Introduction to DWWM: Session 3: The Principles

Module 1 Session 3

Decentralised WWM

- Is a response to the limitations of centralised wastewater management.

- Means - ‘ *local control of all or any of the planning, financing or operational management of wastewater systems through application of local appropriate intermediate technologies’*

Read session note

Defining Concepts for DWWM

- DWWM ideas build on a number of concepts:
  - Concept of ‘unbundling’ (ref *World Bank Development Report, 1994 introduced idea of Unbundling or separation of parts of a public service with a view to determining the ‘feasibility of private sector delivery’ of the constituent parts)*
  - Household Centred Approach (HCA, 2003 Note 3)
  - Participation and people centred approaches
  - Demand-responsive approach

Decentralized Wastewater Use

Most current wastewater *use* is decentralized as:

- it is not part of a centralized wastewater treatment system
- it is carried out informally without government involvement
- it is based on the initiatives of local people

Examples of DWWM

- Household
  - Household wastewater disposal e.g. septic tanks
- Community
  - NGOs involvement in communal sanitation
  - Community built sewerage systems
  - Local drainage systems
- Local Treatment and Reuse
  - Constructed wetland treatment
  - Waste stabilisation ponds
  - Local communal septic tanks (eg baffled septic tanks)

Currently there are few examples of local wastewater treatment prior to reuse.

Dimensions of Decentralisation

Wastewater Management	Household	Neighbourhood	Sub City Area
Technology	Related to latrines with some treatment and separation of non-polluted waste water. Sludge collection service and reuse	Related to collection sewerage /small bore Some treatment ➢communal septic tanks/ ➢Community toilets ➢Pond treatment	Related to Treatment and Reuse ➢ Pond systems ➢Reuse for Agriculture and Acquculture
Financing	From household expenditure Loans and some subsidy	User Charges Local Committee Funding Private Sector Operation	Property Tax Water Cess (with wastewater levy) Effluent discharge tax
Management	Householder (often Women) Contract small scale private vendors	Community Organisations Neighbourhood Representatives	Local Authority Water/Wastewater Management Authorities

Inclusion of the Poor and Unserved areas

- Can focus on poor and informal settlements.
- A solution for peri-urban areas
- Assumes community participation and that local action and solutions will promote better service delivery.

Requires Strategic Framework

- NOT all waste management decisions can be decentralised to lowest level – DWWM requires a strategic framework.
- Principle of *subsidiarity* important in wastewater management. Definition of *subsidiarity – is* that functions should be delegated to the lowest competent authority
- Local control has benefits but certain functions – physical network planning, co-ordination and regulation – are more effectively managed town-wide – a strategic framework.

What scale to manage wastewater at..

- **Start with the Household** (Separation at source, Treatment/reuse close to where waste is generated. On-plot sanitation)
- **Work Outwards** : If wastewater is used locally – “think local treatment”
- **Consider strength Local Institutions for Local Management.**
- **Create opportunities for Cluster Treatment and Reuse Zones**
- **Build on Opportunities for Reuse** . Experience shows that regulations to improve safety are more effective that prohibition (crop restriction, restrictive timing, protective equipment) Market also operate – higher prices ‘clean crops’ eg Viet Nam.

Characteristics of DWWM

Decentralised	Centralised
Role for other organisations in part of process	One organisation responsible wastewater in city/town
Lower per capita costs for construction and O and M. Starts with the household – Promotes separation and reuse – Explores cost effective on-plot solutions.	Higher per capita costs for construction and operation and maintenance. Potential economies of scale. Focus on collection and end of pipe treatment
Demand Driven – builds on local priorities and concerns. Potential to address needs of poor.	Supply Driven - centrally driven disposal process. Often focussed on needs of middle /higher income residents.
Dependent on Local Finance and leverage of local resources Engages with small scale information and PS entrepreneurs	Uses citywide financing tools (tax raising, potential for cross subsidy) Private sector role limited to larger contracts but can include ‘low level’ management contracts