

## Results of Questionnaire on Domestic Wastewater Treatment

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## Today's Topic

- (1) Background and Purpose
- (2) Contents and Interim Results of the Questionnaire Study
- (3) Future Plan

## Expected Outputs of the WEPA 2<sup>nd</sup> Phase

1. Policy reports on water environmental governance
2. Reports on the discussion **on the specific topics** →
3. Message from WEPA to the World Water Forum, UNFCCC COP, etc.
4. Updated WEPA database
5. Enhancement of knowledge and capacity building of partners.

→ **The Specific Topics** to be discussed

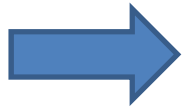
- 1) Climate change issue
- 2) Domestic wastewater management

## Goal of Discussion on Domestic Wastewater Management of WEPA 2<sup>nd</sup> Phase

- Identification and Analysis of Situations, Issues and Policy Needs on Domestic Wastewater Management in WEPA countries.
- Discussion and Proposal of Improvement Plan for the Identified Issues.

## Activity in FY 2009

A workshop was organized in Hanoi not only to identify the current situation of domestic wastewater management in the **Asian Capital Cities** and its issues but also to **share their experiences** and **identify the common issues for the further.**



- **Low domestic wastewater treatment ratio** are observed in many cities of WEPA countries. In addition, the cities where wastewater treatment system are developed also have some **problems in operation.**
- In order to solve water pollution in the city , not only **how to apply appropriate wastewater treatment technologies** but also **how to strengthen the enforcement of policy/law/standard/plan** are pointed out to be issues for future discussion.

## Purpose of the Study on Wastewater in FY 2010

In order to collect basic information for discussing how to address the issues on water degradation caused by domestic wastewater in WEPA countries, the following questionnaire survey was conducted.

<Questionnaire 1>

Review of National policy for Domestic Wastewater Treatment

<Questionnaire 2>

Identification of Water Environmental Hot Spots Polluted by Domestic Wastewater and Issues on Domestic Wastewater Treatment

<Questionnaire 3>

Good Practice for Sustainable Domestic Wastewater Management in Asia

## Questionnaire 1

### Review of National policy for Domestic Wastewater Treatment

Availability of following two items in WEPA country

- (1) National Survey of Water Pollution Load
- (2) National Plan of Domestic Wastewater Treatment (e.g. Sewerage Development Plan)

## Questionnaire 2

Identification of Water Environmental Hot Spots Polluted by Domestic Wastewater and Issues on Domestic Wastewater Treatment

- (1) **Five Rivers and Five Lakes in WEPA country** showing recent serious water pollution caused by domestic wastewater
- (2) Information on situation of water environment, pollution load, and issues of domestic wastewater treatment in the selected rivers and lakes



## Questionnaire 3

### Good Practice for Sustainable Domestic Wastewater Management in Asia

#### Three Good Practices on Domestic Wastewater Treatment with following Information

- 1) Name of Good Practice
- 2) Area
- 3) Situation and Issues of Water Environment before Implementing the Good Practice
- 4) Description of the Good Practice
- 5) Outcomes/Result
- 6) Essential Elements for Success

## Interim Result of Questionnaire Survey (Outline)

Responses from 10 countries were received

Country	Q1 National Plan	Q2 Hot Spot	Q3 Good Practice
Cambodia	Yes/No	1 river/0 lake	2 cases
China	NA	NA	NA
Indonesia	No/No	3 rivers/ 0 lake	1 case
Korea	Yes/Yes	5 rivers/0 lake	Under preparation
Laos	No/No	0 river/ 0 lake	NA
Malaysia	Yes/Yes	NA	3 cases
Myanmar	No/Yes	0 river/0 lake	NA
Nepal			
Philippine			
Sri Lanka	No/Yes	NA	2 cases
Thailand	Yes/Yes	2 rivers/ 0 lake	2 cases
Vietnam	Yes/Yes	5 rivers/0 lake	NA

## Interim Result of Questionnaire 1 (National policy for Domestic Wastewater Treatment )

Answers from 9 countries as followings;

Country	National Survey of Water Pollution Load	National Plan of Domestic Wastewater Treatment
Cambodia	Yes	No
Indonesia	No	No
Korea	Yes	Yes
Laos	No	No
Malaysia	Yes	Yes
Myanmar	No	No
Sri Lanka	No	Yes
Thailand	Yes	Yes
Vietnam	Yes	Yes

## Interim Result of Questionnaire 2 (Water Environmental Hot Spots)

### <River>

16 rivers were answered from 6 counties

**Cambodia:** Seam Reap River (Seam Reap)

**Indonesia:** Cilliwung river, Cisadane river(Jakarta), Surabaya river (Surabaya)

**Korea:** Kyungan river (Kyonggi), Kwangiu river,(Kwangiu) Kapchun river(Chungcheongnam), Mihochun river,(Chungcheonbuk) Kumho river(Daegu)

**Thailand:** Chap Pa Ya River (Bangkok) , Tha Chin River(Samut Sakhon)

**Vietnam:** Cau river, Nhue- Day river(around Hanoi), Dong Nai river(HCMC), To Lich river, Kim Nguu river (Hanoi)

### <Lake>

No Lake was answered

## Location of Identified Rivers

Country	No	Largest City	2 <sup>nd</sup> Largest City	Sub-urban area of Largest City	Other Area
Cambodia	1				1 (Seam Reap River)
Indonesia	3	2 (Cilliwing, Cisadane)	1 (Subaraya)		
Korea	5			1 (Kyungan)	4 (Kwangiu, Kapchun, Mihochun, Kumho)
Laos	0				
Myanmar	0				
Thailand	2	1 (Chao Pa Ya)		1 (Tha Chin)	
Vietnam	5	1 (Dong Nai)	2 (To Lich, Kim Nguu)	2 (Cau, Nhue-Day)	

## Interim Result of Questionnaire 3 (Good Practice on Domestic Wastewater Management)

10 good practices were answered from 5 countries

- (1) Siem Reap Wastewater Management System (Cambodia)
- (2) Wastewater Treatment Plant (in Preah Shihanouk Province) (Cambodia)
- (3) Community-Based Sewer System (Indonesia)
- (4) Catchment Strategic Report (CSR) (Malaysia)
- (5) Standardization of Equipment (Malaysia)
- (6) Project, Operation and Maintenance- Standard Operational Procedure Instruction (OPI) (Malaysia)
- (7) Municipal Wastewater Treatment System Effluent Standard (Thailand)
- (8) Monitoring Procedure of the Wastewater Treatment System (Thailand)
- (9) In House Treatment by Condominium Flats or Large Scheme by Semi Anaerobic Bioreactor Treatment Plants (Sri Lanka)
- (10) Discharge into the Sea Outfalls (Sri Lanka)

Country	Practices in National Level	Practices in Local Level
Cambodia		1) Siem Reap Wastewater Management System 2) Wastewater Treatment Plant in Preah Shihanouk Province
Indonesia		1) Community-Based Sewer System
Malaysia	1) Catchment Strategic Report (CSR) 2) Standardization of Equipment 3) Project, Operation and Maintenance- Standard Operational Procedure Instruction(OPI)	
Sri Lanka		1) In House Treatment by Condominium Flats or Large Scheme by Semi Anaerobic Bioreactor Treatment Plants 2) Discharge into the Sea Outfalls
Thailand	1) Municipal Wastewater Treatment System Effluent Standard 2) Monitoring Procedure of the Wastewater Treatment System	

## Activity in FY 2010

**【 Questionnaire 1 】**  
**Review of National policy for  
Domestic Wastewater Treatment**

**【 Questionnaire 2 】**  
**Identification of Water  
Environmental Hot Spots Polluted  
by Domestic Wastewater and  
Issues on Domestic Wastewater  
Treatment**  
(to list 5 rivers and 5 lakes)

**【 Questionnaire 3 】**  
**Good Practice for Sustainable  
Domestic Wastewater  
Management in Asia**  
(to list 3 good practices on domestic  
wastewater treatment)



## Activity Plan in FY 2011

Discussion for Improvement Plan of  
Domestic Wastewater Management  
System among WEPA countries

### 【Activity Plan】

**1. Follow up of Survey of Good Practice**  
A survey is planned to be conducted for 2  
or 3 cases selected among good practices  
collected in FY 2010

### **2. Discussion in Workshop**

A session on domestic wastewater  
management is planned to be organized  
to discuss future challenges based on  
survey results and presentations done  
by specialists .



Thank you  
(御静聴ありがとうございました)