

The existing urban environmental sanitation system in Hanoi and problems related

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- ✓ World-wide 2.4 billion people do not have access to improved sanitation (UN, 2004)
- ✓ About 2 million people die everyday due to diarrhoea diseases
- ✓ The most affected people are in developing countries
 - Main problems responsible for these situations:
 1. Lack of priority given to the sector
 2. Lack of financial resources
 3. Basic sanitation services, including drinking water supply, provision are inadequate
 - Deep analysis into the existing sanitation systems and new approaches for environmental sanitation planning are needed
- ❖ This presentation introduces the existing urban environmental sanitation of Hanoi. In particular, the institutional framework, and problems related to wastewater pollution and resource consumption will be discussed

Study area: Hanoi

- Capital city of Vietnam, has a history of 1,000 years
- Rapid economic development and urbanization
- Total population: 3 million people
- Total area: 1,000 square km
- Agricultural and aquaculture activities are observed in peri-urban and rural areas

Main problems related to environmental pollution and sanitation

1. Urban infrastructure development does not catch up with economic development and urbanization pace
2. Resource consumption/ground water exploitation and waste generation are putting strong pressure on the current urban infrastructure system
3. Basic sanitation services are not adequately provided
4. Severe wastewater pollution

- ❖ Most popular sanitation facility: flushing toilets with septic tanks
- ❖ Other sanitation types:
 - ✓ Dry sanitation: pit latrines, ventilated improved pit latrines (VIPs), double vault with urine-diverting toilets, single vault with urine diverting toilets
 - ✓ Wet sanitation: pour-flush toilets with filtration pit
 - ✓ Biogas digesters are also found in rural areas
- ❖ Around 70 % of total population are served with flushing toilet with septic tank (Hanoi URENCO)

Central level

- ❖ First environmental protection law came into force in 1994
- ❖ Modified environmental protection law was ratified in 2006
- ❖ The government has established different public agencies responsible for implementing the environmental pollution control and environmental protection:

Governmental bodies: Ministry of Environment and Natural Resources (MONRE), Ministry of Agriculture and Rural Development (MARD), Ministry of Construction, Ministry of Planning and Investment, Department of Environmental Police

Recent survey on institutional framework has indicated some overlapping between different ministries. E.g. the water resources are placed under management of both MONRE and MARD

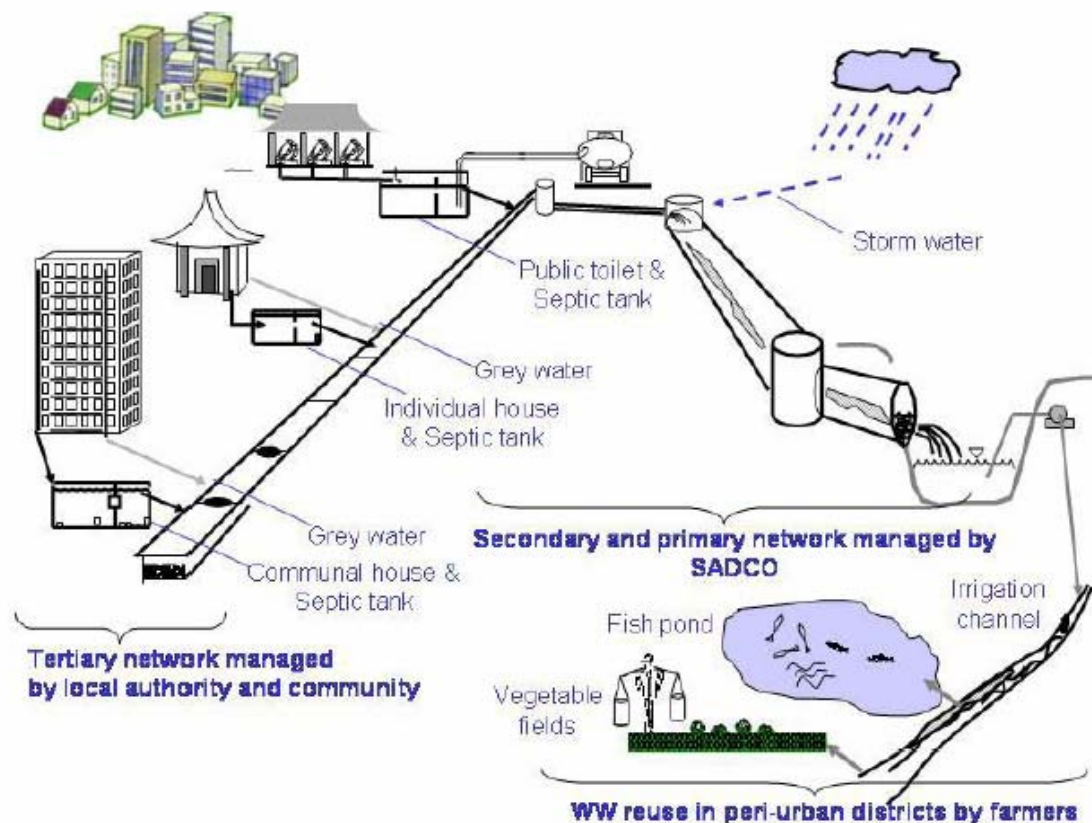
City level: Department of Environment, Department of Public Work Services, Urban Environmental Company

1. Solid waste management

- ✓ Hanoi urban environment company (URENCO): responsible for collection and management of domestic solid waste generated in urban districts of Hanoi
- ✓ Hanoi URENCO, a public agency placed under management of Hanoi city people's committee
- ✓ SW generated in peri-urban districts and rural areas: collected and managed by environmental departments created by the district people's committee
- ✓ SW generated by industries and hospitals: by regulation, the generator is responsible for the collection and management. But, URENCO is usually commissioned to do this job
- ✓ SW generated in peri-urban districts and rural areas is poorly managed, and mostly improperly collected due to lacking of both personnel and financial resources

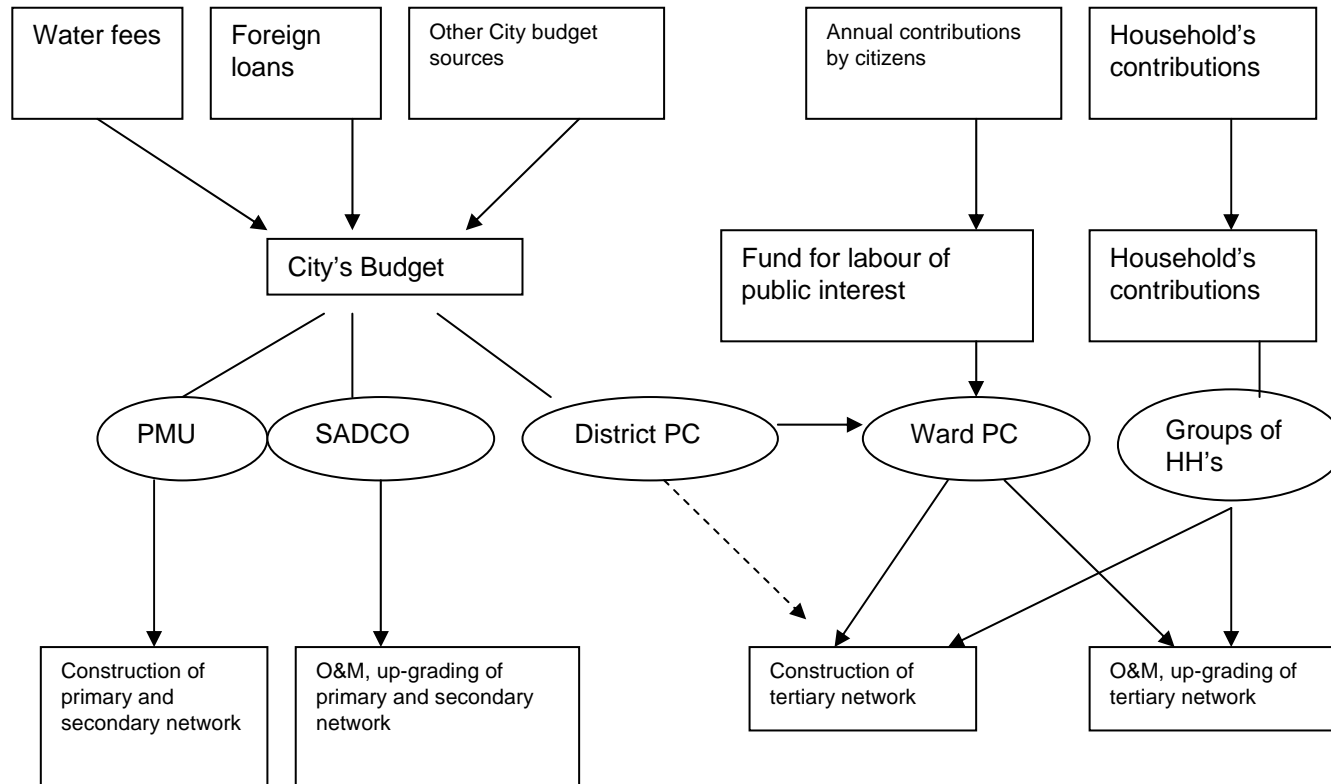
2. Wastewater pollution control

- ✓ Hanoi sewerage and drainage company (SADCO): responsible for operation and maintenance of sewerage and drainage system at city and district levels
- ✓ SADCO personnel and budget is decided by Hanoi city's people committee
- ✓ Wastewater pollution control is under management of SADCO
- ✓ The drainage system at ward and commune levels is operated and maintained by local authorities



Sewerage and drainage operation and maintenance in Hanoi is decentralized

Decentralization of responsibilities depending on the source of finances for wastewater management activities in Hanoi



3. Drinking water production and supply

- ✓ Hanoi water work company (HaWACO) is responsible for drinking water production and supply
- ✓ Main water source: groundwater
- ✓ Current exploitation rate by HaWACO: 650,000 m³/day
- ✓ Estimated replenishment rate: 700,000 m³/day
- ✓ Hanoi city people's committee is responsible for setting/adjusting water tariff to make sure that Hanoi water work company has enough fund to operate

Other stakeholders participating in urban environmental sanitation activities

- ✓ Universities and research centers
- ✓ Mass organizations, like Women Union, Youth Union, Elementary and Primary Schools
- ✓ International donors, like DANIDA and CIDA, and NGOs

- ✓ There is a gap in understanding and implementation of environmental protection law and regulation between governmental agencies and local agencies
- ✓ The Vietnamese government has expressed strong desire and commitment to prevent environmental pollution
- ✓ However, the “rule of law” and commitment from the industries and people are, to some extent, lacking
- ✓ Each ministry has its sectorial department at city level. However, the personnel and budget for the department are decided by city’s people committee. This situation has, to some extent, affect the implementation of national regulations on environmental protection
- ✓ Many initiatives jointly-launched by the governmental, local authorities, mass organization and international donors and NGO have been implemented

SW collection and management

- ✓ Only about 70 % of the total generated urban SW is collected
- ✓ The remaining 20 % is either improperly collected or illegally thrown to inner city canals or public places
- ✓ At-source separation is not well-done
- ✓ Only about 10 % of the total nutrients (N & P) available in SW is recycled via composting
- ✓ SW generated in peri-urban and rural areas are poorly managed

Wastewater pollution

- ✓ Inadequate sewerage and drainage services
- ✓ Most of wastewaters are discharged untreated into water receiving bodies
- ✓ Flooding often happens during rainy season
- ✓ Less than 10 % of total generated domestic WW is treated before being discharged
- ✓ Sever pollution of receiving water bodies

Groundwater exploitation

- ✓ Overexploitation of groundwater
- ✓ Groundwater level of Hanoi is decreasing



Thank You