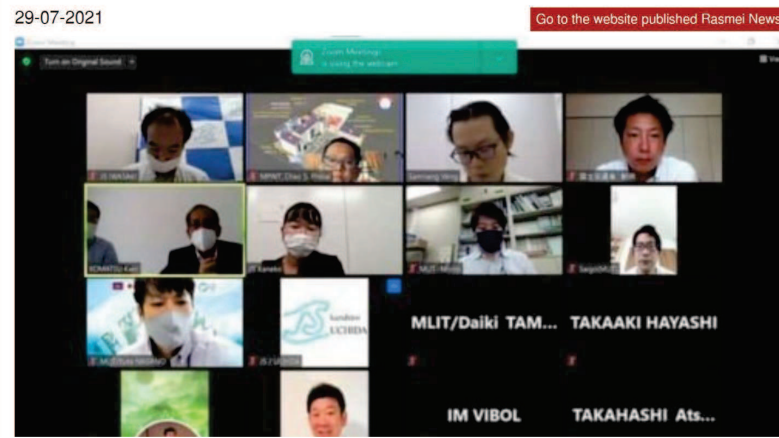






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**[RASMEI NEWS] - ក្រសួងសាធារណការកម្ពុជានិងក្រសួងដឹកជញ្ជូនជប៉ុនពិភាក្សាពីគម្រោងសិក្សាសាងសង់ប្រព័ន្ធចម្រោះទឹកកខ្វក់ និងអនាម័យ នៃផែនការមេ ទីក្រុងវៃស្អាត**



កិច្ចប្រជុំពិភាក្សាសមិទ្ធិលទ្ធភាពបឋម និងផែនការមេនៃទីក្រុងវៃស្អាត (Smart City) លើការអភិវឌ្ឍសិក្សាសាងសង់ប្រព័ន្ធចម្រោះទឹកកខ្វក់ និងអនាម័យក្នុងទីក្រុងសៀមរាប ប៉ែកខាងកើតតាមរយៈប្រព័ន្ធនៃអូរព័ទ្ធជាមួយនៅថ្ងៃពុធ ៤ រោច ខែទុតិយាសាធ ឆ្នាំឆ្លូវ ត្រីស័ក ព.ស.២៥៦៥ ត្រូវនឹងថ្ងៃទី២៤ ខែកក្កដា ឆ្នាំ២០២១ ឯកឧត្តម គឹម បូរី អនុរដ្ឋលេខាធិការក្រសួងសាធារណការ និងដឹកជញ្ជូន បានអញ្ជើញដឹកនាំកិច្ចប្រជុំតាមប្រព័ន្ធនៃអូរព័ទ្ធជាមួយ ពិភាក្សាលើគម្រោងសិក្សាសាងសង់ប្រព័ន្ធចម្រោះទឹកកខ្វក់ និងអនាម័យ នៃផែនការមេ ទីក្រុងវៃស្អាត (Smart City) ក្នុងទីក្រុងសៀមរាប ជាមួយក្រសួងដឹកជញ្ជូនជប៉ុន ដែលមានការចូលរួមពីភ្នាក់ងារសហប្រតិបត្តិការអន្តរជាតិជប៉ុន (JICA) និងភាគីពាក់ព័ន្ធផងដែរ។

អង្គប្រជុំបានពិភាក្សាអំពីវិធីសាស្ត្រ និងស្ថានភាពនៃការគ្រប់គ្រងទឹកកខ្វក់ និងអនាម័យ ដែលមានភាពចាំបាច់ក្នុងគម្រោងការបង្កើន ដោយស្របទៅតាមគោលការណ៍អភិវឌ្ឍន៍ក្នុងប្រព័ន្ធសង្គមស្ថាប័ន និងភាពរីកចម្រើនសព្វថ្ងៃ ហើយត្រូវសិក្សាឆ្លើយតបឱ្យមានភាពប្រសើរឡើងថែមទៀតក្នុងការគ្រប់គ្រង អភិវឌ្ឍ សាងសង់ សម្រាប់តំបន់ដែលកំពុងអភិវឌ្ឍខ្លាំង ក៏ដូចជានៅទូទាំងប្រទេសនាពេលអនាគត។

ជាមួយនោះដែរ ឯកឧត្តមអនុរដ្ឋលេខាធិការ បានគូសបញ្ជាក់នូវការប្តេជ្ញាចិត្ត ក្នុងការរីករាយសហការ ចំពោះគ្រប់ផែនការអភិវឌ្ឍន៍ ដែលក្នុងនោះរួមទាំងគម្រោងសាងសង់ប្រព័ន្ធចម្រោះទឹកកខ្វក់ និងអនាម័យ ដែលគ្រប់គ្រងដោយប្រព័ន្ធនៃអូរព័ទ្ធជាមួយ (JICA) ដែលតែងជួយធ្វើឱ្យប្រសើរឡើង លើកកម្ពស់ការគ្រប់គ្រងទឹកកខ្វក់ និងអនាម័យ ឱ្យកាន់តែមានប្រសិទ្ធភាព និងភាព ឆ្លាតវៃក្នុងការសហការគ្នាបានយ៉ាងល្អប្រសើរនាពេលកន្លងមក ផងដែរ។

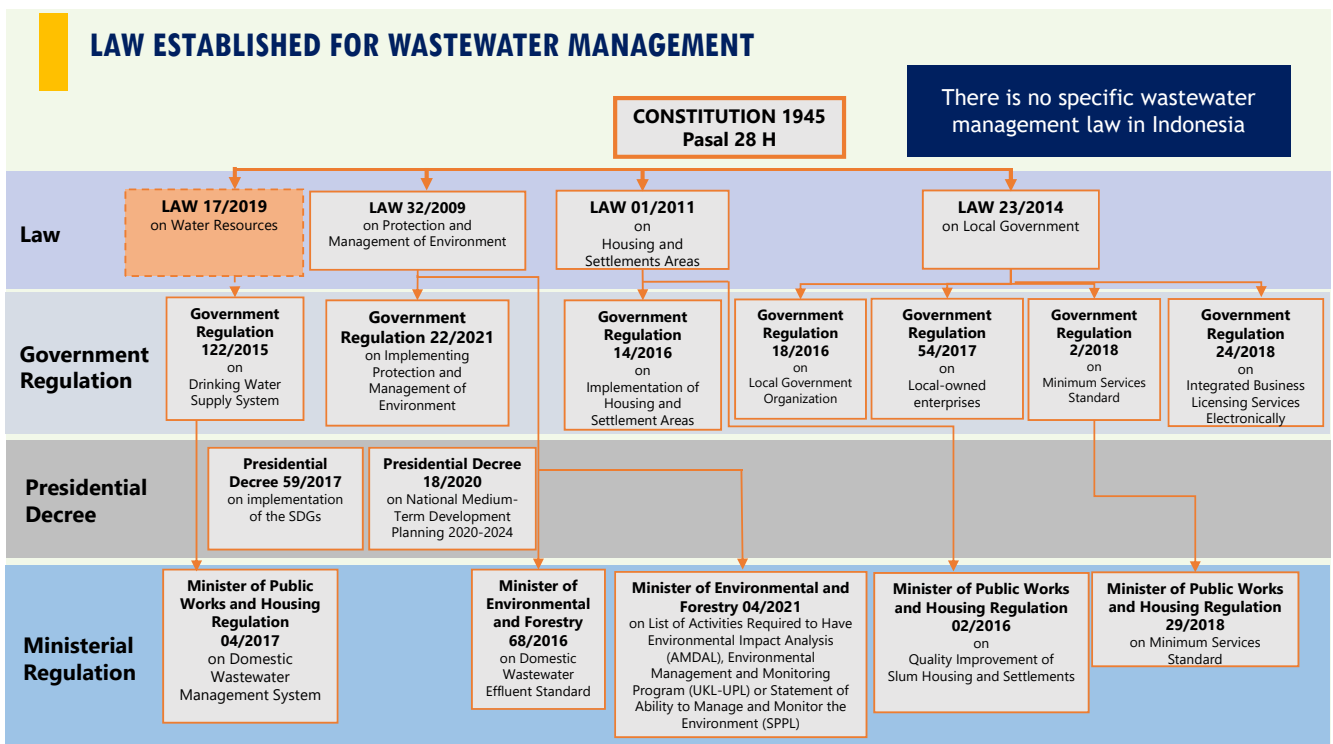
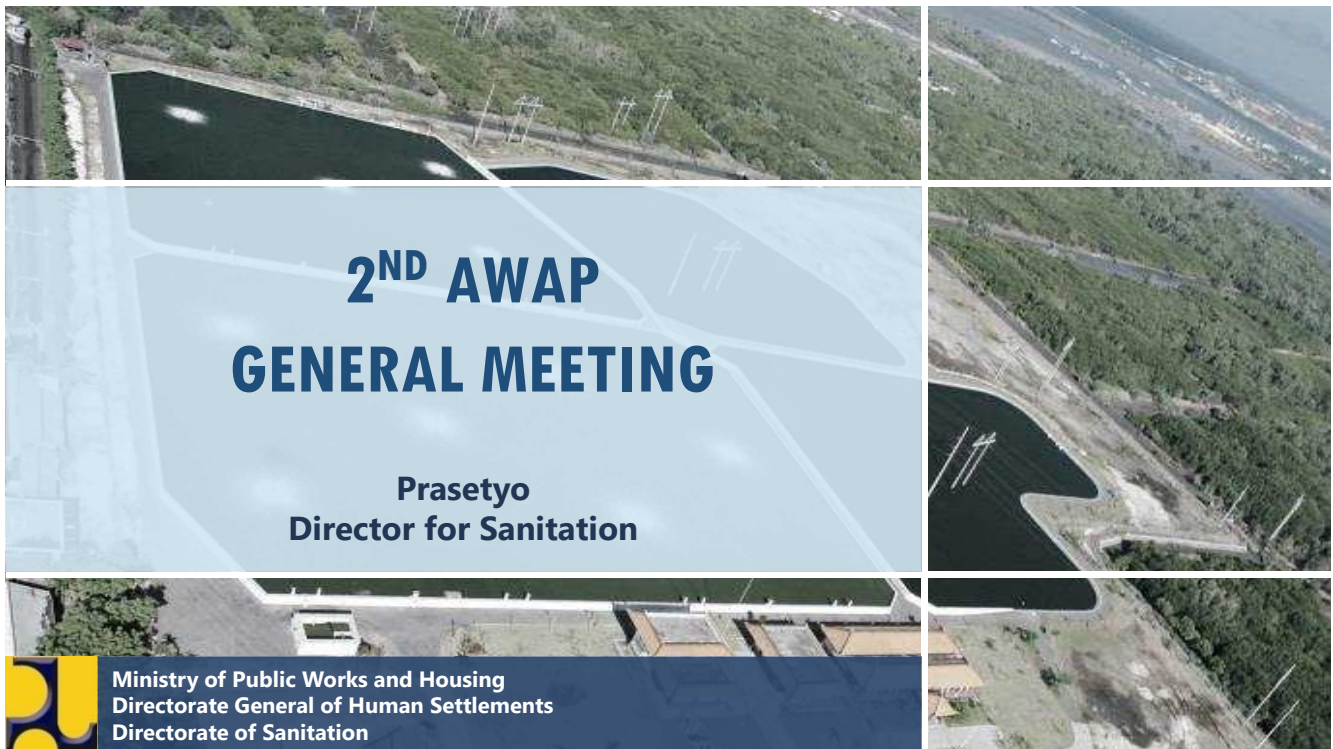
**“Mr. Akiha's Clean City Campaign in Siem Reap City, Cambodia”**











## SANITATION (DOMESTIC WASTEWATER) CONDITION

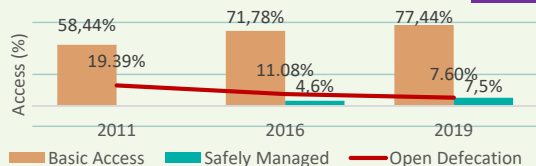
Household living in a house with access to basic, limited and safely managed sanitation (domestic wastewater)



Mainly served by on-site system

- 79,53% basic access (including 7,64% safely managed)
- 7,21% limited access and 7,07% direct discharged
- 6,19% open defecation

\*Source: BPS, 2020 analyzed by Bappenas



- Growth rate on access to Total sanitation 2011-2020: **±2% per year**
- Reduction rate of Open Defecation (OD) practice 2011-2020: **±1,4% per year**

Only < 25% Regencies/Cities have domestic wastewater treatment operators

< 15% Regencies/Cities that already have a local government regulation on domestic waste water management

Sanitation Investment Needs for 2020-2024 are approximately Rp **139,62 Trillion**, sources from: National Budget only **Rp 49,01 T**

GOALS

SDG's 2030 - Target 6.2

SDG's 2030 - Target 6.3

National Medium-Term Development Plan (2020-2024)

Presidential Decree No 18 Year 2020  
90% basic access (including 15% safely managed access)

Minimum Service Standard

Government Regulation No 2 Year 2018  
"Every Citizen has Rights to have access to Wastewater Treatment"

## ACTIVITIES BASED ON THE AWaP POLICY

Indonesia

AWaP activities and achievements from the Operations Committee meeting in Yokohama in 2018 to the present

Objectives	Main AWaP activities	Specific activities in my country	Specific achievements in my country
Raising Awareness on Wastewater Management	1.1 Spreading the importance of wastewater management and the outcome of AWaP through international conferences	<b>2018</b> <ol style="list-style-type: none"> <li>City Wide Inclusive Sanitation Workshop (Brasilia, Brazil), by The World Bank</li> <li>Informed Choice in Urban Sanitation, Lusaka Zambia</li> <li>Knowledge Exchange on Integrated Urban Water Management in Brazil</li> </ol>	<b>2018</b> <ol style="list-style-type: none"> <li>Indonesian Action Plan on achieving 100% adequate sanitation access</li> </ol>
		<b>2019</b> <p>Integrated Approach for Dissemination of Decentralized Domestic Wastewater Treatment System in Southeast Asia in Japan</p>	<b>2019</b> <p>Indonesia development of Decentralized Domestic Wastewater Treatment System</p>
		<b>2020</b> <ol style="list-style-type: none"> <li>1<sup>st</sup> Policy dialogue and network building of multi-stakeholders on integrated decentralized domestic wastewater management in ASEAN Countries (PoDIWM) January 20th – 21st, 2020 in Indonesia - Atlet Century Hotel</li> <li>2<sup>nd</sup> Policy dialogue and network building of multi-stakeholders on integrated decentralized domestic wastewater management in ASEAN Countries (PoDIWM) 21, 22 and 27 October 2020 via Video Conference</li> </ol>	<b>2020</b> <p>Indonesia policies and achievement of domestic wastewater management</p>
		<b>2021</b> <ol style="list-style-type: none"> <li>ADB Sanitation Dialogue 2021 (Online Forum), by Asian Development Bank - 2021: Indonesia Mixed Approach on Accelerating Sanitation Development</li> <li>The Sixth International Faecal Sludge Management Conference - 2021: Strategy implementation of on-site system in Indonesia</li> </ol>	<b>2021</b> <ol style="list-style-type: none"> <li>Indonesia Mixed Approach on Accelerating Sanitation Development</li> <li>Indonesian Action Plan on achieving safely managed access through on-site system</li> </ol>

**ACTIVITIES BASED ON THE AWAP POLICY****Indonesia**

AWaP activities and achievements from the Operations Committee meeting in Yokohama in 2018 to the present

Objectives	Main AWaP activities	Specific activities in my country	Specific achievements in my country
Raising Awareness on Wastewater Management	1.2 Spreading information to promote understandings of the effectiveness of wastewater management to citizens and officials	<ol style="list-style-type: none"> <li>1. Socialization about wastewater management through SANIMAS (Community Based Sanitation) (2018-2021).</li> <li>2. Socialization about wastewater management through Sanitasi Perdesaan (Sanitation in Rural Area) (2018-2021)</li> <li>3. Socialization about fecal sludge management through Septage Treatment Plant (STP) construction (2018-2021)</li> <li>4. Assisting Local Government in managing fecal sludge (2018-2021)</li> <li>5. Assisting Local Government in drafting local regulation on domestic wastewater management (2018-2021)</li> <li>6. Assisting Local Government in separating regulator and operator function through operator formation (2018-2021)</li> </ol>	<ol style="list-style-type: none"> <li>1. Guidelines for domestic wastewater management:               <ol style="list-style-type: none"> <li>a. Technical Guidelines for Implementation of Sanitasi Perdesaan (Sanitation in Rural Area) Project (2018-2021)</li> <li>b. Technical Guidelines for Implementation of SANIMAS (Community Based Sanitation) Project (2018-2021)</li> <li>c. Guidelines for Standard Operating Procedures (SOP) Domestic Wastewater Operator - (2018)</li> <li>d. Guidelines for Drafting Local head of government regulation on regular desludging - (2018)</li> <li>e. Technical Guidelines for Assessing The Performance of The Domestic Wastewater Operator (Technical Implementation Unit)</li> <li>f. Guidelines for Detailed Engineering Design for Wastewater Management with Off-site system (2018)</li> </ol> </li> </ol>

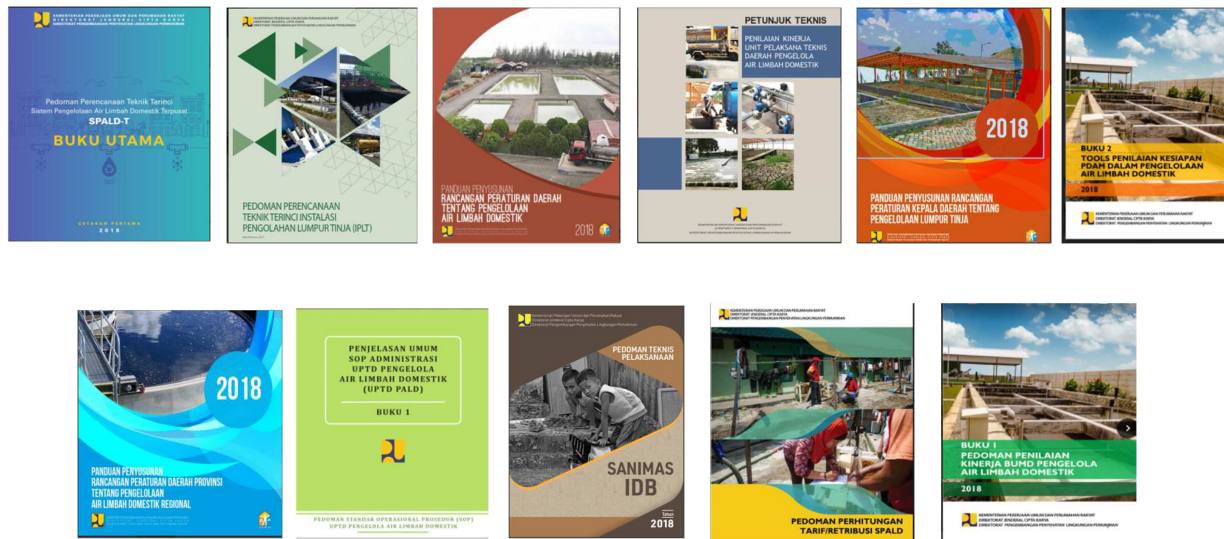
**ACTIVITIES BASED ON THE AWAP POLICY****Indonesia**

AWaP activities and achievements from the Operations Committee meeting in Yokohama in 2018 to the present

Objectives	Main AWaP activities	Specific activities in my country	Specific achievements in my country
Raising Awareness on Wastewater Management	1.2 Spreading information to promote understandings of the effectiveness of wastewater management to citizens and officials	<ol style="list-style-type: none"> <li>7. Training Local Government on domestic wastewater, including planning, implementation of construction and operation and maintenance at the Sanitation Technology Technical Implementation Unit (2018-2021)</li> <li>8. Socialization about wastewater management through Sanitation in Religious Education Project (2020-2021)</li> <li>9. National Workshop for Domestic Wastewater Operator: Dissemination of domestic wastewater management policies &amp; guidelines and sharing information/transfer knowledge about wastewater services (2019)</li> <li>10. National sanitation and water conference: Safe, Innovative and Sustainable Sanitation and Drinking Water Services For All with focus on funding sanitation and drinking water development (2019)</li> <li>11. City Sanitation Summit (CSS) XIX by Regencies/City Alliance of Sanitation/Aliansi Kabupaten Kota Peduli Sanitasi (AKKOPSI) (2019)</li> </ol>	<ol style="list-style-type: none"> <li>g. Guidelines for Detailed Engineering Design of Septage Treatment Plant - (2018)</li> <li>h. Guidelines for Drafting Local Regulations on Domestic Wastewater Management - (2018)</li> <li>i. Guidelines for Domestic Wastewater Management Tariff/Retribution Calculation (2018)</li> <li>j. Guidelines for Assessing The Performance of The Domestic Wastewater Operator (Regionally-owned enterprises) (2018)</li> <li>k. Assessment Guidelines for Readiness of PDAM in Domestic Wastewater Management (2018)</li> <li>l. Guidelines for Preparation of Integrated Domestic Wastewater and Drinking Water Management (2020)</li> <li>m. Technical Guidelines for Implementation of Sanitation in Religious Education Project (2021)</li> </ol> <ol style="list-style-type: none"> <li>2. Establishment of operator domestic wastewater management in 11 of 16 locations from 2018-2021</li> <li>3. Promulgation of local regulations on domestic wastewater management in 4 of 18 locations from 2018-2021</li> </ol>

## **GUIDELINES PUBLISHED IN 2018**

**Indonesia**



## **GUIDELINES PUBLISHED IN 2019**

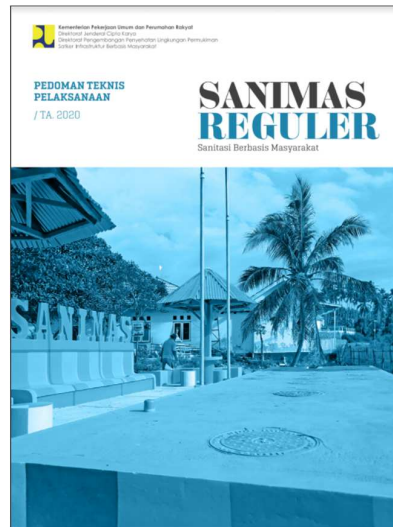
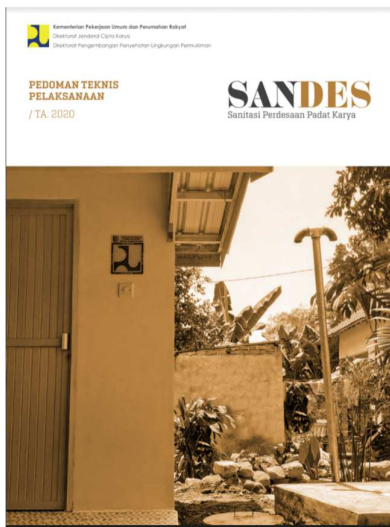
**Indonesia**





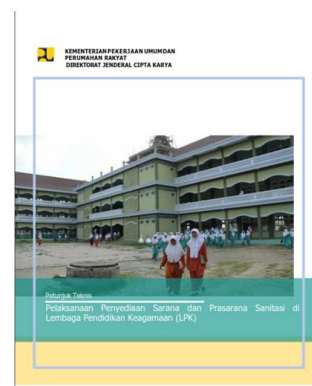
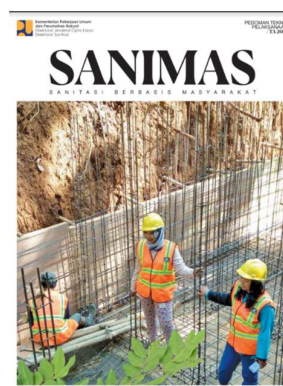
## GUIDELINES PUBLISHED IN 2020

Indonesia



## GUIDELINES PUBLISHED IN 2021

Indonesia

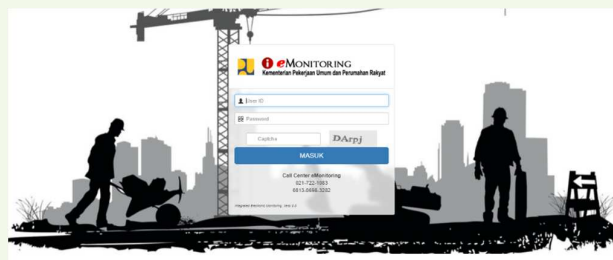
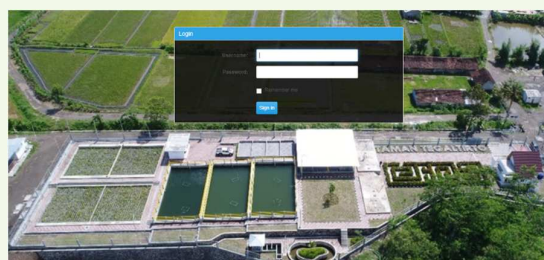


## ACTIVITIES BASED ON THE AWaP POLICY

**Indonesia**

AWaP activities and achievements from the Operations Committee meeting in Yokohama in 2018 to the present

Objectives	Main AWaP activities	Specific activities in my country	Specific achievements in my country
Monitoring of Wastewater Management	2.1 Annual Reporting of The Progress of Partner Countries	<ol style="list-style-type: none"> <li>1. Monitoring of on-going wastewater project and infrastructure through representative parties in each province;</li> <li>2. Reporting progress, monitoring, and evaluation result through Ministry of PWH integrated platform called Si-Mantav and E-monitoring.</li> </ol>	Creating online platform for monitoring and evaluation projects called Si-Mantav





## ACTIVITIES BASED ON THE AWaP POLICY

**Indonesia**

AWaP activities and achievements from the Operations Committee meeting in Yokohama in 2018 to the present

Objectives	Main AWaP activities	Specific activities in my country	Specific achievements in my country
Resolving Common Challenges	3.1 Discussion on Challenges and Sharing Solutions	<ol style="list-style-type: none"> <li>1. Sharing and Discussion regarding Private and Business for Safe Sanitation (2020)</li> <li>2. Sharing and Discussion regarding Water, Sanitation and Hygiene (WASH) Financing Strategy (2020)</li> <li>3. Focus Group Discussion regarding On-site Sanitation Roadmap (2021)</li> <li>4. Review of Partnership Programs between Indonesia Government and UNICEF in Outcome 2 (WASH) (2021)</li> </ol>	


**Objectives : Resolving Common Challenges**  
**Main AWP Activities : 3.2 Project Formulation and Implementation to Create Solution for Common Challenges [1/3]**

Common Challenges	Project Formulation and Implementation to Create Solution for Common Challenges
<b>Technical:</b>  <ul style="list-style-type: none"> <li>Poor quality of planning documents</li> <li>The implementation of O&amp;M often violates the SOP</li> <li>The difficulties to meet the new effluent standard</li> <li>Technology innovations for specific areas such as tidal areas, riverbanks and rocky areas are urgently needed</li> <li>Gap between the target and existing sanitation access</li> </ul>	<ul style="list-style-type: none"> <li>Guidelines for Detailed Engineering Design for Wastewater Management with Off-site system (2018)</li> <li>Guidelines for Detailed Engineering Design of Septage Treatment Plant - (2018)</li> <li>Guidelines for Standard Operating Procedures (SOP) Domestic Wastewater Operator - (2018)</li> <li>Construction of Septage Treatment Plant</li> <li>Construction of Wastewater Treatment Plant (city-wide scale and residential scale (including SANIMAS))</li> </ul>
<b>Institutional:</b>  <ul style="list-style-type: none"> <li>Low commitment of local government</li> <li>Separation of regulator and operator function</li> <li>Low quality of human resources in the institution</li> <li>Uncertified operator institution</li> </ul>	<ul style="list-style-type: none"> <li>Assisting Local Government in separating regulator and operator function through operator formation</li> <li>Guidelines for Drafting Local Regulations on Domestic Wastewater Management - (2018)</li> <li>Assisting Local Government in accelerating of Sanitation Development (PPSP)</li> <li>Training Local Government on domestic wastewater, including planning, implementation of construction and operation and maintenance at the Sanitation Technology Technical Implementation Unit</li> <li>Guidelines for Preparation of Integrated Domestic Wastewater and Drinking Water Management</li> </ul>

**Objectives : Resolving Common Challenges**  
**Main AWP Activities : 3.2 Project Formulation and Implementation to Create Solution for Common Challenges [2/3]**

Common Challenges	Project Formulation and Implementation to Create Solution for Common Challenges
<b>Regulation:</b>  <ul style="list-style-type: none"> <li>National Regulation of Domestic Wastewater is not available (only Minister of Public Works and Housing Regulation No. 04 Year 2017)</li> <li>Many regencies/cities have no local regulation of domestic wastewater</li> <li>Poor law enforcement</li> <li>Dissemination of norms, standards, procedures, and criteria in Sanitation Sector</li> </ul>	<ul style="list-style-type: none"> <li>Assisting Local Government in drafting local regulation on domestic wastewater management</li> </ul>
<b>Financial:</b>  <ul style="list-style-type: none"> <li>Gap between the availability and the necessity of sanitation funds</li> <li>Low utilization of grant and special allocation funds for Local Government</li> <li>Low O&amp;M allocation for Local Government</li> <li>The scheme of sanitation service tariff is not full cost recovery</li> <li>The alternative funding resources and the potency of private sectors are not fully optimized.</li> </ul>	<ul style="list-style-type: none"> <li>Guidelines for Domestic Wastewater Management Tariff/Retribution Calculation (2018)</li> </ul>

**Objectives** : Resolving Common Challenges  
**Main AWP Activities** : 3.2 Project Formulation and Implementation to Create Solution for Common Challenges [3/3]

Common Challenges	Project Formulation and Implementation to Create Solution for Common Challenges
<b>Community Participation:</b>  <ul style="list-style-type: none"> <li>Poor awareness on the sanitation service.</li> <li>The creation of supply and demand in the community and goods/services providers are still low</li> </ul>	<ul style="list-style-type: none"> <li>Socialization through sanitation projects</li> <li>National Workshop for Domestic Wastewater Operator: Dissemination of domestic wastewater management policies &amp; guidelines and sharing information/transfer knowledge about wastewater services (2019)</li> <li>National sanitation and water conference: Safe, Innovative and Sustainable Sanitation and Drinking Water Services For All with focus on funding sanitation and drinking water development (2019)</li> <li>City Sanitation Summit (CSS) XIX by City/Regencies Alliance for Sanitation/Aliansi Kabupaten Kota Peduli Sanitasi (AKKOPSI) (2019)</li> </ul>

### Activities based on the AWaP policy (Format for presentation) Indonesia

AWaP activities and achievements from the Operations Committee meeting in Yokohama in 2018 to the present

Items	Your answers
Issues found through the preparation of Annual Report and monitoring	<ol style="list-style-type: none"> <li>The main issue for preparation Annual Report is collecting data of achievement and infrastructure functionality in each regencies and city. As stated in Law No. 23 of 2014 on Local Government, local government is responsible for the domestic wastewater management and development, yet the Central Government can support the Local government through the development of domestic wastewater infrastructure and technical assistance based on these data.</li> <li>Field monitoring is limited due to the restricted mobilization during the covid-10 pandemic</li> </ol>
Actions taken to resolve issues	<ol style="list-style-type: none"> <li>Creating and developing management information system of sanitation called SI-INSAN and held one data workshop through representative parties in each province</li> <li>Reporting progress, monitoring, and evaluation result through Ministry of PWH integrated platform called Si-Mantav and E-monitoring.</li> </ol>







## Activities based on the AWaP policy

## Philippines

AWaP activities and achievements from the Operations Committee meeting in Yokohama in 2018 to the present

Objectives	Main AWaP activities	Specific activities in my country	Specific achievements in my country
Raising Awareness on Wastewater Management	1.1 Spreading the importance of wastewater management and the outcome of AWaP through international conferences		<b>2014-2017:</b> 2981 staff from the LGU, WD and DPWH ROs and DEOs
	1.2 Spreading information to promote understandings of the effectiveness of wastewater management to citizens and officials	DPWH, through the Environmental and Social Safeguards Division- Planning Service, conducted IEC on the National Sewerage and Septage Management Program (NSSMP) for staff from the LGUs, Water Districts and DPWH Regional and District Engineering Offices nationwide.	<b>2018:</b> 170 participants of the LGUs of the 17 HUCs outside Metro Manila <b>2019:</b> 1164 staff – same as in the rollout during 2014-2015 (LGU, WD, DPWH ROs and DEOs)

Supplementary information or comments:

**LGU-** Local Government Unit

**WD –**Water District

**RO-** Regional Office

**HUC-** Highly Urbanized City

**DEO-** District Engineering Office

**IEC –** Information, Education and Communication Campaign

**Note:** IEC in 2020 canceled due to the Covid-19 pandemic



## Activities based on the AWaP policy

## Philippines

AWaP activities and achievements from the Operations Committee meeting in Yokohama in 2018 to the present

Items	Your answers
Issues found through the preparation of Annual Report and monitoring	The Philippine Water (WSS) sector is fragmented owing mainly to the weak cooperation among different agencies and local government units (LGUs) in regard to Water and Sanitation programs, activities, and projects
Actions taken to resolve issues	Legislative: Various House Bills <ul style="list-style-type: none"> <li>Proposed for the creation of the Department of Water Resources and the Water Regulatory Commission <ul style="list-style-type: none"> <li>Consolidated House Bill Committee Report for review/signature of Chairs of Committees on Government Reorganizations, Public Works, Ways and Means and Appropriations (As of August 2021).</li> </ul> </li> </ul>

Supplementary information or comments:

**Activities based on the AWaP policy****Philippines**

AWaP activities and achievements from the Operations Committee meeting in Yokohama in 2018 to the present

Items	Your answers
Issues found through the preparation of Annual Report and monitoring	Investments in infrastructure have not been comprehensively planned and coordinated.
Actions taken to resolve issues	<ul style="list-style-type: none"><li>a. Feasibility Study of Sewerage and Septage Management Programs are being undertaken (at least 2 priority cities/municipalities/year)</li><li>b. Under the Philippine Water Supply and Sanitation Master Plan (2019-2030), the NSSMP shall be subsumed under the Unified Resource Allocation Framework (URAF)<ul style="list-style-type: none"><li>• Adoption of Viability Gap Funding (VGF) and utilization of Government Financing Institution's (GFI's) as a conduit for grants for sewerage projects</li><li>• Other priority areas, such as tourism zones, heritage sites and qualified critical areas, may be eligible for a grant subsidy</li></ul></li><li>c. Based on FS Reports and other documents, review and develop policy paper on the existing ratio of 50%-50% subsidy under NSSMP</li></ul>

Supplementary information or comments:

**Note:** completed FS of 6 cities  
ongoing FS of 2 cities

3

**Activities based on the AWaP policy****Philippines**

AWaP activities and achievements from the Operations Committee meeting in Yokohama in 2018 to the present

Items	Your answers
Lack of capacity in waster water management	Capacity Development Training during Feasibility Studies of Sewerage and Septage Management Programs (2018 – 45 participants, 2019 – 40 participants)

Supplementary information or comments:



4

# Wastewater Management in Vietnam

## The 2nd AWaP General Meeting

August 18<sup>th</sup>, 2021

Ministry of Construction  
Socialist Republic of Vietnam

### Activities based on the AWaP policy

### Vietnam

AWaP activities and achievements from the Operations Committee meeting in Yokohama in 2018 to the present

Objectives	Main AWaP activities	Specific activities in Vietnam	Specific achievements in Vietnam
Raising Awareness on Wastewater Management	1.1 Spreading the importance of wastewater management and the outcome of AWaP through international conferences	<ul style="list-style-type: none"><li>Insist on the necessity of sewerage works through international seminar or conference</li><li>(Organized workshops on sustainable drainage in Mekong Delta Region)</li></ul>	<ul style="list-style-type: none"><li>Deepening mutual relationship with international donors</li><li>(In TA collaboration with JICA, GLZ, conducted successfully training courses for managers, operators of drainage systems. JICA supports surveys, study for flooding prevention in Vinh city of Nghe An province.)</li></ul>
	1.2 Spreading information to promote understandings of the effectiveness of wastewater management to citizens and officials	<ul style="list-style-type: none"><li>Conducted training courses for staffs in central and local governments and related organizations.</li><li>Conducted environmental education in collaboration with local government in Japan through JICA grassroots technical cooperation.</li></ul>	<ul style="list-style-type: none"><li>The capacity of staffs in central and local governments were enhanced.</li><li>Contributed to increasing peoples awareness for preservation of water environment.</li></ul>

Supplementary information or comments:

-Cities have promulgated sewerage service tariff to get revenue for covering costs of drainage system O&M.  
-About 750,000 subsidence measurement points in Mekong Delta Region (areas affected by Climate Change) have been determined, also the elevation is recorded by satellite for each point every 8 days for 4 years (till 2020). 3 pilot models of Sustainable Urban Drainage (SUD) in the region have been built.



Technical Seminar on Urban Drainage



Training course in VSC Project

## **Activities based on the AWaP policy**

## **Vietnam**

AWaP activities and achievements from the Operations Committee meeting in Yokohama in 2018 to the present

Items	Your answers
Issues found through the preparation of Annual Report and monitoring	<ul style="list-style-type: none"><li>• Drainage and sewerage systems have not kept pace with rapid urbanization and industrialization.</li><li>• Further investment for drainage and sewerage are needed.</li><li>• Enhancing the capacity in development of institutions, managing and development of drainage and wastewater treatment infrastructure is urgent issue.</li></ul>
Actions taken to resolve issues	<ul style="list-style-type: none"><li>• Development of drainage and wastewater treatment facilities in cooperation with local governments and donors</li><li>• Development of regulations and technical standards</li><li>• Formulating new project of development of sewerage facility</li><li>• Study on promoting investment in sewerage sector</li></ul>

### Supplementary information or comments:

- In 2018, there are 40 WWTPs with the total capacity of 900,000 m<sup>3</sup>/day. Up to now, there are 71 WWTPs with total capacity of 1,300,000 m<sup>3</sup>/day (increased 44%).

- About 47/63 localities have issued local regulations on drainage and wastewater treatment management.

- However, dealing with urban flooding in localities has many difficulties as a large investment capital is needed.



Yen Xa WWTP Construction Site, Hanoi  
(as of May 2021)



Pipe Jacking Construction Site, Hanoi  
(as of June 2021)



# Activities based on the AWaP policy

2021.8.18

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

## Activities based on the AWaP policy

## JAPAN

AWaP activities and achievements from the Operations Committee meeting in Yokohama in 2018 to the present

Objectives	Main AWaP activities	Specific activities in Japan	Specific achievements in Japan
Raising Awareness on Wastewater Management	1.1 Spreading the importance of wastewater management and the outcome of AWaP through international conferences	<ul style="list-style-type: none"> <li>➢ Preparation for AWaP 2<sup>nd</sup> General Meeting</li> <li>➢ Preparation for participation to 4<sup>th</sup> APWS (Asia-Pacific Water Summit)</li> </ul>	Continuation of AWaP secretariat
	1.2 Spreading information to promote understandings of the effectiveness of wastewater management to citizens and officials	<ul style="list-style-type: none"> <li>➢ Set the Sewer day (10<sup>th</sup> September, every year)</li> <li>➢ School visiting lecture by officer of sewerage</li> <li>➢ Establishment of GKP (Sewer public relations platform)</li> </ul> <p>Example of GKP's activities</p> <ul style="list-style-type: none"> <li>• Distribute the Manhole Card (now 780 types)</li> <li>• Water Angel (one of Miss NIPPON)</li> </ul>	For a while, sewerage became commonplace, but interest in sewerage is growing.



Poster of Sewer day



School visiting lecture by officer of sewerage



Manhole Card



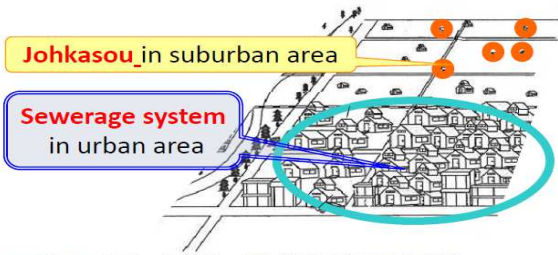
Water Angel (one of Miss NIPPON)

Activities based on the AWaP policy

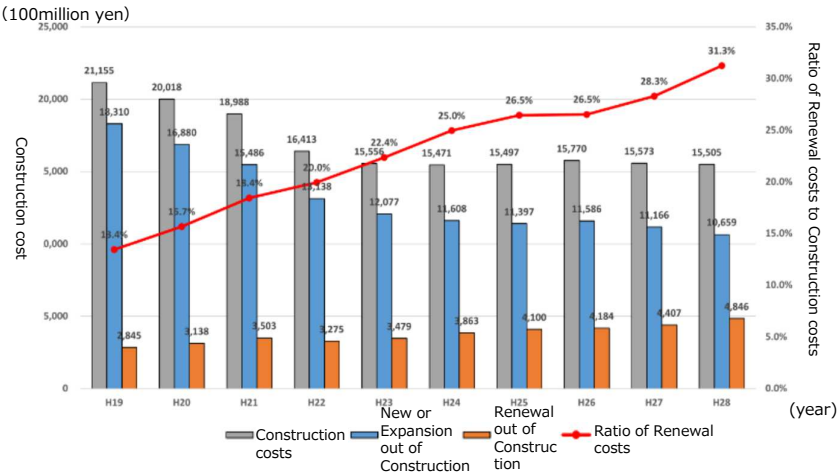
JAPAN

AWaP activities and achievements from the Operations Committee meeting in Yokohama in 2018 to the present

Items	JAPAN
Issues found through the preparation of Annual Report and monitoring	1. Still remain about 8% of population discharge untreated domestic wastewater 2. Renewal cost of sewer pipes and treatment plans as a percentage of construction cost increased from 13% to 31% in 10 years
Actions taken to resolve issues	1. Formulation of prefectural wastewater treatment plan Division responsibilities into sewerage, rural sewerage and johkasou 2. Leveling construction costs by introduce of stock management and we are going to promote Public Private Partnership (PPP)



Small size Johkasou for household



# Summary of the Annual Report 2020 and common challenges

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August 18, 2021

IWASAKI Hirokazu

Director General, International Affairs Department,  
Japan Sewage Works Agency



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## The AWaP Annual Report 2020

The AWaP Annual Report 2020 summarizes the following eight aspects of wastewater management in the member countries.

1. Name of Ministries in charge
2. Laws established regarding wastewater management
3. Organizational structure regarding wastewater management
4. General policies regarding wastewater management
5. Current situation of the nation's wastewater management
6. Current issues concerning wastewater management
7. Actions taken to prioritize wastewater management policies
8. Sources of fund for wastewater management



## Summary of the AWaP Annual Report 2020

### 1. Name of Ministries in charge

	Waste Water in City Area	Waste Water in Rural Area	Quality of Effluents
Cambodia	Ministry of Public Works and Transport (MPWT)	MPWT	MOE
Indonesia	BAPPENAS Ministry of Public Works and Housing (MoPWH) MoHA	BAPPENAS MoPWH MoHA	MoEF
Japan	Ministry of Land, Infrastructure, Transport and Tourism (MLIT)	MLIT : sewerage MAFF : rural sewerage MOE : Johkasou	MOE
Myanmar	Ministry of Construction (MoC)	MoC	MONREC
Philippines	Metropolitan Wasteworks and Sewerage System (MWSS) MWSS and LWUA are attached agencies of the Department of Public Works and Highways (DPWH)	Local Water Utilities Administration (LWUA)	DENR DOH
Vietnam	Ministry of Construction (MoC)	MoC	MoNRE

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## Summary of the AWaP Annual Report 2020

### 2. Laws established regarding wastewater management

	Central Government		Local Governments	
	Laws of Regulation	Laws of Construction	Laws of Regulation	Laws of Construction
Cambodia	Yes	No	No	Yes (part, Prakas)
Indonesia	Yes	Yes (part)	No	No
Japan	Yes	Yes	Yes (part, ordinance)	Yes (ordinance)
Myanmar	Yes	Yes (part)	No	Yes (Yangon, Mandalay)
Philippines	Yes	Yes (part)	Yes	Yes (ordinance)
Vietnam	Yes	Yes (decree)	No	No

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## 3. Organizational structure regarding wastewater management

	Central Government	Local Governments
Cambodia		
Indonesia		
Japan	omitted	
Myanmar		
Philippines		
Vietnam		

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## 4. General policies regarding wastewater management

	General Policies
Cambodia	<ul style="list-style-type: none"> <li>• Rectangular Phase IV (2018-2023)</li> <li>• National Strategic Development Plan 2019-2023</li> </ul>
Indonesia	<ul style="list-style-type: none"> <li>• In line to SDG Goal 6, Indonesian Government through National Medium-Term Development Plan 2020-2024 is targeting to achieve 90% basic sanitation access includes 15% safely managed access in 2024. It is estimated a total of 140.9 trillion rupiah will be needed to achieve those targets.</li> <li>• To achieve sustainable sanitation service, Indonesian Government formulating 5 policies</li> </ul>
Japan	<ul style="list-style-type: none"> <li>• "Five-year Plan for Sewerage Construction" (1963-2002)</li> <li>• "Prefectural Plan for Wastewater Management"</li> </ul>
Myanmar	<ul style="list-style-type: none"> <li>• The Myanmar Sustainable Development Plan (2018-2030)</li> <li>• National Waste Management Strategy and Action Plan for Myanmar ( 2017-2030 )</li> </ul>
Philippines	<ul style="list-style-type: none"> <li>• National Sewerage and Septage Management Program (NSSMP)</li> </ul>
Vietnam	<ul style="list-style-type: none"> <li>• Orientation for sewerage and drainage development of urban areas and industrial parks in Vietnam toward 2025 and vision to 2050 (approved by the Prime Minister in Decision No.589/QĐ-TTg dated April 6th 2016)</li> </ul>

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## 5. Current situation of the nation's wastewater management

	Percentage of the population served by a wastewater treatment system	Number of WWTPs	Etc.
Cambodia	Sewerage system coverage is under 5%	3 as of 2019	Most of households use septic tank as a sanitary facilities
Indonesia	7.5% access to safe management sanitation systems	N/A	Basic access (private usage of improved facilities): 77.44%
Japan	91.7% as of FY2019 Including 12.1% by on-site sanitation systems	About 2200	
Myanmar	Population coverage of municipal wastewater treatment is under 5%	2	Septic tank and Soak Pit is most of projects in all areas
Philippines	Less than 10% of the population has access to piped sewerage system	3 in Metro Manila	Approximately 74% of households have access to on-site or off-site water treatment facilities
Vietnam	About only 12.5-13% of urban wastewater volume is collected and treated	46 as of 2018	Most of wastewater is primarily treated in septic tanks of each household

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## 6. Current issues concerning wastewater management

	Issues
Cambodia	<ul style="list-style-type: none"> <li>Water pollution load is increasing due to the rapid industrialization</li> <li>Limited &amp; low quality drainage system and WWTP ..etc.</li> </ul>
Indonesia	To achieve sanitation target in 2024, it is estimated the gap that need to be filled cannot achieve under business as usual approach. On the other hand, sanitation has not considered as priority sector for local government.
Japan	<ul style="list-style-type: none"> <li>Presence of areas not serviced by a sewerage system</li> <li>Costs for broad and aged sewerage infrastructure requiring maintenance</li> <li>Low cost recovery rate through the collection of sewer user charges ..etc.</li> </ul>
Myanmar	<ul style="list-style-type: none"> <li>Water pollution load is increasing due to rapid growth of urbanization</li> <li>Human resources are insufficient</li> <li>Lack of technical capabilities</li> <li>Lack of data to monitor the parameters is a major stumbling block</li> <li>Insufficient funds ..etc.</li> </ul>
Philippines	<ul style="list-style-type: none"> <li>The Philippine WSS (Waterworks and Sewerage System) sector is fragmented owing mainly to the weak cooperation among different agencies</li> <li>Investments in infrastructure have not been comprehensively planned and coordinated</li> <li>Lack of capacity in wastewater management</li> <li>Weak enforcement of regulations by Government agencies</li> <li>Low level of awareness and demand from the public</li> </ul>
Vietnam	<ul style="list-style-type: none"> <li>Financing needs is very high, estimated to be 8.3 -20 billion USD until 2025 (According to WB, ADB researches)</li> <li>Appropriate setting of Drainage Service Price is needed</li> <li>Household connection to sewerage system should be promoted</li> <li>Comprehensive sludge management is needed, including resource recovery</li> <li>MOC is trying to address to these issues by several measures, for example, providing some guidelines such as circular 13/2018/TT-BXD to guide the method of determining drainage price</li> </ul>

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## 7. Actions taken to prioritize wastewater management policies

	Actions
Cambodia	<ul style="list-style-type: none"> <li>Continue to establish of legislation laws, policies, prakas, standards, specification, guidelines and drawings for sanitation, wastewater and sewerage system management institutions for the empowerment/enforcement, capacity building and resources mobilization</li> <li>Develop master plan and action plan for the wastewater management &amp; related basic infrastructure of each urban area and towns throughout the country is urgently required, i.e Small scale WWTP at provincial &amp; district level, like Johkasou, DEWATS</li> <li>Raise/promote public awareness and educate people about sanitation, hygiene, and wastewater and sewer system and develop sanitation and wastewater management system ..etc.</li> </ul>
Indonesia	Stepwise approach to improve wastewater service <ol style="list-style-type: none"> <li>1. On-site system optimization</li> <li>2. Selective Development of Off-Site System</li> <li>3. Aggressive Development of Off-Site System</li> <li>4. Technology Improvement</li> </ol>
Japan	In Japan, the outbreak of severe water pollution during the 1960s caused massive economic and environmental impacts throughout the nation. This lead to the launch of the "Pollution Diet".
Myanmar	<ul style="list-style-type: none"> <li>To reduce pollution load by providing systematic wastewater management</li> <li>To formulate laws sub-decree regulations and national guidelines</li> <li>To provide roles for sharing responsibility of Central Government (Union Level) and Local Government (Regional Level) ..etc.</li> </ul>
Philippines	a.) Philippine Development Plan (2016-2022) b.) National Sewerage and Septage Management Program (NSSMP) c.) Philippine Water Supply and Sanitation Master Plan (PWSSMP) (2019-2030) d.) URAF – Unified Resource Allocation Framework
Vietnam	In the "Orientation for sewerage and drainage development of urban areas and industrial parks in Vietnam toward 2025 and vision to 2050 (approved by the Prime Minister in Decision No.589/QĐ-TTg dated April 6th 2016)".

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## 8. Sources of fund for wastewater management

	Sources
Cambodia	<ul style="list-style-type: none"> <li>National Budget from the central government and Budget from Development Partners Used               <ul style="list-style-type: none"> <li>-For the feasibility study and master plan on wastewater and sewerage system development plan</li> <li>-For the improvement and construction of sewerage system including piping system, pumping station and wastewater treatment plant</li> </ul> </li> <li>Budget Collected from Users/Residents Used</li> </ul>
Indonesia	<ul style="list-style-type: none"> <li>Central government budget (including foreign grant and loan)</li> <li>Special allocations fund for wastewater (central government transfer to local government)</li> <li>Local government budget ..etc.</li> </ul>
Japan	<ul style="list-style-type: none"> <li>Subsidies from the central government to local governments for the construction of sewered sanitation systems.</li> <li>Municipal Bonds for the construction of sewered sanitation systems</li> <li>Collection of a sewer charge from the users (residents served by a sewered sanitation system for the operation and maintenance of these systems)</li> </ul>
Myanmar	<ul style="list-style-type: none"> <li>Support for higher initial investment of wastewater management system by government</li> <li>To develop Public-private partnership(PPP)</li> <li>Encourage to implement Business funds and Industrial sector funds</li> </ul>
Philippines	<ul style="list-style-type: none"> <li>National Water Quality Management Fund</li> <li>Capital Expenditures (CAPEX) – 50% subsidy to LGUs</li> <li>Operating Expenses (OPEX) – water tariff to include wastewater management fee</li> </ul>
Vietnam	<ul style="list-style-type: none"> <li>ODA loans from international financing organizations</li> <li>Private sector investments in industrial zones, factories, commercial facilities, etc.</li> <li>State and Municipal budget</li> <li>Environmental protection fee</li> <li>Sewerage service charge (only in the localities that already issued regulations on sewerage service price)</li> </ul>

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We the AWaP's Secretariat think the two important common challenges derived from the AWaP Annual Report 2020.

- Absolute shortage of WWTPs

Refer to current situation of the nation's wastewater management.

- Absolute shortage of fund for waste water management

Refer to current issues concerning wastewater management.



Efficient waste water treatment system needs to be developed.

## Session 2

# Proposal for resolving common challenges of AWaP countries

- We AWaP secretariat introduce efficient examples of sewerage system to solve the common challenges of AWaP countries.
- Through AWaP partners discuss, we would like to develop work plans to solve the common challenges.

## Solutions of common challenges

- ① Centralized and Decentralized wastewater treatment systems
- ② Trenchless sewer pipe constructing
- ③ Development of sewerage technology adapted to local conditions



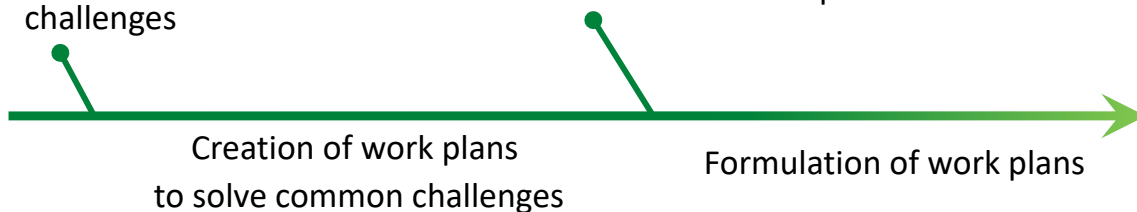
## Future plans

The 2<sup>nd</sup> General Meeting in Aug 2021

Proposal for resolving common challenges

The 4<sup>th</sup> Operations Committee in 2022

Discussion for work plans



# Centralized and Decentralized wastewater treatment systems

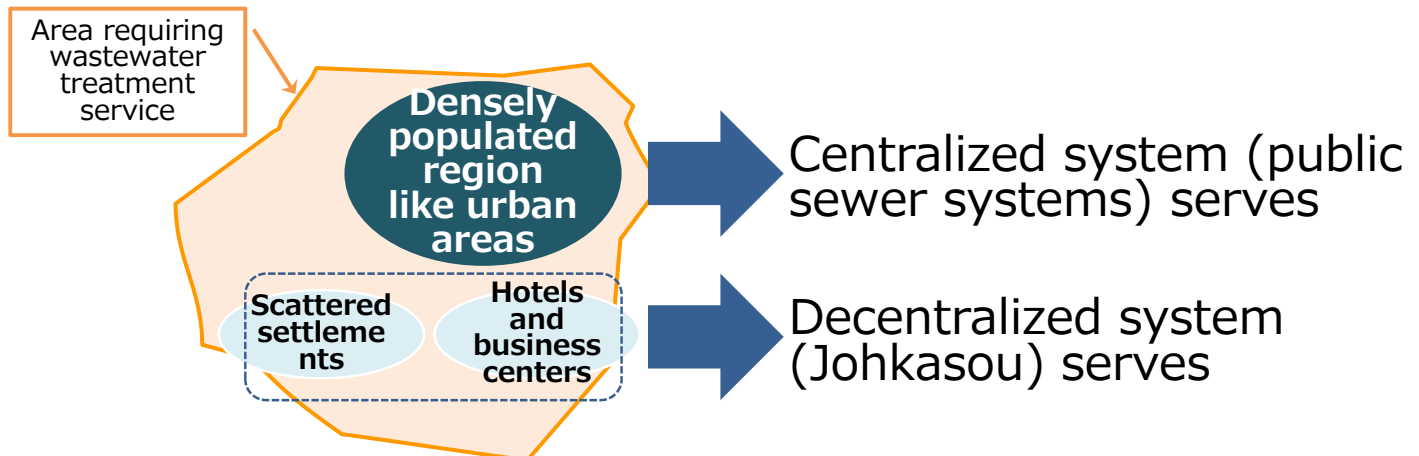
August 18, 2021

IWASAKI Hirokazu

Director General, International Affairs Department,  
Japan Sewage Works Agency



## Centralized and Decentralized wastewater treatment systems



### Advantages of packaged system

- Enable early reduction of areas having no access to public sewer services (achievement of SDG's)
  - Reduce transporting facilities including pumping stations and overpasses, which are affected by geographical factors like hills and rivers, Eliminate the need for long-distance pipelines that take time to build
- A treatment system meeting the region's needs can be selected.
  - Create optimal systems depending on generated wastewater quality and destination's water quality standards
- Integrated management is possible from centralized large wastewater treatment plant.
  - Improving local operations, Reduce running costs, Efficient O&M planning, Enable unified wastewater management for the entire region

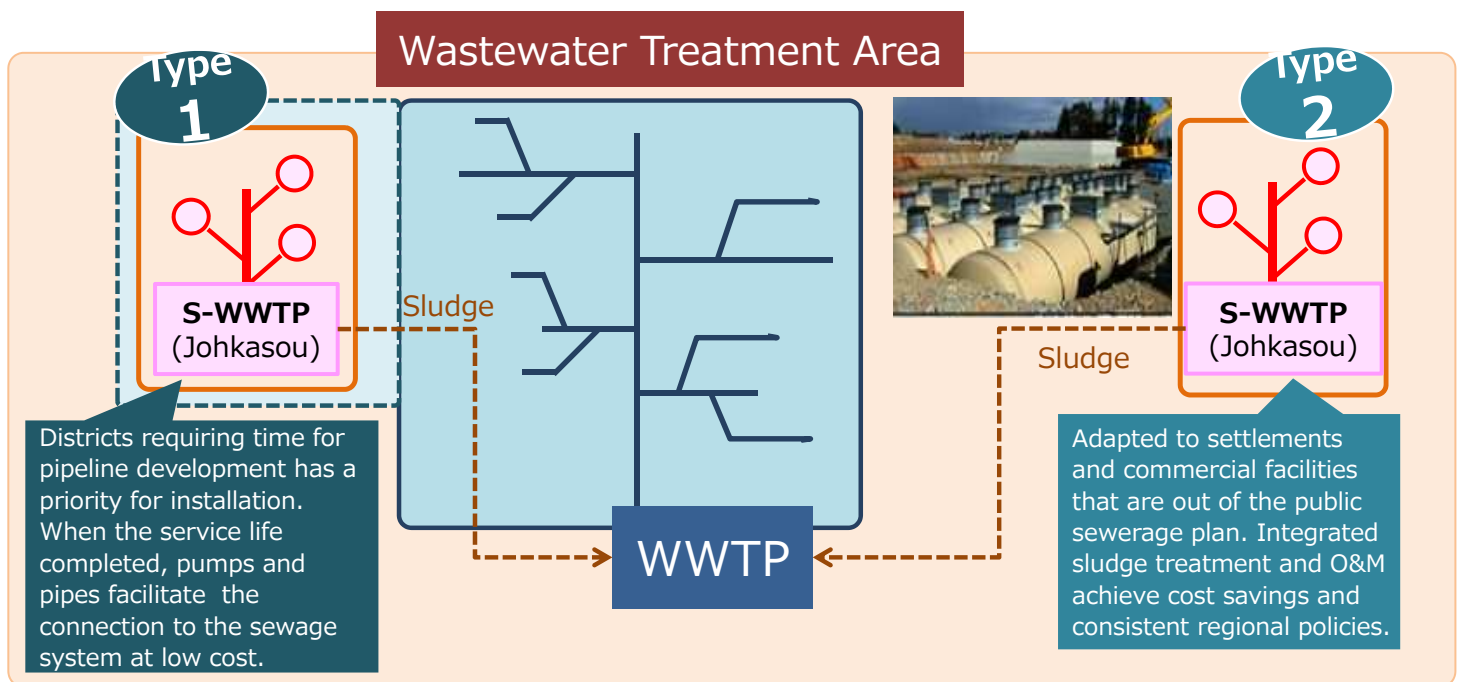


# Centralized and Decentralized wastewater treatment systems

- Type 1** Acceleration of access to public sewer service in city area
- Type 2** Integrated management of centralized and decentralized systems

Concurrent adoption of centralized and decentralized systems

Adopting decentralized systems into areas having no access to public sewer service



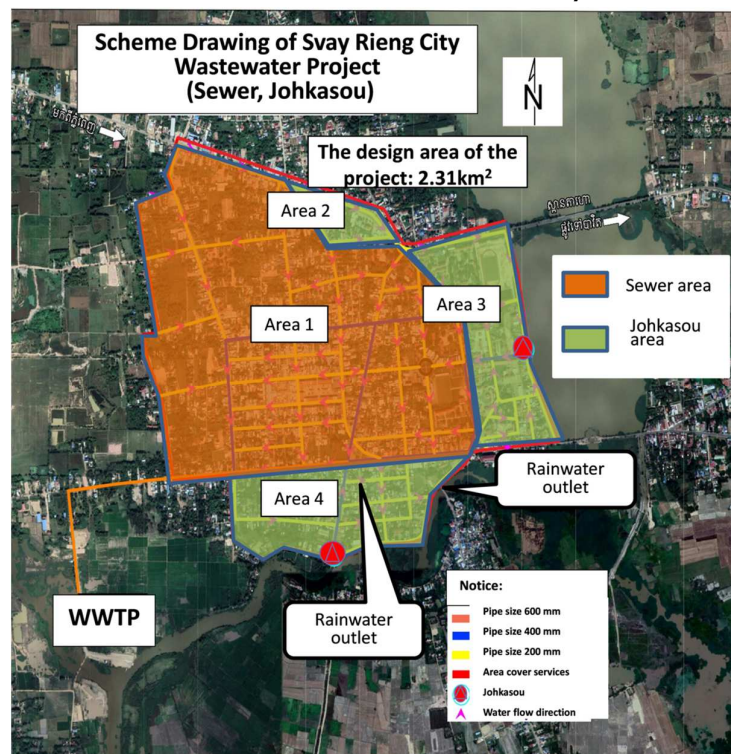
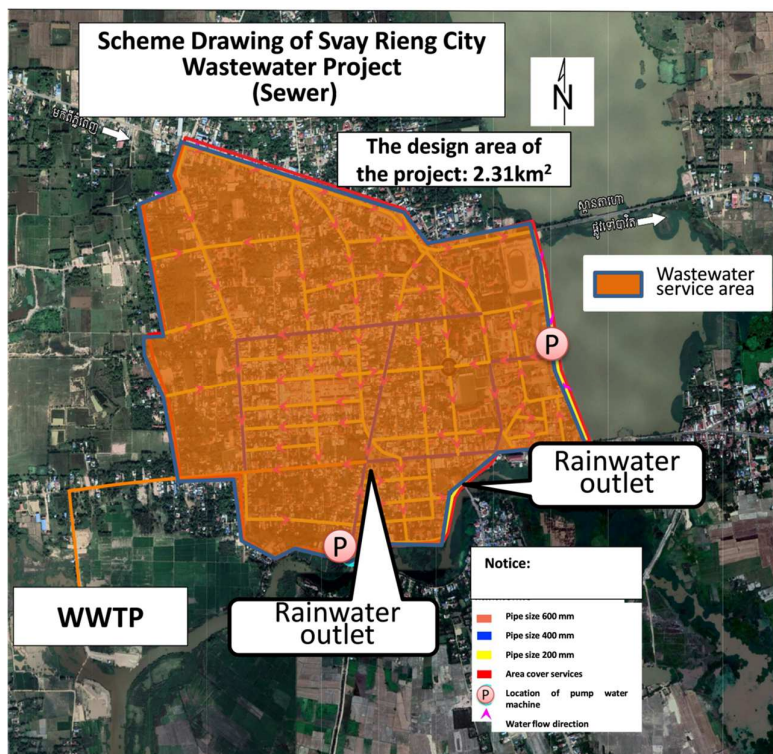
Scale of facilities: WWTP >>> S\*-WWTP(Johkasou)

\*S: Small-scale , Small-scale WWTPs utilize large, medium and small Joukasous.

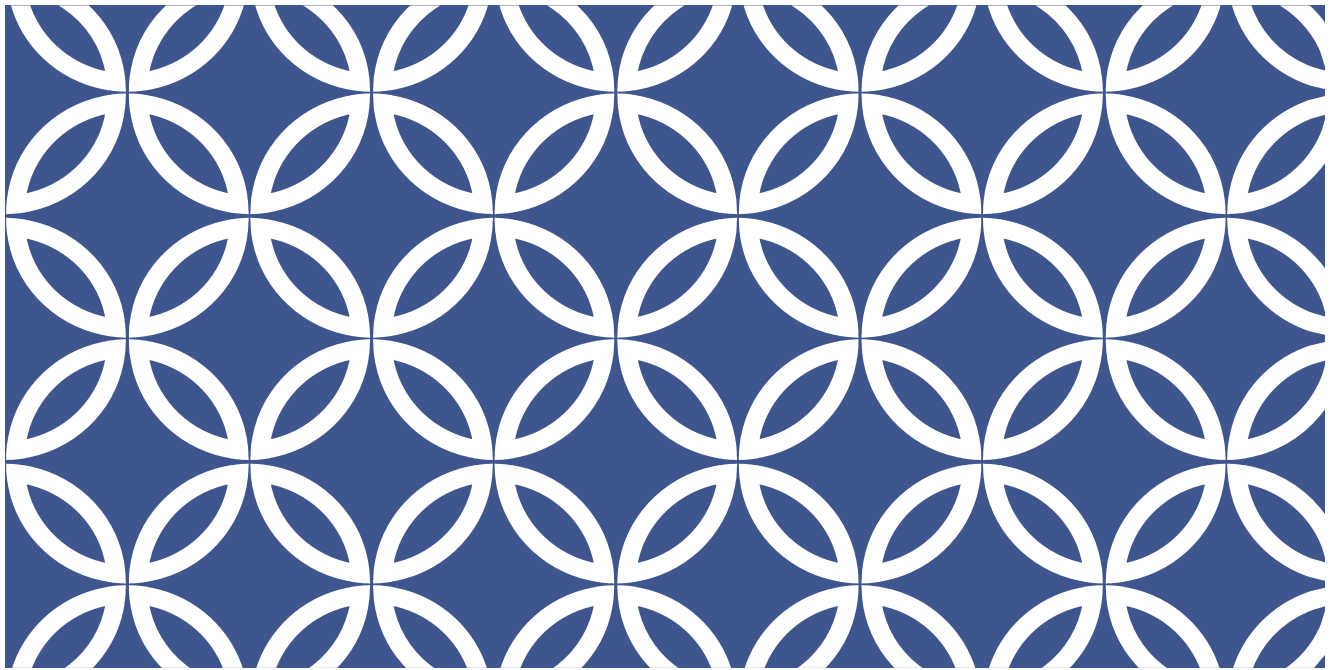
## Example of Pre-FS (Svay Rien, Cambodia)

Case1: Whole service area treated by one WWTP

Case2: Packaged Technologies of Centralized and Decentralized Systems



Results: Construction and maintenance costs are not much difference.  
Case2 can be serviced earlier than Case1.



# Trenchless sewer pipe constructing

-AWaP Version of  
the Pipe jacking Standards-

M.Anezaki

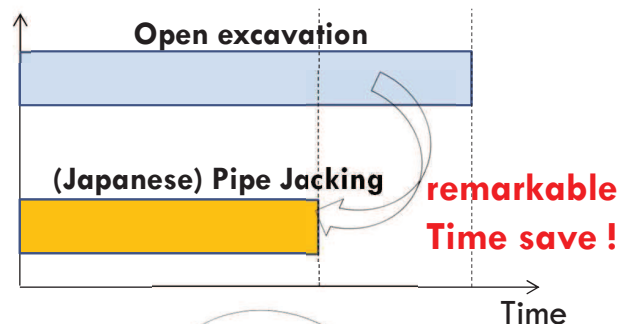
## Benefit of the Pipe Jacking and its Standards

### the Pipe Jacking Standards

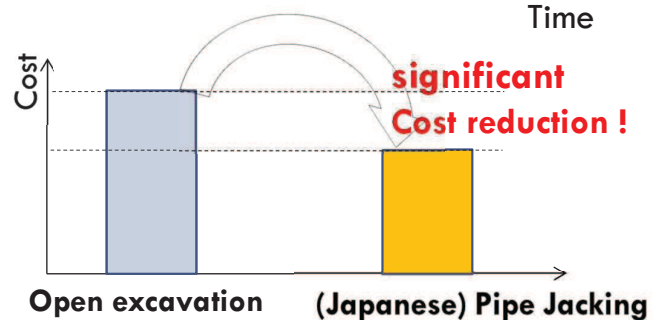
1. Pipe jacking Technology Standard
2. Cost Estimate Standard
3. Jacking Pipe Standard
4. Precast Concrete Manhole Standard
5. Cast Iron Manhole Covers Standard
6. Practical Guidance for AWaP Countries
7. Technical Reference

Pipe laying under these conditions.....

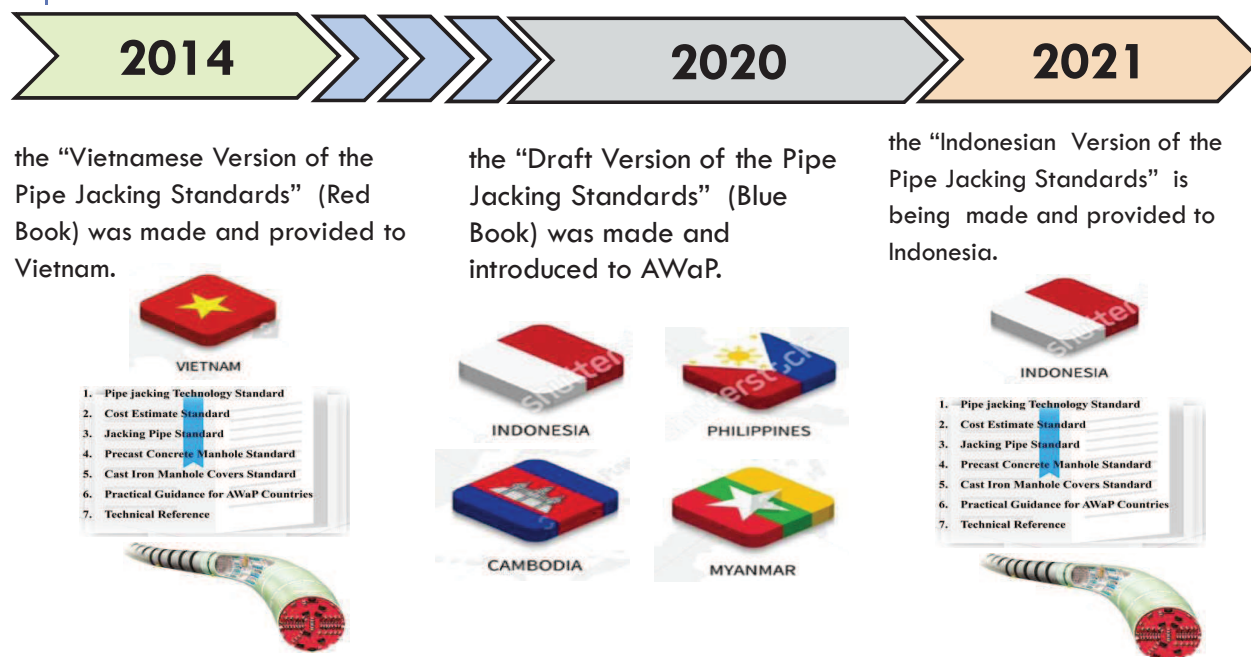
- a. under Heavy traffic road
- b. Deep pipe laying



(Japanese) Pipe Jacking

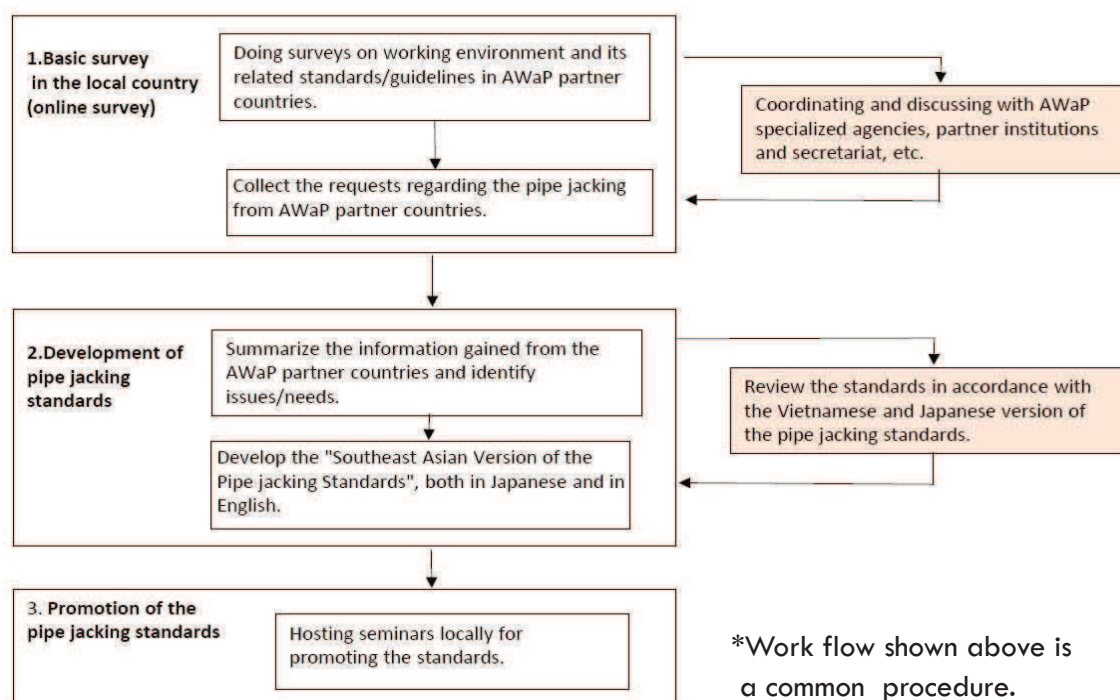


# Time line for promotion of the Pipe Jacking Standards



\*This activity will be expanded to other AWaP countries in 2022 ,2023 and following years as well.

## Work Flow for promotion of the Pipe Jacking Standards in AWaP countries



\*Work flow shown above is a common procedure.





# Development of sewerage technology adapted to local conditions

Masaaki Ito

## Wonder Of Wastewater Technology Of JAPAN PROJECT

The overseas sewerage technology demonstration project (WOW TO JAPAN project) has been implemented since 2017 in order to demonstrate whether Japan's sewerage technology can be effective according to the local needs of each country.

The WOW TO JAPAN project has already been demonstrated in many AWaP countries, and we will introduce one example of the technology that we can propose to solve common problems that our countries have.

## Demonstration Project of Inundation Countermeasure in Vietnam ★



### Theme

Insufficient funds

Land shortage

Urgent implementation

### Solution



Centralized large pumping station



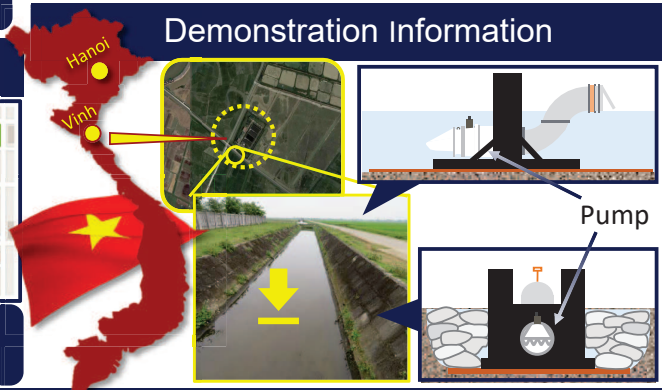
Distributed small pumping stations

Pump Gate with "Operable at Full-Speed on Any Water Level Type Pump"

Suitable for small distributed type pumping stations



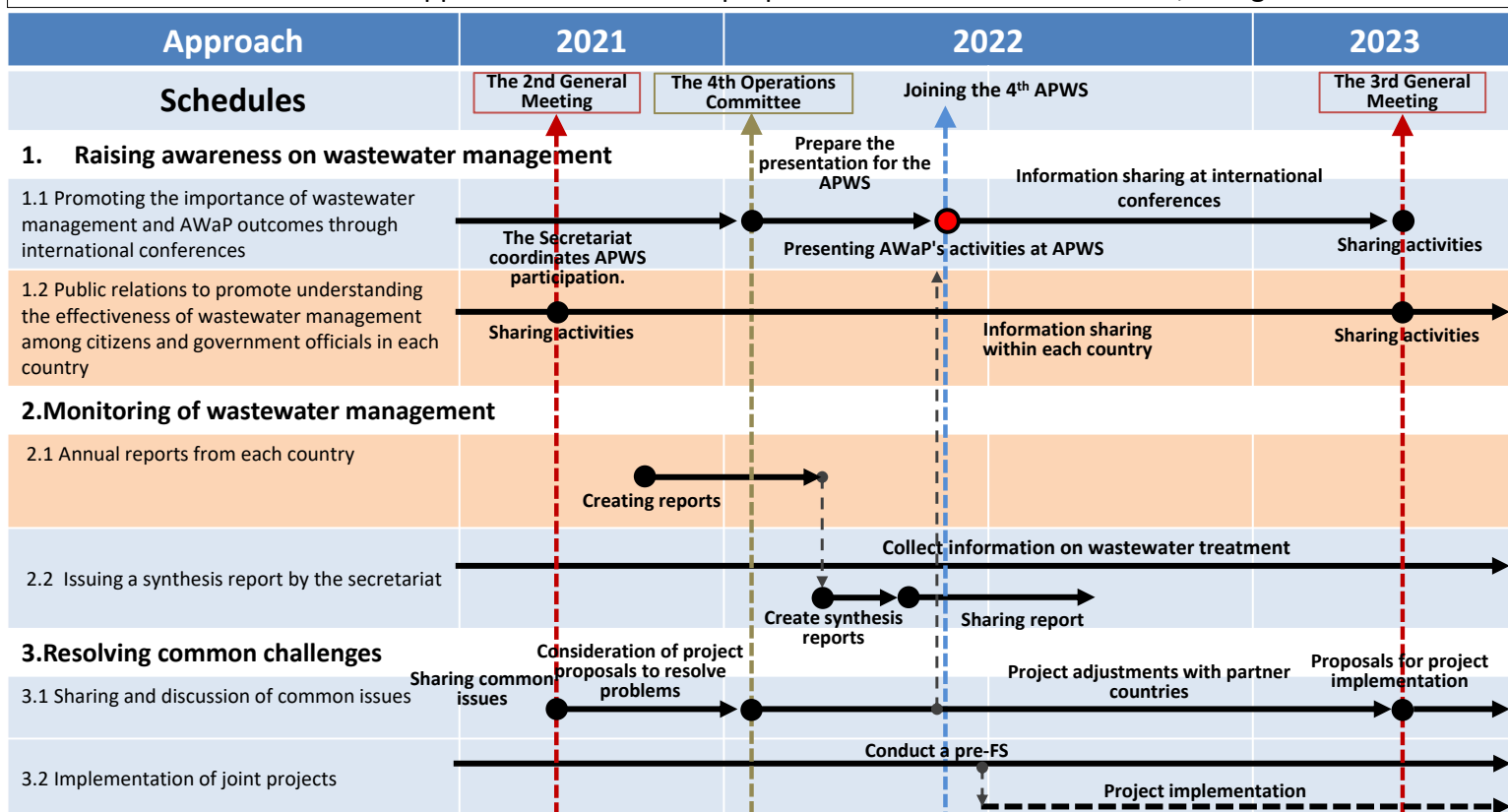
### Demonstration Information



## **Session 3**

# Future General Meetings and Operations Committees

- The AWaP secretariat considers holding its 4th Operations Committee sometime in January 2022 and its General Meeting sometime between July and September 2023.
- At the 4th Asia Pacific Water Summit to be held in Kumamoto in April 2022, AWaP would like to present its activities as case studies of approaches to halve the proportion of untreated wastewater, a target of the SDGs.



## Proposal for the Future AWaP general meeting

- The AWaP Implementation Guideline states that AWaP should hold the General Meeting once every two years. Secretariat proposes that AWaP member countries may host the General Meetings on a rotating basis.
- If there is an international water-related conference such as the Asia-Pacific Water Summit during the future AWaP General Meetings, we would like to hold the AWaP Meeting in the host country.
- The Operations Committee will make specific adjustments to the countries that will host future General Meetings.

### Image of meeting host

