

Environmental Impacts and Mitigating Measures

TALAYAN SEWAGE TREATMENT PLANT

December 12, 2011

Project Location



Talayan STP

Project Site



Temporary storage of junk shop materials

Project Vicinity



Residential houses and junk shops
In the vicinity



Adjacent property

Project Vicinity



Problems Caused by Polluted Water

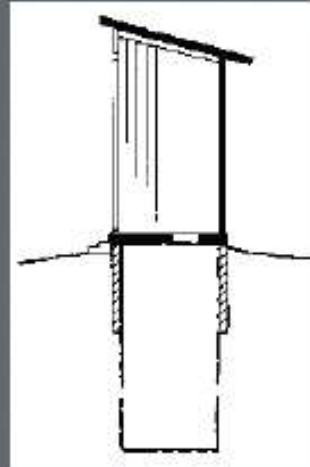
- Spread of water-borne diseases
- Lack of dissolved oxygen in water can cause fish to die from suffocation.
- Fish retain and accumulate substances, such as mercury, that can harm people, animals, birds, and other fish that eat them.
- Excessive nutrients from runoff can cause the growth of too much algae.
- Oil can keep oxygen from reaching the water surface, suffocating fish and killing or harming other creatures.



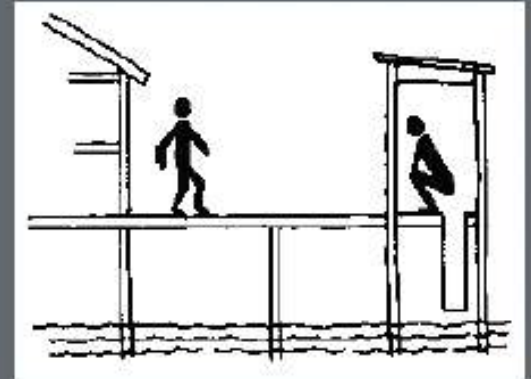
Sewerage and Sanitation Facilities



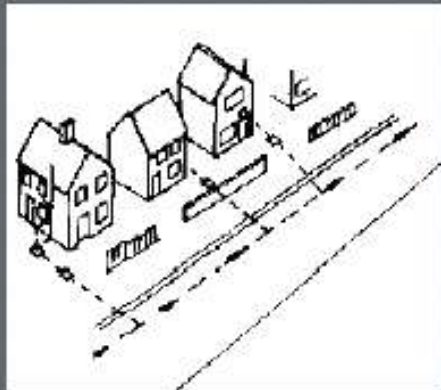
Open defecation



Simple pit latrine



Overhung latrine



Sewerage system



Septic tank

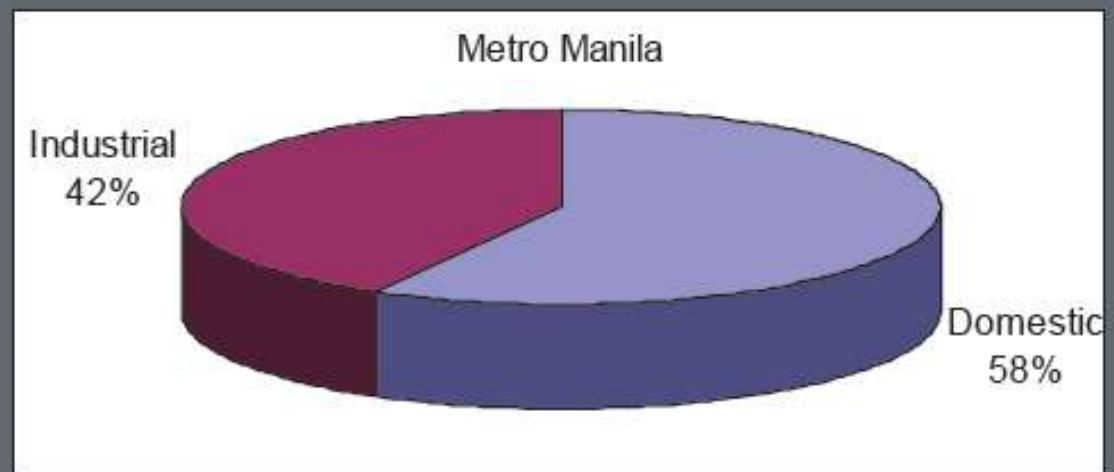
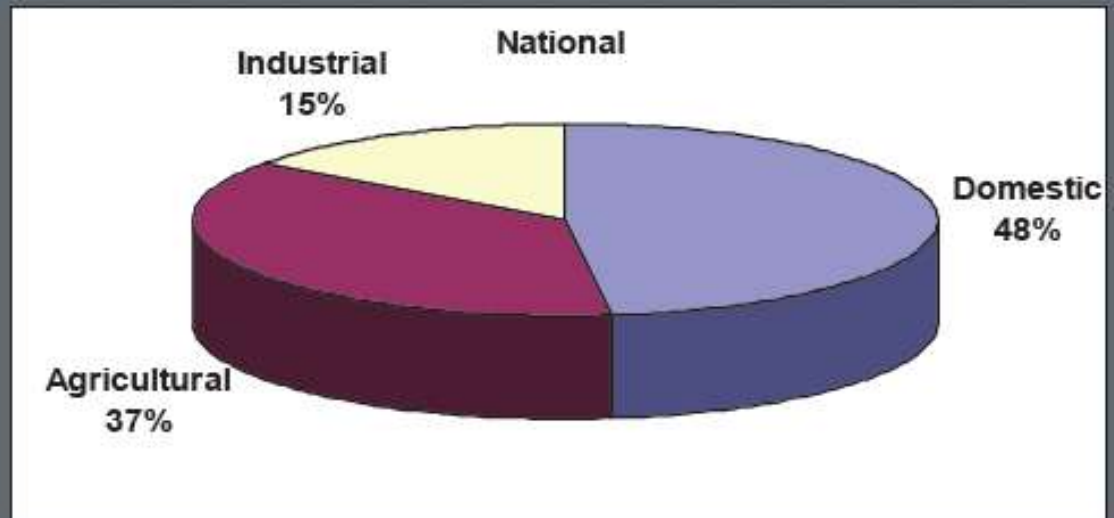
Sources of Water Pollution

National

- Domestic
- Agricultural
- Industrial

Metro Manila

- Domestic
- Industrial



Economic Losses due to Water Pollution



- TOTAL - PhP 67 billion (US\$1.3 billion).
 - PhP 3 billion for health
 - PhP 17 billion for fisheries production
 - PhP 47 for tourism.

Project Rationale

- Reduce incidences of water-related diseases
- Improvement of sanitation and cleanliness
- Improvement of water quality of San Francisco River and San Juan River
- Improvement of basic services

Environmental Issues and Mitigating Measures

Environmental Impacts and Proposed Mitigating Measures

PRE-CONSTRUCTION STAGE

- **Site clearing and demolition**
 - Require lot owner to clear the site and to properly dispose of wastes and materials left onsite prior to turn-over to MWSI.
 - MWSI to inspect and supervise clean-up activities
- **Removal of trees and other vegetation during site clearing**
 - Avoid cutting of existing trees to the extent possible.

Environmental Impacts and Proposed Mitigating Measures

CONSTRUCTION STAGE

- **Dust emission**
 - Regular water sprinkling in areas highly influenced by dust emission.
 - Installation of silt traps, deviation channels and trenches around the mounds of materials
 - Avoid scheduling heavy noise-generating activities at nighttime.
- **Erosion and surface soil runoff causing flooding**
- **Noise**

Environmental Impacts and Proposed Mitigating Measures

CONSTRUCTION STAGE

● Sanitation

- Portable toilet facilities will be installed within the construction site for use of construction personnel

● Traffic congestion at Talayan Road

- Schedule hauling of construction materials during off-peak hours
- Prohibit side-street parking
- Assign a security personnel to assist vehicles coming in and out of the site.



Environmental Impacts and Proposed Mitigating Measures

CONSTRUCTION STAGE

- **Open excavations may cause accidents**

- Provide barricades and steel plate covers in open excavations.
- Install warning signages, flashing boards, lighting

- **Occupational hazards**

- Require contractor to implement a Construction Health and Safety Plan

Environmental Impacts and Proposed Mitigating Measures

CONSTRUCTION STAGE

- **Generation of construction wastes**



- Segregation of wastes
- Recycling/reuse of recyclable wastes
- To be offered to junk shops as scrap material.

Environmental Impacts and Proposed Mitigating Measures

CONSTRUCTION STAGE

- **Employment**
- Provision of job opportunities

Environmental Impacts and Proposed Mitigating Measures

OPERATIONAL STAGE

- **Reduce water pollution (less water-borne diseases)**
- **Improve sanitation**
- Positive benefits
- Regular monitoring of discharge effluent

Environmental Impacts and Proposed Mitigating Measures

OPERATIONAL STAGE

- **Odor from STP**
 - Provision of odor control measures
- **Emergencies and hazards – flooding, earthquake**
 - Design to consider geologic hazards
 - Implement emergency response measures
 - Plant more trees and other vegetation
- **Generation of screenings, sludge, and solid waste**
 - Daily collection of screening wastes at interceptors and manholes
 - Coordinate with the LGU on implementation of Ecological Solid Waste Management program

END