



MoE's International Cooperation in Water Environment

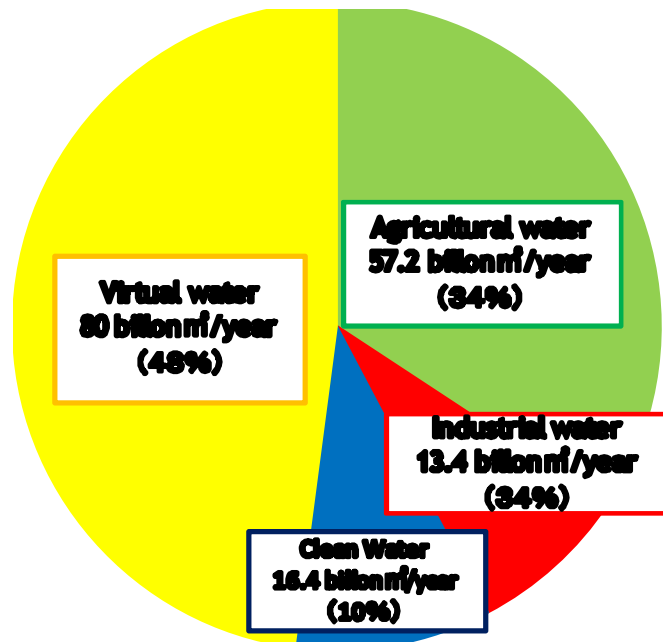
April 19, 2010

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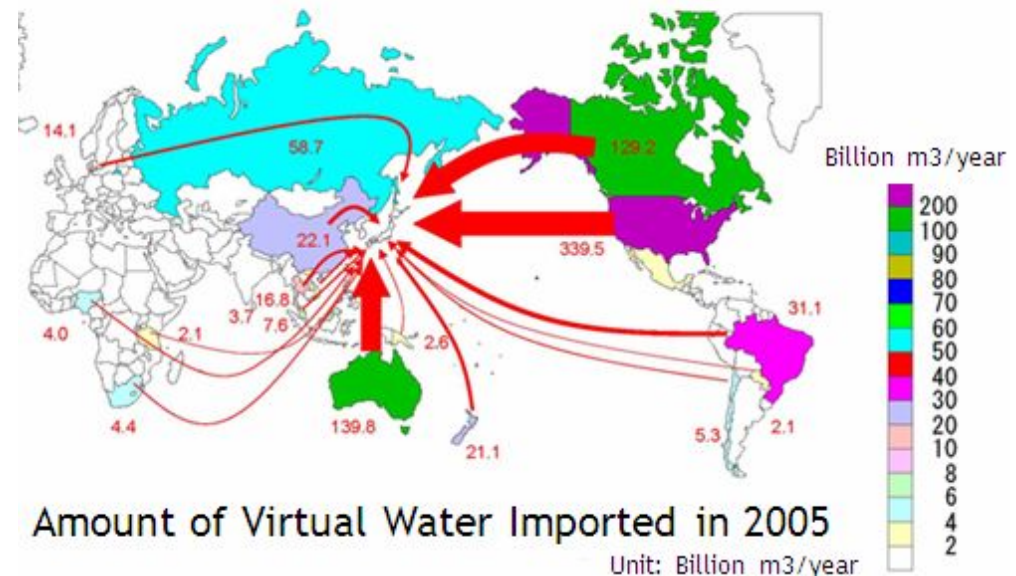
Water Use in Japan

- Is Japan immune to water stress?
- Country that **consumes the world's water** through food imports



Water Use in Japan

Source: Japan Water Forum (partially edited by MoE)

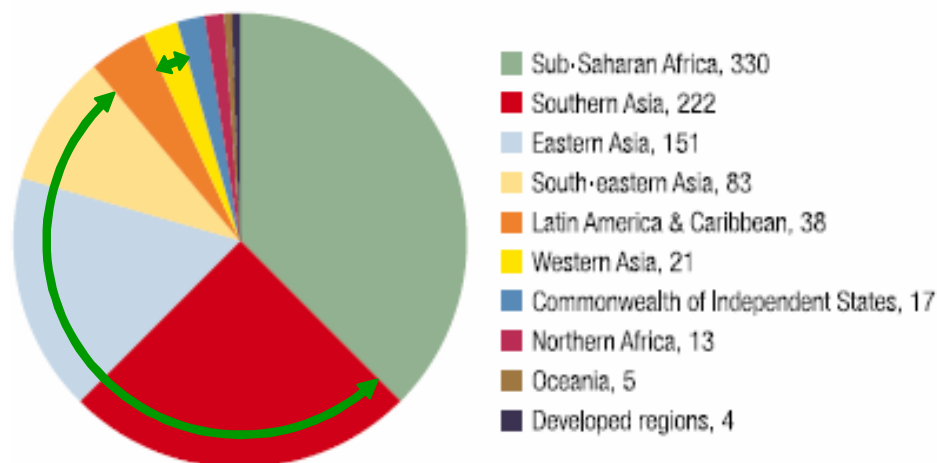


Source: The World's Water Problems are Our Own, MoE
(http://www.env.go.jp/water/virtual_water)

Asia: The Center of the World's Water and Sanitary Problems

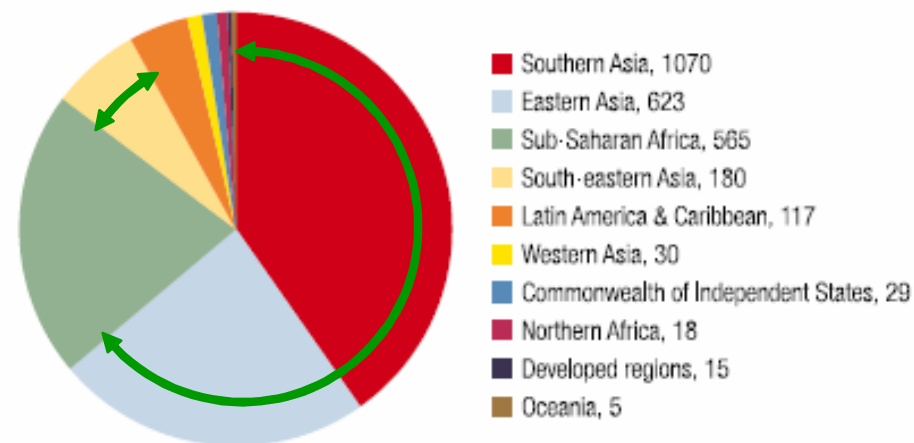
- Those without access to safe water and sanitary facilities are concentrated in **Asia**.

People not using improved drinking-water sources in 2008, population (million)



Total 884 million people
(477 million people in Asia (54%))

people not using improved sanitation facilities in 2008, population (million)



Total 2.6 billion people
(About 1.7 billion people in Asia (67%))

MoE's 2 initiatives in Water Environment area

- ① Development of Low-Cost Domestic Wastewater Treatment Systems in the Rural Area of China
- ② WEPA
(Water Environmental Partnership in Asia)

Low-Cost Domestic Wastewater Treatment System in the Rural Area of China

Background and Objective

- Implemented since FY 2008 based on the agreement between China and Japan
- Formulate recommendations for the Chinese Government on the development of domestic wastewater treatment systems in rural areas through demonstration study

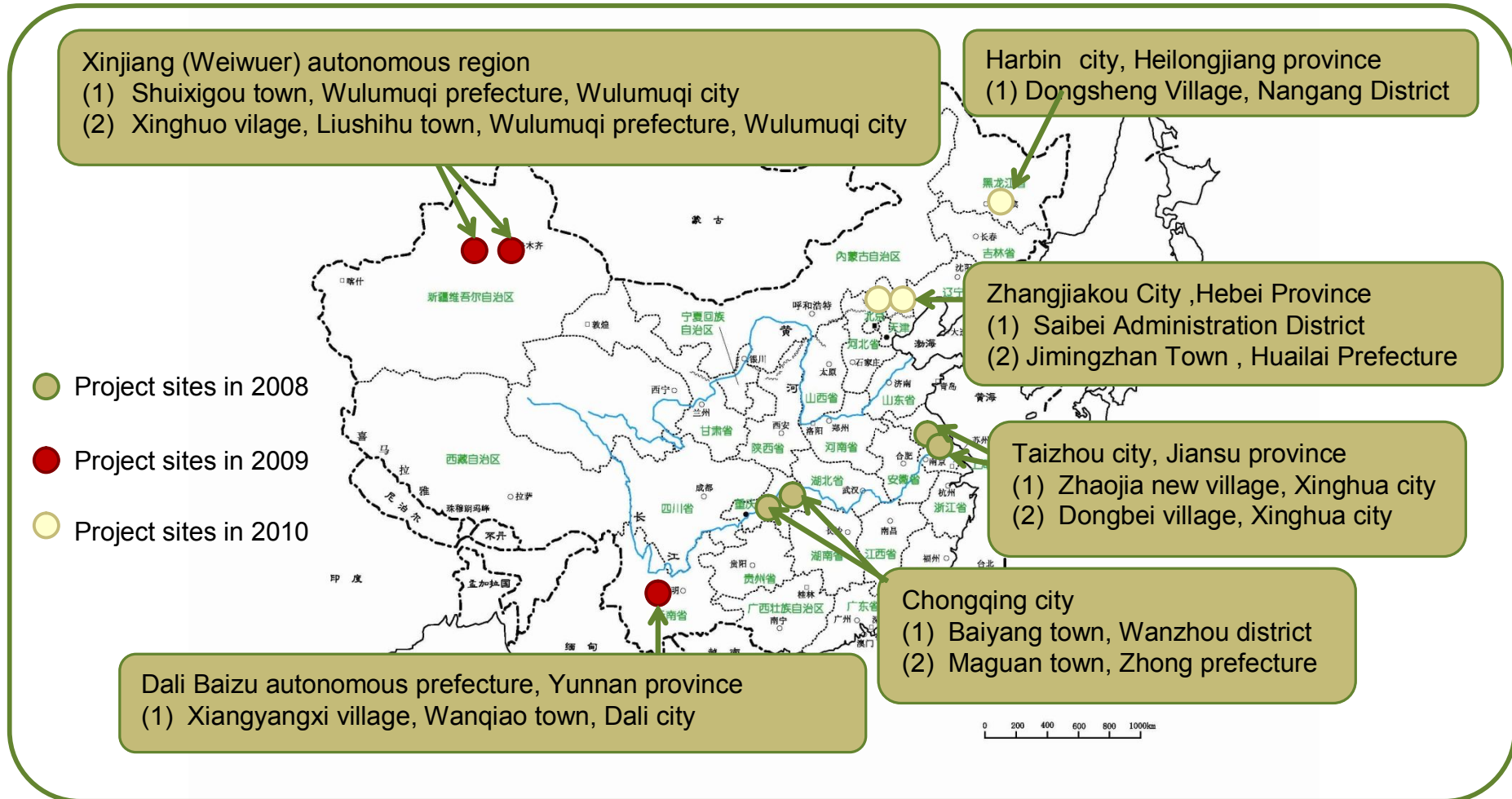


Necessity of Domestic Wastewater Treatment in Rural Area of China

- Volume of domestic wastewater exceeded industrial wastewater in 1999
- Sewerage service ratio (domestic) in urban areas : 66% in 2008, while villages with domestic wastewater treatment system: 4%
- Larger population in rural areas than urban areas
- Increase of wastewater discharge from rural areas is expected along with the improvement of living standards

Low-Cost Domestic Wastewater Treatment System in the Rural Area of China

Map of Study Area



Low-Cost Domestic Wastewater Treatment System in the Rural Area of China

Outline of Demonstration Study

No	Project Sites	Population	Influent	Capacity (m ³ /day)	Treatment Method
1	Maguan town (Chongqing city)	6,000	Night soil Gray water	500	Active sludge + Artificial Wetland
2	Baiyang town (Chongqing city)	6,000	Night soil Gray water	600	Contact Aeration+ Artificial Wetland
3	Zhaojia new village (Jiangsu province)	750	Night soil Gray water	150	Contact Aeration
4	Dongbei village (Jiangsu province)	200	Night soil Gray water	40	Contact Aeration
5	Shuixigou town (Xinjiang autonomous region)	4,200	Night soil Gray water Rain water	300	Contact Aeration
6	Xiangyuanxi village (Yunnan province)	2,600	Night soil Gray water	200	Contact Aeration+ Multi- soil layer

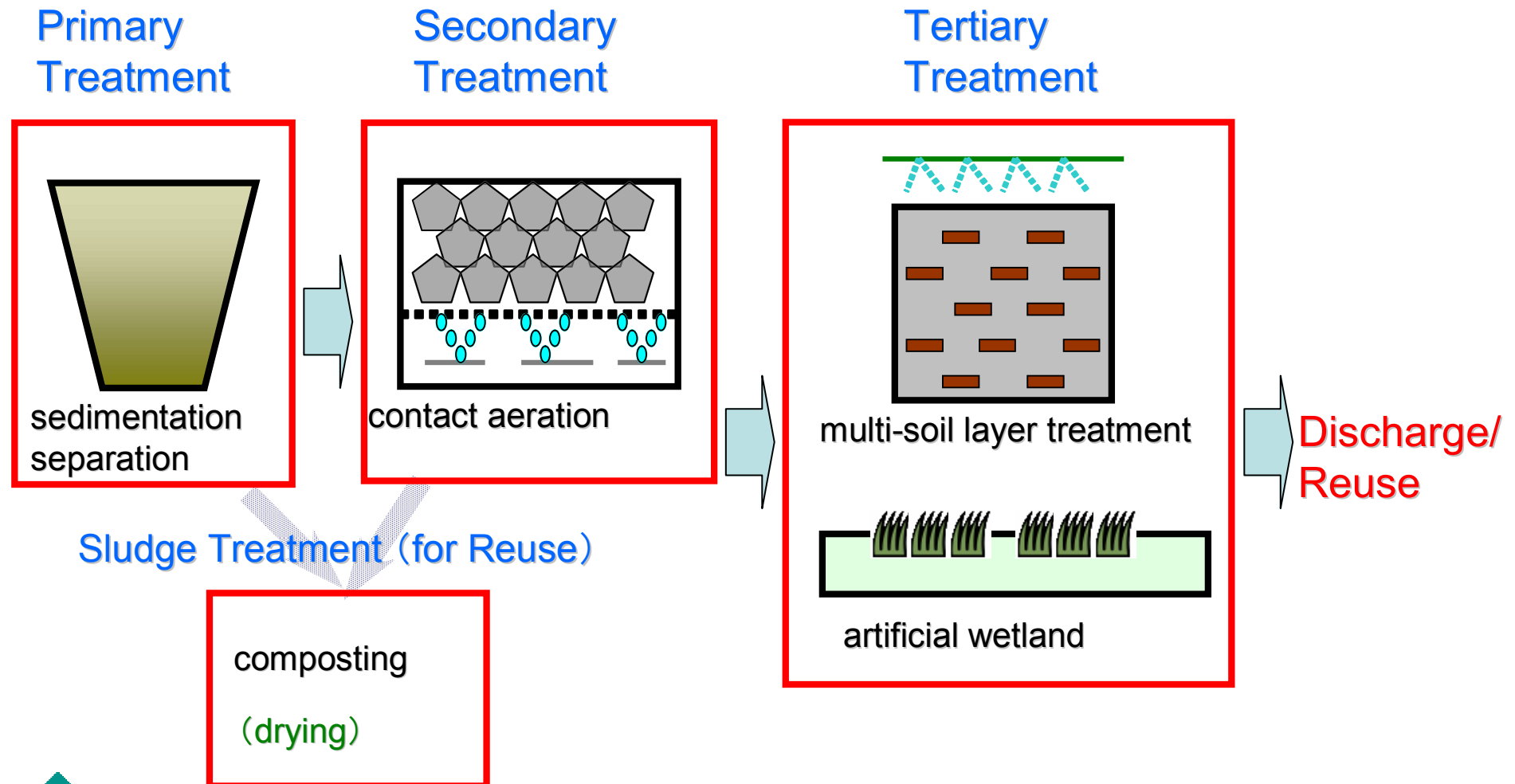
Low-Cost Domestic Wastewater Treatment System in the Rural Area of China

Efforts for Low Cost Treatment

- Simple treatment process and technology for easy management
- Use of artificial wetland or soil treatment
- On-site construction by using materials and labor available at site

Low-Cost Domestic Wastewater Treatment System in the Rural Area of China

Concept of Applied Treatment Process



Low-Cost Domestic Wastewater Treatment System in the Rural Area of China

Use of Artificial Wetland Treatment



Artificial wetland in Magutan town



Artificial wetland in Baiyang town

On-site Construction



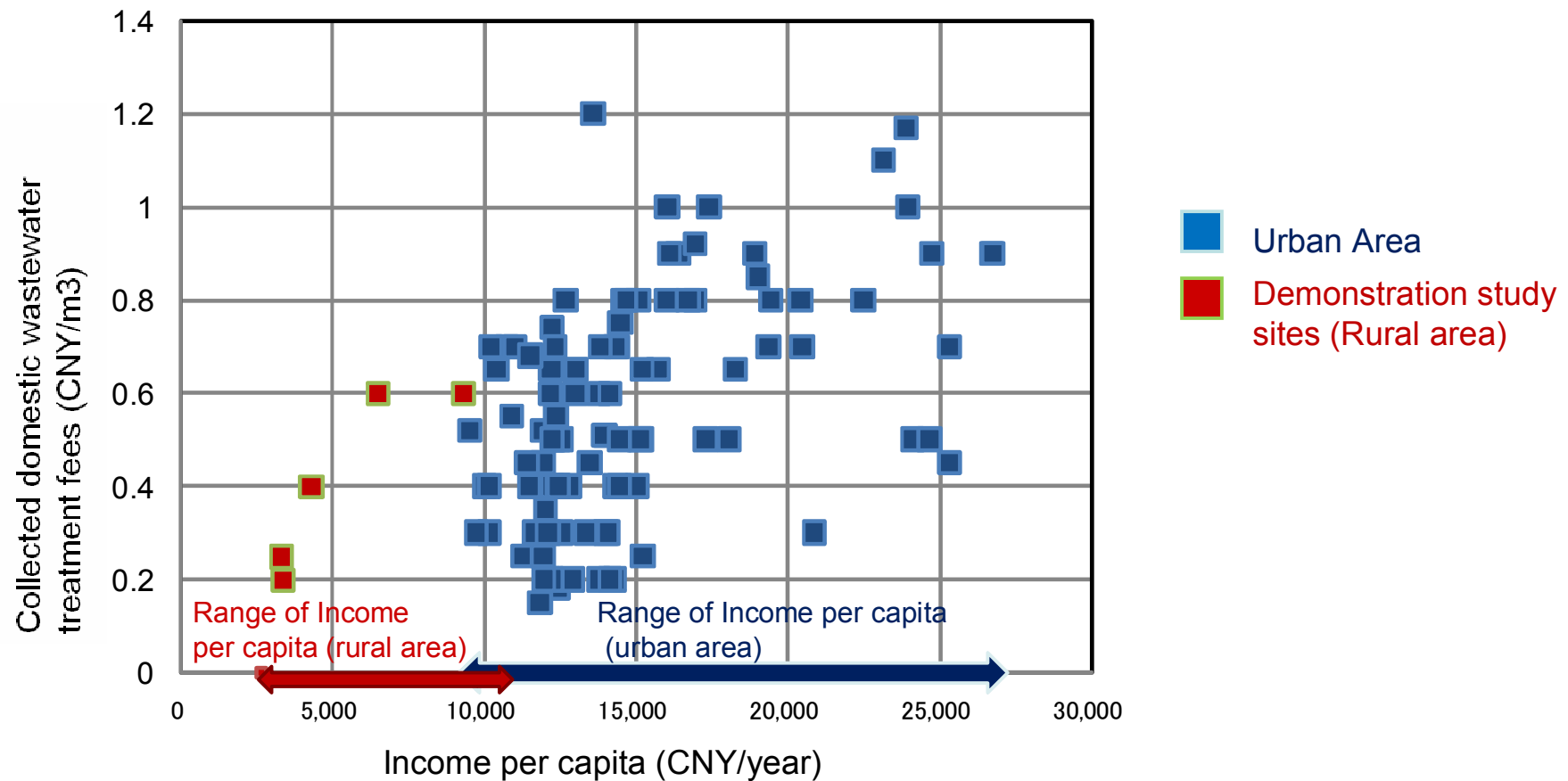
Construction phase of Zhaojia new village



Construction phase of Magutan town

Low-Cost Domestic Wastewater Treatment System in the Rural Area of China

Affordable Operational Cost Range in Rural Area of China



Low-Cost Domestic Wastewater Treatment System in the Rural Area of China

Lessons Learned from the Project

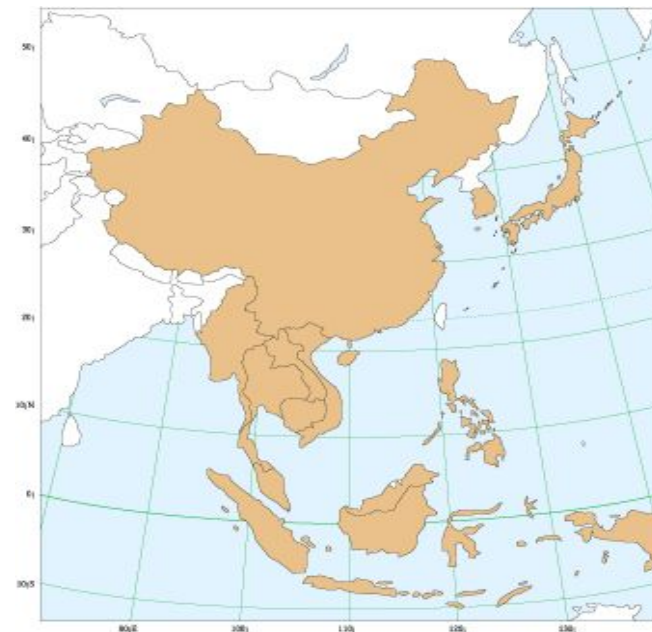
- Limitation to lowering treatment costs
- Waste sludge requires treatment costs if it is not re-used
- Construction of pipelines for wastewater collection, costs more than the actual treatment facility

What's WEPA ?

Water Environment Partnership in Asia

Background

- MoE proposed the initiative at WWF3 in March 2003
- Registered in the “Portfolio of Water Actions” (PWA), an outcome of the ministerial conference of WWF3
- Partner Countries:
 - Cambodia
 - China
 - Indonesia
 - Japan
 - Lao PDR
 - Malaysia
 - Myanmar
 - Philippines
 - Republic of Korea
 - Thailand
 - Viet Nam



Objective of WEPA

- **To strengthen water environmental governance that is a key to address water environmental problems.**

Definition of Water Environmental Governance in WEPA

Enhancement of efficiency and effectiveness in planning and implementation of policy and legislation for improvement of water environmental problems and also maintain sound water environment.

The elements of water environmental governance is, for example, legislation, systems to secure implementation, organisational arrangement, human capacity, financial capacity, partnership and communication with community.

Basics of WEPA 1st Phase

1. Project Duration: April 2004 - March 2009

2. Main Activities:

(1) Establishment of WEPA Database

(2) Capacity development
through WEPA activities

(3) Partnership development
among WEPA countries



WEPA Database - a tool of information sharing -

WEPA Database

www.wepa-db.net

The WEPA database is an information sharing tool, which has been developed as an information platform on water environmental management and open to the public through the Internet. Four databases provide substantial background information that helps policy development and implementation.



Database 1 **POLICIES**



Database 2 **TECHNOLOGIES**



Database 3 **NGOs & CBOs Activities**



Database 4 **Information Sources**

Information platform
for sharing knowledge and information on water governance in the Asian monsoon region



Ministry of the Environment
Government of Japan

2nd Phase of WEPA

1. Project Duration: April 2009 - March 2014

2. Objective of WEPA 2nd Phase

The overall objective of WEPA is the same as in the 1st phase - “To strengthen water environment governance”

3. Specific goals of the 2nd phase

- Identification of areas which need policy intervention through extended analysis of water environmental governance
- Sharing “knowledge” and find “options of solution” through discussion on common and/or emerging issues
(e.g. climate change adaptation, urban wastewater management)
- Delivering message from WEPA on necessary actions for improvement of water environmental governance