

# AWaP and JICA Activities relating to SDG 6.3

## The Inaugural Symposium of Asia Wastewater Partnership (AWAP)

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## AWaP and JICA Activities relating to SDG 6.3

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## I. What's SDG (from MDG to SDG)

On September 25th 2015, countries adopted a **set of goals** to end poverty, protect the planet and ensure prosperity for all as part of a new **sustainable development agenda**.

Each goal has specific targets to be achieved over the next 15 years.

**Sustainable Development Goal** relating to water and sanitation is **Goal 6** of SDGs.

Among the targets of Goal 6, **Target 6.2** and **6.3** are crucial for humankind, because



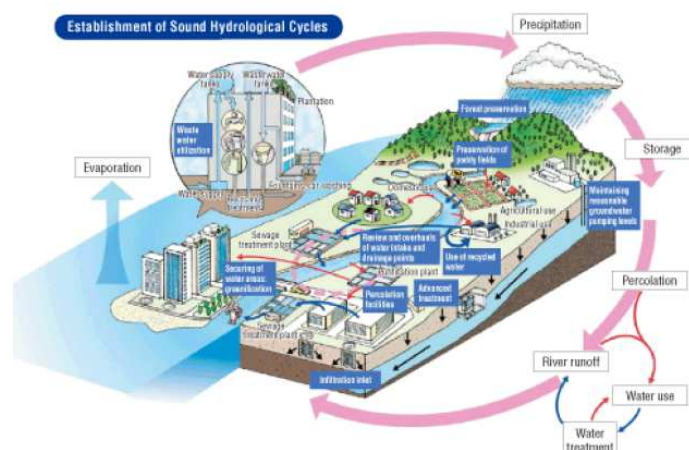
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## I. What's SDG (from MDG to SDG)

**Water** is an indispensable factor for maintaining the lives of humankind.

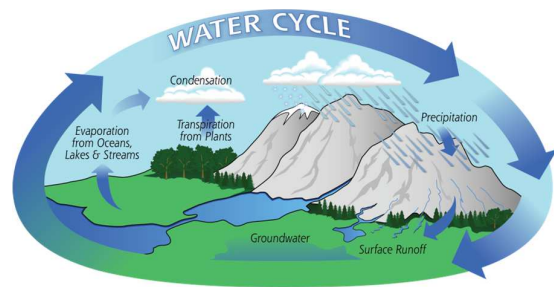
To maintain healthy and cultural life under sustainable development, it is required to **create and keep sound water cycle**

by **preserving a good ambient water quality (SDG6.3.2)** and **utilizing water appropriately and effectively (SDG6.1.1)** including the provision of the services related to **safely managed sanitation (SDG6.2.1)** and **safely treated wastewater (SDG6.3.1)**.

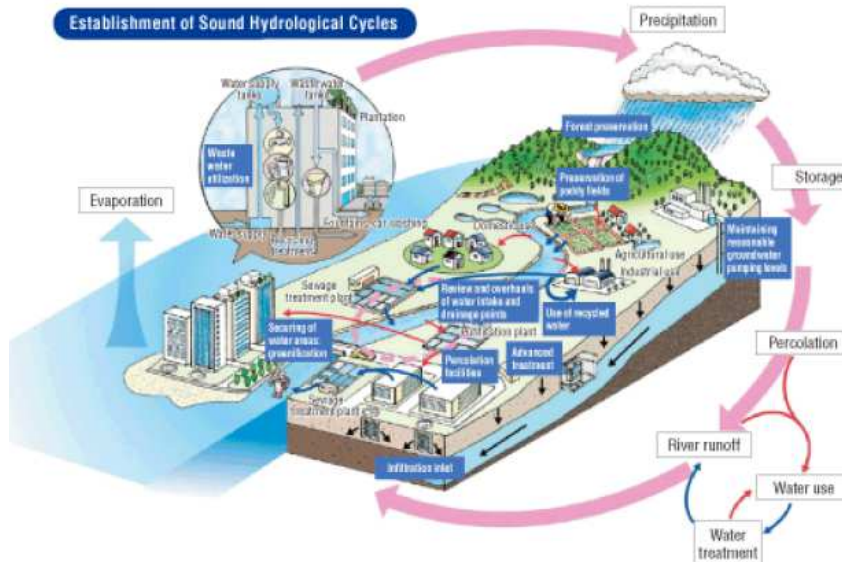


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**Safely treated wastewater (6.3.1)**  
is required to achieve  
**Good ambient water quality(6.3.2)**  
for sound ecosystems  
in a river basin.



**Discharged wastewater** will influence the **ambient water quality**.



**Pollution Source**

- Domestic Wastewater
- Industrial Wastewater
- Nonpoint Source (Fields, Run-off water from roads, etc.)

Source: [https://pmm.nasa.gov/education/sites/default/files/article\\_images/Water-Cycle-Art2A.png](https://pmm.nasa.gov/education/sites/default/files/article_images/Water-Cycle-Art2A.png)  
[http://www.mlit.go.jp/tochimizushigen/mizsei/water\\_resources/contents/responding\\_properly.html](http://www.mlit.go.jp/tochimizushigen/mizsei/water_resources/contents/responding_properly.html)

**I. What's SDG (from MDG to SDG)**

**SDGs: Sustainable Development Goals**

Following the Millennium Development Goals (MDGs),  
the new SDGs guide development policy and funding for the next 15 years



**SDG 6.2** By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls

**Indicator 6.2.1** **Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water**

## I. MDG to SDG

### III-2. SDGs: Sustainable Development Goals

Following the Millennium Development Goals (MDGs), the new SDGs guide development policy and funding for the next 15 years



**SDG 6.3** By 2030, 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

**Indicator 6.3.1** Proportion of wastewater safely treated

**Indicator 6.3.2** Proportion of bodies of water with good ambient water quality

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## I. What's SDG (from MDG to SDG)

While the SDGs are not legally binding, governments are expected to take ownership and establish national frameworks for the achievement of the 17 Goals.

Countries have the primary responsibility for follow-up and review of the progress made in implementing the Goals, which will require quality, accessible and timely data collection.

Regional follow-up and review will be based on national-level analyses and contribute to follow-up and review at the global level.

### SUSTAINABLE DEVELOPMENT GOALS 17 GOALS TO TRANSFORM OUR WORLD



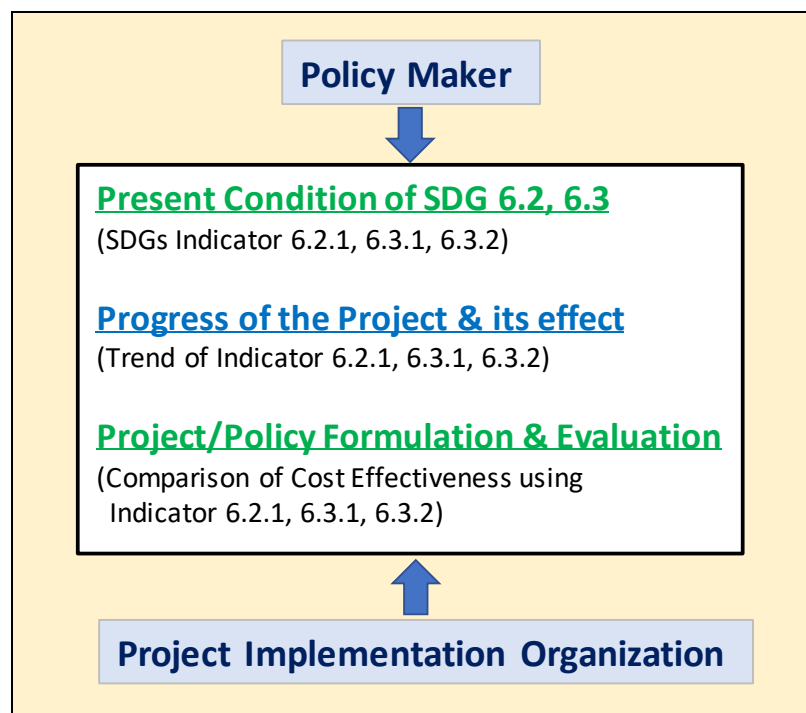
# I. What's SDG (from MDG to SDG)

**SDGs:** Following the Millennium Development Goals (MDGs), the new SDGs guide development policy and funding for the next 15 years



# I. What's SDG (from MDG to SDG)

Monitoring of indicator SDG 6.3.1 is useful to recognize the present situation and the progress regarding safely treated wastewater and to evaluate the effectiveness of the project and/or the policy for the achievement of SDG.



## II-1. Objectives and Contents of the Vietnam Pilot Study

### Objectives

to **propose appropriate and feasible monitoring methodology** and to **identify difficulties, gaps and important issues** to conduct the **monitoring activities** related to SDG 6.3.1 in Vietnam and do **feedback for the refinement of the monitoring** methodology proposed for the indicator of SDG 6.3.1 by WHO.

### Contents

- Proposed Methodology on SDG6.3.1 in Vietnam
- Existing Issues on Methodology on SDG6.3.1 in Vietnam
- Trial Estimation of SDG6.3.1 in Vietnam
- Findings in Vietnam and Recommendations to Other Countries
- **Recommendation for the monitoring of SDG indicator 6.3.1 and the achievement of SDG 6.3**

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## II-2. Recommendation based on the Results of the Study

Recommendation for the monitoring of SDG indicator 6.3.1 and the achievement of SDG 6.3

### I. Monitoring of SDG 6.3.1 ➡ AWaP Objective 2

Reliable, consistent and, whenever possible, **disaggregated data** are essential to **stimulate political commitment**, **inform policy-making and decision-making**, and **trigger well-placed investments** towards health, environment and economic gains (SDG 6 Synthesis Report on Water and Sanitation).

### II. Achievement of SDG 6.3.1 ➡ AWaP Objective 3

The **safely treated wastewater** could be obtained by **well-designed facilities** which are **managed properly** with **regular quality monitoring** based on the **appropriate planning** and **legal framework**.

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## SUSTAINABLE DEVELOPMENT GOALS

17 inclusive targets by 2030  
**Target 6.3**  
 halving the proportion of untreated wastewater

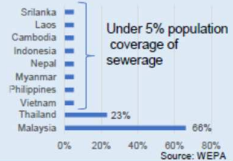


Status quo

Water pollution load is increasing due to the industrialization and urbanization in Asia. Sewage system coverage is under 5% in the most of countries in this area.



Increasing pollution load due to rapid urbanization and industrialization



Considering the gap between the target and the current status, it is necessary to resolve the common challenges of Asian countries to achieve the goal by 2030.

Gap

Low priority of wastewater management

Lack of knowledge and information

Lack of budget and appropriate technology

The Asia Wastewater Management Partnership (AWaP) will Promote the Mainstreaming of the Wastewater Management in Asia and Partner Countries' Efforts.

1

**Raising Awareness on Wastewater Management**

2

**Monitoring of Wastewater Management**

3

**Resolving Common Challenges**

Objectives

1.1

Promoting Wastewater Management at International Level

2.1

Annual Reporting of the Progress of Partner Countries

3.1

Discussion on Challenges and Sharing Solutions

Activities

1.2

Promoting Function and Importance of Wastewater Management at officials/citizens level

2.2

Publication of AWaP Synthesis Report

3.2

Project Formulation and Implementation to Create Solution for Common Challenges

Example of Project  
 -Pilot Project on New Technologies  
 -Model Projects for the introduction of new ideas and technologies  
 - Project to establish technical/policy guidelines

I. Monitoring of SDG 6.3.1

II. Achievement of SDG 6.3.1

## II-2. Recommendation based on the Results of the Study

### I. Monitoring of SDG Indicator SDG 6.3.1

1. Institutional and Management Arrangements
2. Capacity Development for SDG indicators monitoring
3. Financial System for monitoring SDG indicator monitoring
4. Analyzing and disaggregating data relating to domestic wastewater

Domestic Wastewater (Off-site AND On-site), Industrial Wastewater ([AWaP & WEPA](#))

### II. Achievement of SDG 6.3.1

#### 1. Technology Options

Off-site Treatment and On-site Treatment,  
 Technology Evaluation and Establishment of Design and O&M Manuals

#### 2. Institutional Arrangements including Capacity Development

#### 3. Formulation of Legal System:

Effluent water quality regulation and monitoring(WEPA)  
 Environmental water quality standard(WEPA)  
 Management of wastewater treatment systems

#### 4. Public Relation and/or Citizen's Participation

#### 5. Financial System for Sanitation and Wastewater Management

#### 6. Planning : Establishment of planning procedure and methods to reflect SDG indicator monitoring result and linkage of SDG indicators and policy

## II-2-II. Recommendation for Achievement of SDG 6.3.1

### 1) Technology Options: Wastewater treatment process, Reliable facilities and equipment, O&M measures

- For safely treated wastewater, **specific treatment process (technology) to meet the effluent water quality standards is requested, and the performance of specific treatment process (technology) should be evaluated and examined.**
- Based on the evaluation of the treatment process (technology), formulation of design and O&M manual would be requested to treat wastewater safely and steadily.
- **Innovation of technology will accelerate the efficiency of wastewater treatment and management and have an impact on existing systems**

National Government develops **Technology Standards** in collaboration with local governments, Japan Sewage Works Association and Japan Sewage Works Agency

**Technology Standards** helps local governments to conduct sewage works properly.

Design guideline



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## II-2-II. Recommendation for Achievement of SDG 6.3.1

### 6) Planning: Establishment of planning procedure and methods to reflect SDG indicator monitoring result and linkage of SDG indicators and

- **Stepwise approach**: Example of Haiphong: Promotion of septage management (SDG 6.2) and sewage works (SDG 6.3)
- **Basin-wide planning** can be developed by “pollution load analysis”. By pollution load analysis, based on the coordination of stakeholders effective treatment systems planned for the river basin to meet the environmental water quality standards. For the analysis, the generated and discharged load (pollution load of human excreta and grey water, performance of treatment process) and the run-off ratio in the river basin is needed.
- Formulation of **short, middle and long term planning reflecting the indicator to achieve SDG 6.3** based on the effective strategy and policy relating to above mentioned aspects

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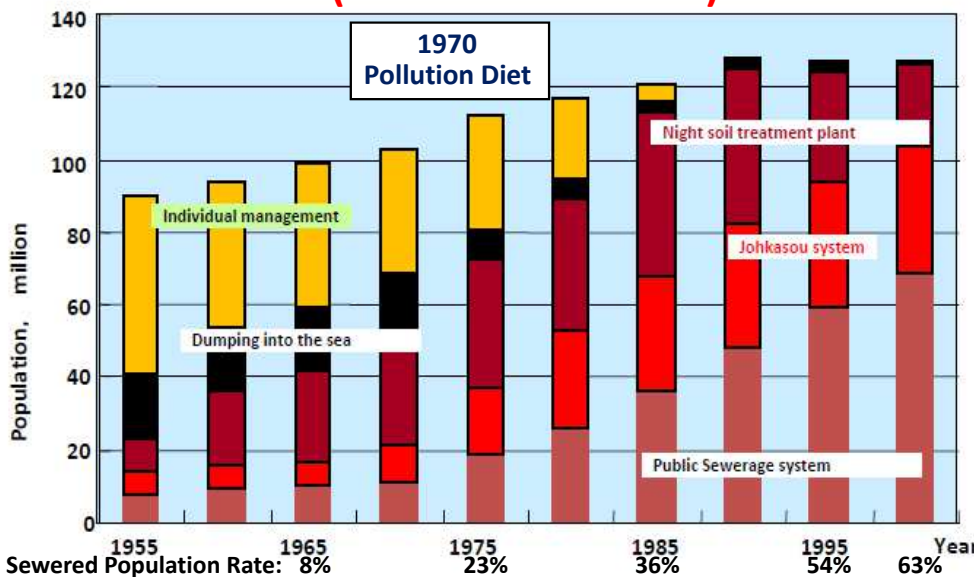


# Five Year Plans for Sewerage Systems Development in Japan

Planned Period	Planned and Actual Investments (Achievement ratio) [Unit: billion yen]	Objective of Construction	
		Targets	Achieved Levels
First (FY 1963 - FY 1967)	440.0 296.3 (67.3%)	Percent of area provided with drainage systems (*1)	
		16 → 27%	20%
Second (FY 1967 - FY 1971)	930.0 617.8 (66.4%)	Percent of area provided with drainage systems	
		20 → 33%	23%
Third (FY 1971 - FY 1975)	2600.0 2,624.1 (100.9%)	Percent of area served by sewerage systems (*2)	
		23 → 38%	26%
Fourth (FY 1976 - FY 1980)	7500.0 6,867.3 (91.6%)	Percent of total sewerage population(*3)	
		26 → 40%	30%
Fifth (FY 1981 - FY 1985)	11,800.0 8,478.1 (71.8%)	Percent of total sewerage population	
		30 → 44%	36%
Sixth (FY 1986 - FY 1990)	12,200.0 11,693.1 (95.8%)	Percent of total sewerage population	
		36 → 44%	44%
		Percent of area provided with stormwater drainage systems (*4)	
Seventh (FY 1991 - FY 1995)	16,500.0 16,710.5 (101.3%)	Percent of total sewerage population	
		44 → 54%	54%
		Percent of area provided with stormwater drainage systems	
		40 → 49%	47%
Eighth (FY 1996 - FY 2002)	23,700.0	Percent of population served by advanced wastewater treatment (*5)	
		2.3 million → 7.5 million people	7.3 million people
		Percent of total sewerage population	
		54 → 66%	58%
		Percent of area provided with stormwater drainage systems	
		46 → 55%	49%
		Percent of population served by advanced wastewater treatment	
		5.3 million → 15 million people	8 million people

Trend of Long-term programs for Promotion of Sewerage Systems

## Population trends of wastewater treatment in Japan (on-site and off-site)



**Wastewater Treated Population in 2011 in million**

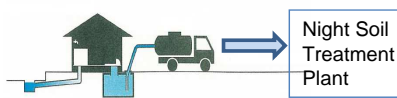
- Sewerage 93.5 (76%)
- Rural Sewerage 3.5 (3%)
- Johkasou\* 10.8 (9%)
- Total 108.1 (88%)

\* Tandoku Joukasou is not included



### Individual Management : Agricultural Use as Fertilizer

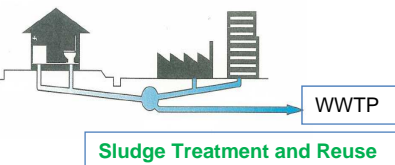
#### Night Soil Treatment



#### Johkasou System



#### Public Sewerage System



# JICA's Comprehensive Approach (Bilateral)

## Loan Projects

Construction

- Sewage Treatment Plants
- Pipe Works

(Trunk Sewer, Branch Sewer, House Connection)

Consulting Services

Detailed Design

Tender Assistance

Supervising Construction

## Preparatory Studies

- Feasibility Study
- Project Plan, Basic Design, Cost Estimation

## Technical Cooperation Projects

Expert dispatch

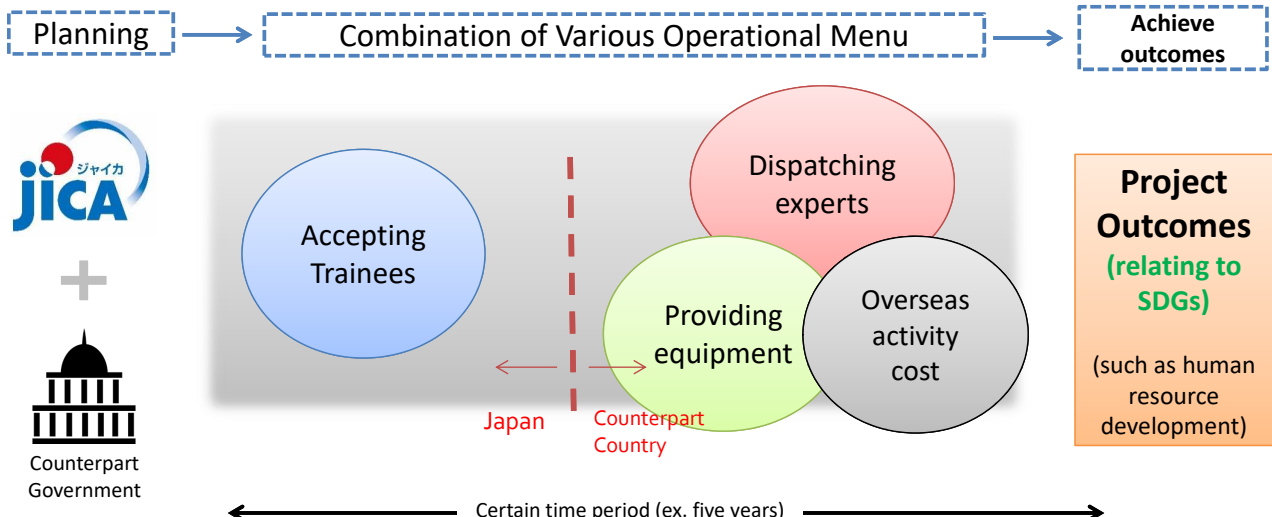
- O&M Capacity Building
- Training Center for Sewerage works
- Rehabilitation and Improvement Programs

In collaboration with WEPA and AWaP (Regional)

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## What is Technical Cooperation Project ?

**Technical Cooperation Project** is to **combine various operational menu**, such as dispatching experts and providing equipment, in accordance with **agreed plan** for the cooperation **to attain certain outcomes (relating to SDGs)** within **certain time period**



## SDGs and JICA activities **SDG 6.2 and 6.3**

### SDG 6.2: Safely Managed Sanitation

Relating JICA Project: Cebu and Davao in Philippines,  
Hai Phong in Vietnam

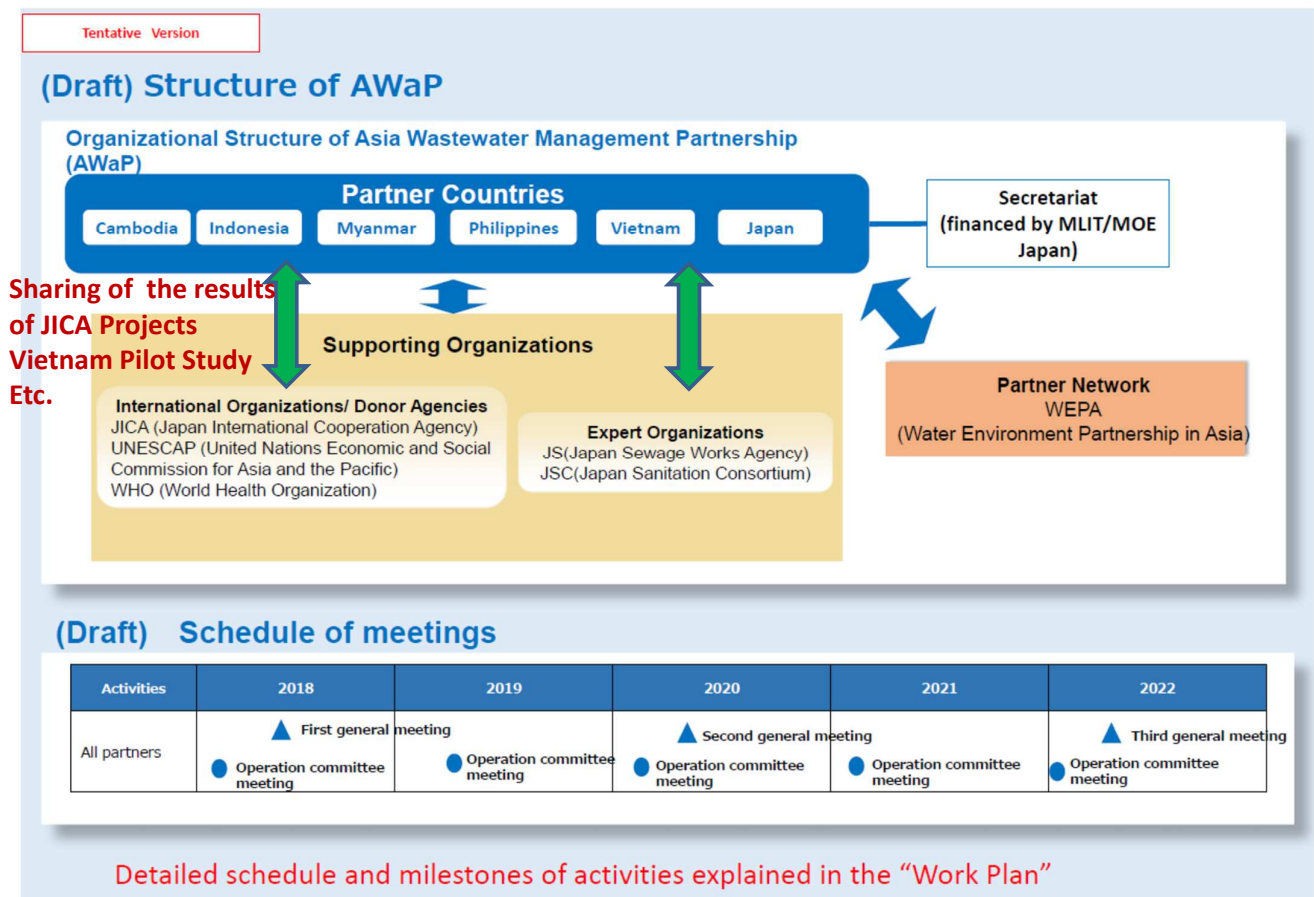
### SDG 6.3.1: Safely Treated Wastewater

Relating JICA Project: **Pilot Study** with related Ministries in Vietnam  
in cooperation with WHO

### SDG 6.3.2: Good Ambient Water Quality

Relating JICA Project: Sri Lanka, Vietnam

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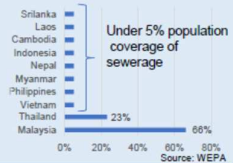


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3.1 Discussion on Challenges and Sharing Solutions

3.2 Project Formulation and Implementation to Create Solution for Common Challenges

Example of Project

Sharing of the Results of JICA Technical Cooperation

I. Monitoring of SDG 6.3.1

II. Achievement of SDG 6.3.1

## AWaP: SUPPOSED AND POSSIBLE ISSUES (DRAFT)

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## Technical Cooperation Projects

Expert dispatch

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In collaboration with WEPA and AWaP (Regional)

Note ; JICA's projects are Bilateral activities,  
while AWaP activities are Regional base.

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## SDGs: Sustainable Development Goals

Following the Millennium Development Goals (MDGs), the new SDGs guide development policy and funding for the next 15 years



“Ensure availability and sustainable management of water and sanitation for all”



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# JICA's Major Projects for Wastewater Treatment from 2000 (2000-2017)



Thank you for your attention.