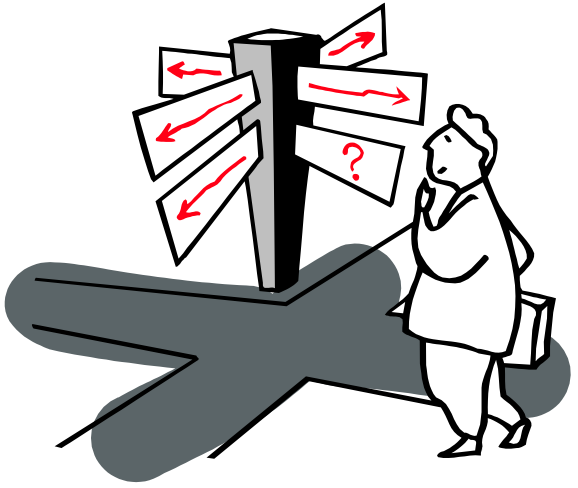
A way forward….

A tool for selecting sustainable sanitation arrangements



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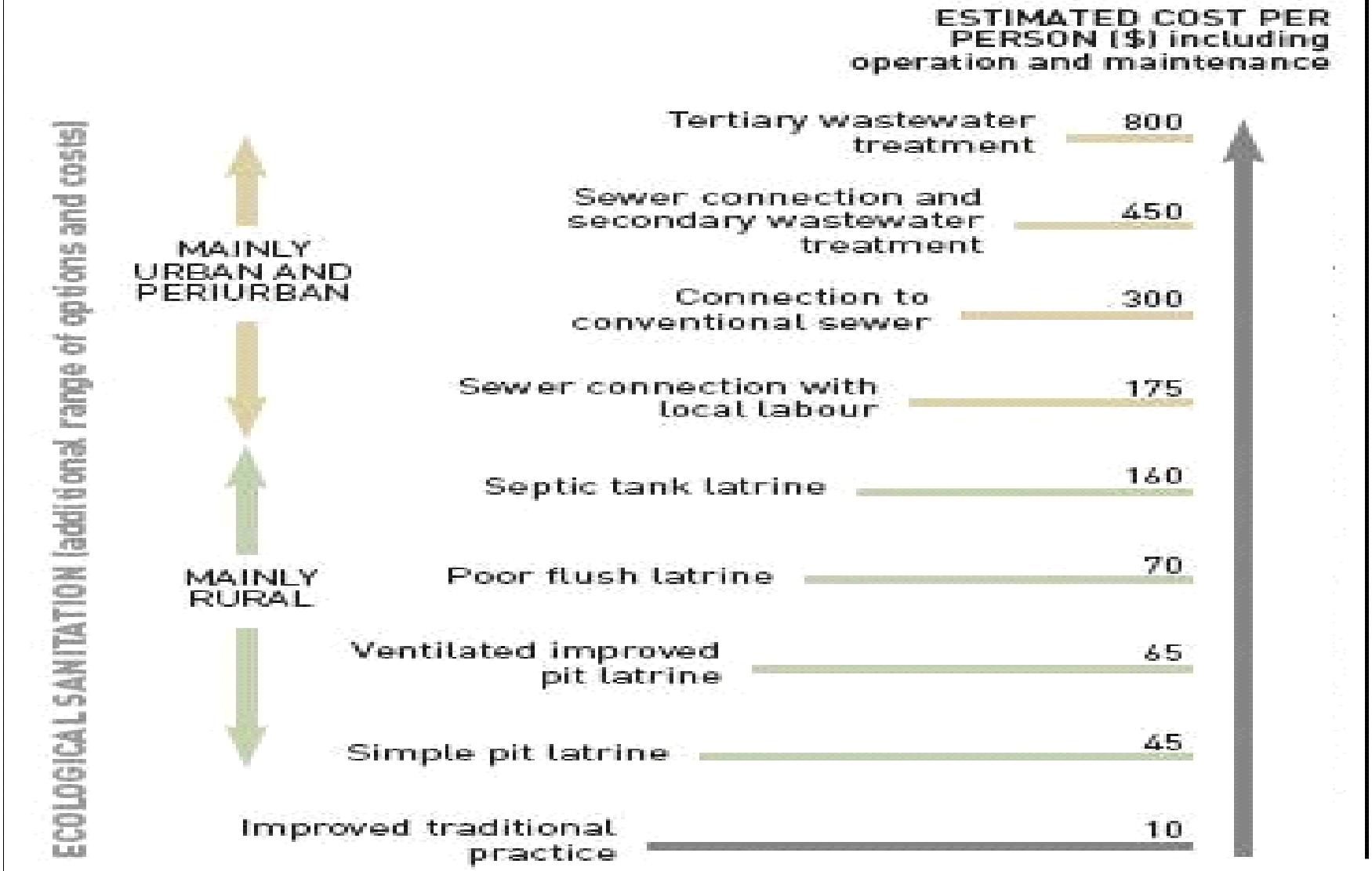
A ladder of options: different levels of sanitation services and their tentative costs



Global Water Partnershi

The long-term perspective

- the urban population will double in 50 years
- scarcity of water, energy, phosphorus, and
- manpower/capacity constraints

Principle 1: "*Start the planning from what is acceptable to reuse or to discharge to nature*"

The quality of the effluent and other residues should be of as good quality as possible in order to be reused or harmless when returned to nature. In a society with few and harmless consumer products the sanitation arrangements can be made simple. However, in an emerging chemical society where thousands of chemical compounds are part of the goods we consume, more varied and sophisticated arrangements are needed to ensure that nature does not suffer. The policy should be proactive and include that manufacturers are requested to replace harmful compounds in their products (P in detergents etc.) or that consumers boycott such products.

Principle 2: "*Adjust water and sanitation arrangement to the material flows*"

A water and sanitation arrangement receives a wide range of products that have been used by residents. We may compare the design of a sanitation system with that of manufacturing a car. The design of cars not only includes its shape, but also how to compose the car in order to make the disassembling easy by the time the car is to be scrapped. The motivation is to facilitate the collection of different parts for reuse (metal, plastic, rubber, etc.) or for final destruction. This principle does not limit the quality of the car. Similarly, different water and material flows should not be mixed but kept separate to facilitate a cost-effective treatment and reuse, without reducing the service level or comfort of the user.

Principle 3: "*Manage the arrangements at the most resourceful level*"

Financial resources and manpower are common constraints. Residents manage the part of the arrangement in the home and yard, and may call on an entrepreneur for a new installation and repairs. Decision-makers and professionals are responsible for regulations and monitoring of the communal part of the water and sanitation system. Any sanitation arrangement requires a partnership between the two actor groups, and there are a number of tasks that can be taken on by either of residents, CBOs, utilities, and private business. A arrangement should be designed so as to save on scarce management resources in the community/society.

Some issues to be considered

Policies, building code and other regulations

Capacity in society; from residents to professionals

New area or densification

Availability of water

Landscape and soil characteristics

Collection system for solid waste, organic waste in particular

Housing density and access to open areas (gardens, playfields

Shortcomings of the present sanitation arrangements

Availability of energy

A holistic sanitation selection algorithm-Feb-05