

Lesson Learned on **Domestic Wastewater Management** in Thailand

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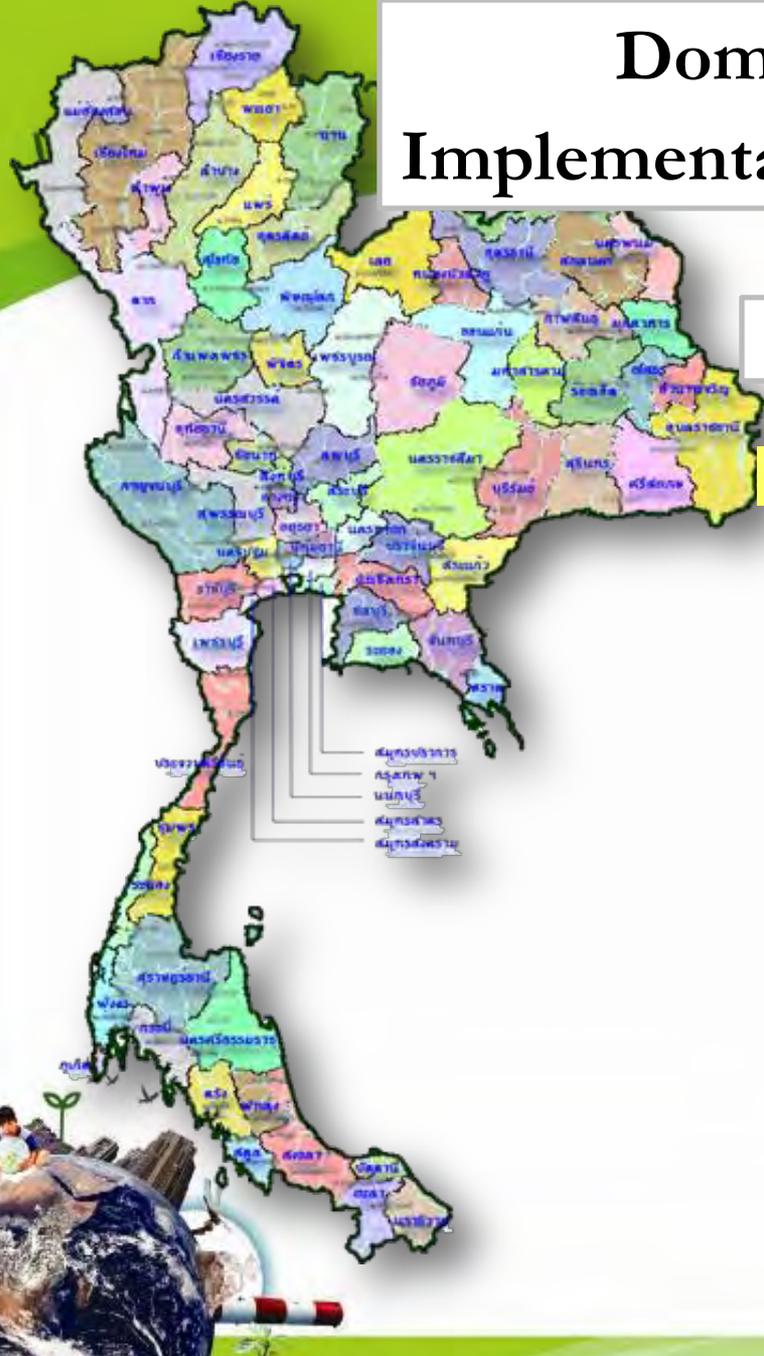


Domestic Wastewater

- one of the most serious environment problems
- approximately 15 million m³/day of domestic wastewater generated by the population around the country in year 2011



Domestic/Municipal Wastewater Implementation and Management in Thailand



(2,008) Municipalities

MWW~3.8 M m³/d

BMA, Pattaya City

MWW. ~2.7 M m³/d

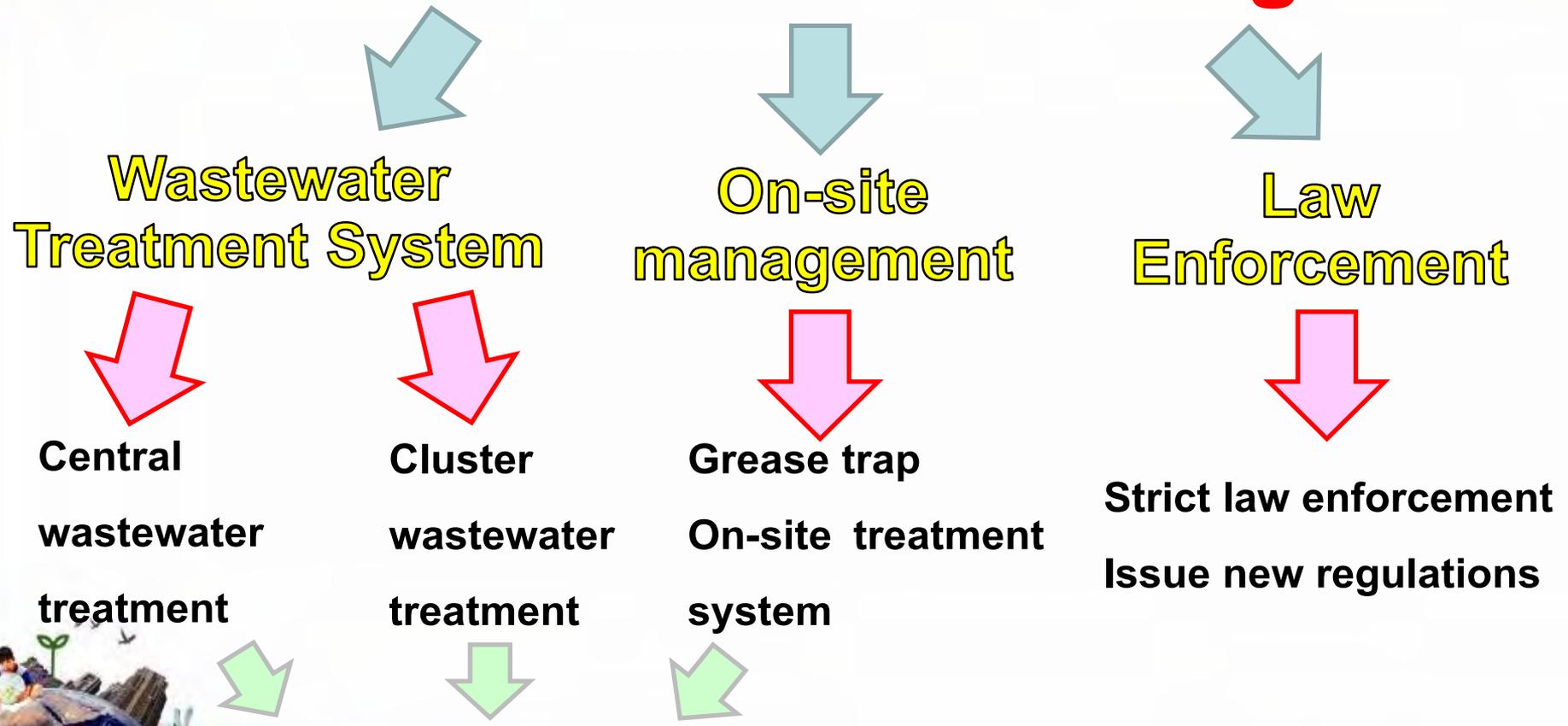
(5,767) LAOs

MWW~ 8.5 M m³/d

Total MWW~15 M m³/d

The treatment capacity
~ 3.2 M m³/d
(~ 21.3% of total MWW)

Domestic Wastewater Management



operation control to be effective



Central Wastewater Treatment Facilities in Thailand

Total 101 Plants

- **Constructed 91 Plants**
- **Under Construction 9 Plants**
- **Delayed 1 Plant**
- **(Samutprakan Province)**



Types of wastewater treatment technologies in Thailand



Wetland (2%)



Rotating Biological
contactor (1%)

Activated Sludge

(36%)



Stabilization Pond
(45%)



Aerated Lagoon
(16%)



The Implementation of Central Wastewater Tariffs

8 municipality have enacted tariffs regulations & implement tariffs

- Hat Yai Municipality
- Pattaya City
- Tarae Municipality
- Huakwang Municipality
- Sriracha Municipality
- Sansuk Municipality
- Ban Pae Municipality
- Patong Municipality

4 municipality

in progress

- Karon Municipality
- Maesod Municipality
- Mookdahan Municipality
- Huahin Municipality

Implementation Policy on Domestic Wastewater Management

Construct new
Municipal Wastewater
Treatment System

Reduce Municipal
Wastewater at
Sources of Pollution

Law Enforcement

Centralized
Wastewater
Treatment

Cluster
Wastewater
Treatment

Grease Trap &
Onsite
Treatment

Strict Law Enforcement &
Establish Local
Ordinance

**Support the Efficient
Management of Operating
& Maintaining**

The Implementation of Municipal Sewage Management system (MSMS 2008)

- Developed by using ISO 9000/14000 concept
- Consist of 6 requirements

Policy

Staff

Evaluation

Planning

Implementation

Audit



- Support LAOs to develop their domestic wastewater management system



The Implementation of Municipal Sewage Management system (MSMS 2008) (Cont.)

- 17 LAOS have implemented MSMS 2008
- currently only 2 LAOS was certified MSMS 2008

Chiang Rai municipality

Phuket municipality



Wastewater Collection and Storm Drainage Systems

- The type of collection systems:
 - ❑ Combined Sewer System : drain both rainfalls and wastewater within one system
 - ❑ Separate Sewer System : the sewerage and drainage are collected in separate piping systems
 - most of the drainage systems in Thailand are combined system



Constraints in Domestic Wastewater Management in Thailand

- Many urban communities lack appropriate domestic wastewater facilities and management
- The communities and people still lack understanding in wastewater problems and awareness to protect their own environment
- The local administration organizations are still unable to manage domestic wastewater
- Lack of budget for construction of the new wastewater collection system and wastewater treatment facilities as well as operation and maintenance system
- Limitation of wastewater discharge fee's collection



Challenges in Domestic Wastewater Management in Thailand

- Propose and assess technically and economically feasible options including identification of types, the separate sewage system, or combined sewer system i.e. Centralized, Cluster and Onsite of wastewater treatment systems
- Technical assistance e.g. software
- The implementation and enforcement of the Effluent Standards from domestic central treatment plant
- Pressure from the public
- Water shortage and climate change
- Water conservation becomes an issue Water re-use and recycle



เรามุ่งมั่นที่จะทำงานด้วยความโปร่งใส เป็นธรรม เป็นทีม เป็นประโยชน์ต่อประชาชน



Thank You

