



## 'No Regrets' Climate Change Adaptation Measures for Water Services



## Climate Change Impacts on Water Services Delivery in ASEAN

- Floods and droughts will become more common and more widespread throughout ASEAN with climate change.
- Other water-related changes have less immediately-apparent effects.
- Adaptation to climate change in water management is needed now.
- Win-win, 'no regrets' measures should be prioritized.
- 'No regrets' means taking climate-related decisions or actions that make sense in development terms, whether or not a specific climate threat actually materializes in the future.

## ECO-Asia's Involvement in 'No Regrets' Measures in ASEAN

- 'No regrets' climate change adaptation measures for water services include:
  - Safeguarding the quality of piped water supply
  - Expanding piped water services to underserved areas
  - Reducing water losses to make more effective use of available water
  - Improving collection, treatment and disposal of human waste
- ECO-Asia works with ASEAN Environmentally Sustainable Cities on all of these measures.
- ECO-Asia promotes and facilitates exchange of best practices among ASEAN ESC through Twin City partnerships.

## Safeguarding Water Quality

- Floods and increased runoff will increase risk of contaminating piped water supply through seepage in decaying pipe networks.
- ECO-Asia focuses on improved water quality management of pipe networks .
- Examples of twin city partnerships on WQM capacity that involved ASEAN ESC:
  - Manila Water Inc. (Quezon) - Danang
  - Ranhill (Malaysia) – PWA Thailand (Chiang Mai).



### Expanding Water Services to Underserved Areas

- Both drought and floods will impact quantity and quality of ground water and surface water.
- Most ASEAN ESC have underserved (usually poor) areas where water operators do not provide piped water.
- The poor are dependent on non-piped alternatives and more vulnerable to both floods and drought impacts.
- Best practices in expanding water services to the poor exist in Manila (Quezon) and Phnom Penh
- Example of twinning partnership:
  - Manila (Quezon) - Medan

### More Efficient Use of Water by Reducing Water Losses

- Drought will require water operators to further improve the efficiency of their water production and distribution.
- Reducing water losses is most common measure to reduce water operator's vulnerability to drought.
- Best practices exist in Malaysia, Manila (Quezon).
- ECO-Asia supports water loss reduction initiatives in Palembang and Surabaya through twin city partnerships.

### Improved Collection, Treatment and Disposal of Human Waste

- Most households in ASEAN cities use septic tanks which usually are not properly managed or regularly emptied
- Floods will cause groundwater contamination due to overflowing of domestic sewage systems
- ECO-Asia promotes a systems point of view, from toilets to collection, transport, processing, treatment and final use or disposal of human waste
- ASEAN ESC involved in twinning partnerships include:
  - IWK (Putra Jaya) – Halong                      - IWK - Medan
  - IWK – Maynilad (Quezon)                      - King County (USA) - Krabi
  - Iloilo – Phnom Penh

**THANK YOU!**



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