



Finance Options: Session 1 : Some Useful Economics

Module 4 Session 1



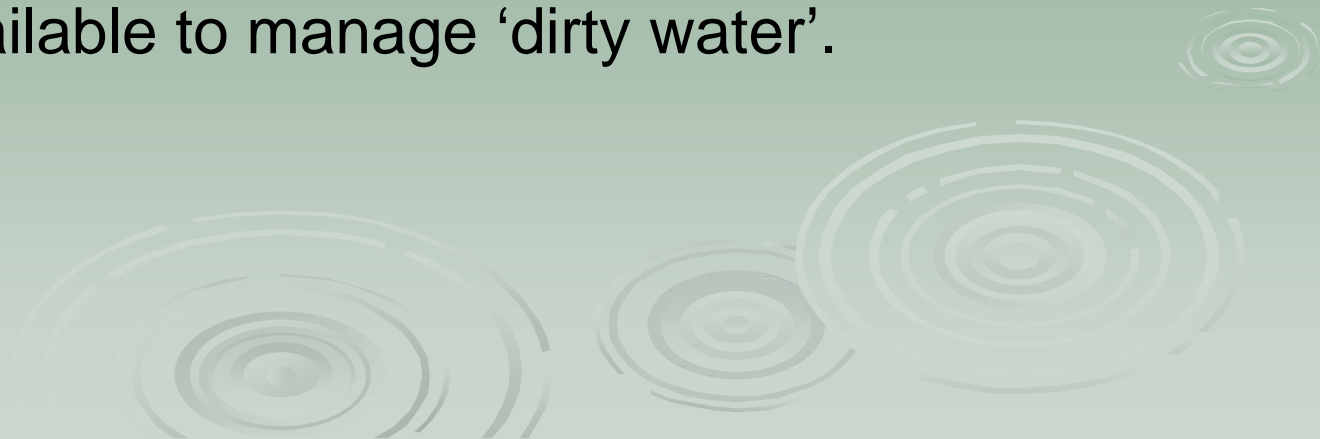
Some useful economics

This session considers :

- Principle of *Water* as an economic good
 - Wastewater management as a public good
 - Externalities of poor or no wastewater management
 - Some Useful Economic Concepts
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Water as an economic good

- Markets and prices determine the consumption of a good - the higher the price of something the less a good or service is consumed.
- In many countries water is becoming scarce. Introduction of an economic value to water (through charging systems based on actual cost and consumption) is essential to reduce waste and loss and encourage conservation.
- Failure to attach a true value to water also impacts on resources available to manage 'dirty water'.



Public Goods

- In economics a public good is a service that is non-excludable and the private sector does not provide adequately. Examples include : public health and welfare programmes, education, roads, national security, some parts of the wastewater management system.
- The consequences of not providing that service (i.e wastewater management) create negative externalities to society overall.



Externalities

- A negative externality occurs when one person's actions harm another. For example when polluted wastewater causes health or environmental problems.
- Governments often intervene to provide public goods or prevent externalities.
- But government interventions can also be *imperfect* as they rely on inefficient bureaucracy and politicians may supply public 'goods' in ways that serve their own interests (e.g. providing services to their locations within a town)



Market Failure

- 'Market failure' arises when the inherent demand for a service does not lead to the level of investment in and use of sanitation services that would be most efficient for the economy.
- Market failure may occur because people don't know
 - That their own health and welfare could be improved by better management of wastewater;
 - Improved practices in individual households contribute to improved health in wider community.



Polluter Pays Principle

- Polluter Pays Principle was first widely discussed in the United Nations Conference on Environment and Development held in Rio de Janeiro of Brazil in June 1992. The principle was endorsed by all the attending representatives of the countries and nations.
- Costs of environmental damage or resource depletion should be borne by the polluters.



Polluter Pays in Hong Kong

- In Hong Kong the polluter pays principle was implemented through a sewage charging scheme introduced 1 April 1995.
- The Government explained to people that each day, individual households, trades and industries (dischargers) turned million of tons of clean tap water into wastewater which required proper treatment before disposal.
- In the past, the cost of sewage collection and treatment came from public revenue and the public was unaware of the cost of the sewage services and therefore has no incentive to reduce water pollution.
- With the introduction of the sewage charge, dischargers are required to pay the cost of the sewage services according to the quality and quantity of their discharge. Charges were set to recover only the operating and maintenance cost of public sewage facilities. The construction cost of these facilities remains to be funded from the public revenue.

Scale Economy (SE) or economies of scale

- Scale Economy refers to the cost reduction per unit from a large scale of operation. The higher the scale of the operation, the lower per unit cost.
- Scale economies are a well known advantage in the production, distribution and delivery of urban infrastructure and services.
- But Scale Diseconomy (SD) can also occur. This refers to the point when unit costs start to rise, when there are decreasing returns to scale and increased costs result.

A key appeal of Centralized Wastewater Management (CWWM) has been the benefit of scale economies. However what has often been ignored is that scale economies are not unlimited and that scale diseconomies are also very real. If 'small is beautiful' sounds romantic (DWWM), huge is not necessarily merry (CWWM)



Agglomeration Economy and Diseconomy

- Another related concept is Agglomeration Economy refers to the per unit cost reduction from agglomeration, i.e., the proximity of one to the other.
- However, Agglomeration Diseconomy also starts to emerge as agglomeration exceeds the point of economy. At this point , higher agglomeration or density no longer gives any economic, social or environmental benefit.

Agglomeration and scale economies have often been used to rationalize Central Wastewater Management, ignoring the diseconomies associated with these concepts.

In reality in many cities of developing countries experience scale and agglomeration diseconomies because of huge population size.

