INDUSTRIAL WASTEWATER MANAGEMENT SYSTEMS IN SELECTED WEPA COUNTRIES

Presented by the WEPA Secretariat at the 8th Annual Meeting
19 February 2013

BACKGROUND – WHY INDUSTRIAL WASTEWATER?

- This survey is conducted under a WEPA discussion topic “water environmental governance” as a follow-up of the framework analysis of water environmental management conducted in 2011.

- Survey and interviews were conducted in selected WEPA partner countries to get more details on the industrial wastewater management – its framework, practices and implementation challenges to facilitate lesson-learning among WEPA countries.

- Why industrial wastewater became a focus?
  - Industrial wastewater is a major cause of water pollution, and there are many areas affected by industrial wastewater in the region.
  - Most of WEPA countries established their own industrial wastewater management system, but many of them recognize problems in implementation.
  - In principle, regulatory framework (or flow of management system) is similar among many countries. Therefore, it may be easy to understand and learn the experiences/lessons.
OUTLINE OF THE SURVEY

• Purpose:
The survey aims to identify current framework, practices and implementation challenges of industrial wastewater management in WEPA countries.

Findings of the survey will be a basis of lesson-learning and for discussion on future WEPA activities.

• Target countries in 2012
  1) Literature review and Interviews: Cambodia, Laos, Myanmar, Sri Lanka
  2) Literature review (+ brief interview): Thailand
  3) Literature review only: Indonesia, Malaysia, Viet Nam and Japan

FLOW OF THE SURVEY

1. Literature review and interviews
2. Development of flow chart of industrial wastewater management
3. Plotting fact based information (e.g. number of factories regulated)
4. Plotting implementation challenges in the flow chart.
5. Identification of country specific/common challenges
6. Consideration of possible options of activities in the area based on the findings
NOTES ABOUT THE SURVEY

• This survey does not intend to "compare" or "evaluate" the system of industrial wastewater management in WEPA countries.

• The main purpose of the survey is to develop the information to facilitate lesson-learning among WEPA countries by identification of current framework, practices and implementation challenges.

• Participants are expected to discuss and exchange information on on-going efforts or success stories in WEPA countries to cope with the common or country-specific issues identified by the survey.

• We also expect that the participants of the annual meeting discuss possible activities of WEPA to address the implementation challenges of industrial wastewater management, based on the idea of possible future activities prepared by the Secretariat.
LIMITATION OF THE SURVEY

• The differences in socio-economic background of each country lies behind the regulatory framework. But this survey findings to be presented today does not fully reflect such differences.

• Therefore, the Secretariat did not summarize implementation challenges by specific industrial types (clusters).

• If you want to raise a specific and critical issues related to a certain industrial cluster (type of industries), please share it with us in the discussion.
Challenge 1: Laws, regulations, effluent standards

**Issues**
- Duplication of prescriptions in different laws/regulations related to industrial effluent management
- Unclearness of relationship within different laws and regulations related to industrial effluent management
- No specific legislation or rules to regulate industrial wastewater
- Too stringent effluent standards that industries cannot comply with. (The standards are not realistic.)

**Responses**
- Some countries revised or are revising effluent standards to make them suitable to the local situations.
- Setting temporary effluent standards is taken as a step-by-step approach.

Challenges 2: Registration, approval/permission process

**Issues**
- It is difficult for authorities to identify all factories/business entities that should register/get approval.
- It is difficult for authorities to know the status of operation of factories/business entities (closed, changes of their business, etc.)
- The number and/or profile of factories/business entities registered/approved are not recorded well (e.g. no database)
- The number of staff is not enough to proceed approval process (checking documents, pre-inspection, etc.).
- Insufficient capacity of organization(s) in charge of environmental management in industrial estates/special economic zones

**Responses**
- More stringent punishment for non-compliance of obligation
- Good connection between business registration system and effluent registration/approval systems (such through EIA system)
Challenge 3. Monitoring and Reporting by Industries

**Issues**
- No compliance of monitoring and reporting obligation by factories, especially by small and medium companies.
- No official monitoring/measurement methods to follow.

**Responses**
- Automatic monitoring system of effluent quality introduced in the industries may have significant impacts.
- On-line reporting system is introduced for industries with certain size.
- Official authorization system of environment control staff/treatment facility manager in a company.

Challenge 4. Inspection, verification of report and provision of guidance

**Issues**
- Uncooperativeness of industries for inspection
- Insufficient number, capacity and facility of authorities to check effluent discharged from factories
- Shortage of number of capacity to verify the status of compliance especially at local level
- Insufficient technical knowledge on wastewater treatment of the person in charge

**Responses**
- Add punishment to “uncooperativeness” under a law/regulation.
Challenge 5. Organizational Issues

- Unclear responsibility demarcation or weak coordination among relevant agencies (e.g. between environmental related agencies and industrial/development related agencies)
- Fundamental administrative structure issues – e.g. complicated relationship between local environmental department and central environmental agencies.

- Introduction of co-benefit type of project -- introduction of wastewater treatment facilities with GHG reduction/collection system such as bio-bas plants. (energy-water sector linkage promotion)
- Reduction of pollution loads by using traditional manure recycling system (agriculture-water sector linkage promotion, using traditional knowledge)

Challenge 6. Low awareness: Low awareness of business sector on compliance of environmental regulations and weak concerns on environmental conservation of citizens

- Low awareness of business sectors on compliance of environmental regulations as a main cause of non/weak environmental actions
- There are no personnel in many companies who knows environmental issues (e.g. no person who is in charge of environmental conservation in the company)
- Low awareness of local people, which means that social pressure from the society to the industrial sector to comply with environmental regulations is relatively low.

- Encouragement of industries to environmental audit system such as ISO14001 and internal environmental audit system
- IETS, pollution control manager systems
- Disclosure/ranking of environmental performance of industries (e.g. PROKASHI, PROPER in Indonesia)
POSSIBLE OPTIONS OF ACTIVITIES IN THE 3RD PHASE (FOR DISCUSSION)

- The 3rd phase of WEPA would be proposed to the Japanese government in FY2013, starting in April 2013.
- Possible options of activities to be presented in this presentation are examples. Idea of possible options of activities is welcomed in the discussion. Actual activities will be decided according to the budget size.
- Future activities are not necessarily conducted with participation of all partner countries. They could be conducted in one partner countries or with participation of a few countries which have similar interests.
- By sharing experiences and knowledge gained will be shared with all partners at the annual meeting and workshops, to facilitate knowledge sharing among all partners.
POSSIBLE OPTIONS (1)

**Laws, regulations, effluent standards – approval and permission process**

- Thematic workshop that can timely deliver knowledge related to immediate policy needs such as revision of standards and drafting water pollution control plan.
- Workshop or sending a short-term expert to help transfer of the knowledge such on wastewater inventory development.
- Training for trainers and/or text development, targeted at national government officials who give capacity development program to local officials.
- Workshop targeted at those who are in charge of environmental management in industrial estates or economic special zones.

**Monitoring and Reporting by Industries**

- Development of text or guideline for managers/person in charge of environment matters in industries.
- Development of PR or guidance materials to facilitate their understanding on water pollution control regulations.
- Support to the training for industries
- Workshop where private sector can transfer their knowledge/experiences of water pollution control in factories in different countries.

POSSIBLE OPTIONS (2)

**Inspection, verification of report, provision of guidance - punishments**

- Workshop, text development, guideline development for those in charge of inspection and verification at national/local level
- On-the-job training for local government/office staff, which is supported by a short-term international expert
- Support to establishment/capacity development of designated institute/company to conduct monitoring and effluents

**Low awareness of business sector on compliance of environmental regulations and weak concerns on environmental conservation of citizens**

- Workshop where wide range of stakeholder will be invited.
- Support to the national-wide or regional-wide water quality monitoring by citizens and visualization of the monitoring results in a map
- International/national workshop to facilitate information exchange among government-industry-NGOs
POINTS FOR DISCUSSION

• Challenges in industrial wastewater management
  → Any other common/country-specific challenges very critical?
  → What knowledge is necessary to promote compliance or achieve administrative targets?
  → What is the biggest challenges in enforcement?

• Experiences and Lessons to address the challenges identified. (Good practices)

• Possible activities under WEPA on industrial wastewater management

ACTIONS FOLLOWED BY TODAY’S DISCUSSION

• WEPA Secretariat received a few project proposals for the activities in the 3rd phase.
• In addition to the discussion of today, we will consider what kind of concrete activities can be conducted in the future.
• Preparatory discussion or pilot activities will be conducted in 2013, where appropriate.
• Selection criteria of activities will be discussed in due course among WEPA countries, but “urgency” “timeliness” and “proactive engagement of WEPA partner(s)”