

OPTIONS FOR THE IMPROVED DELIVERY OF WATER SERVICES

What are Water Services?

The term "water services" is used to describe the combined aspect of water supply and sanitation.

Water Supply Services

The cost of delivering water to a tap is made up of a number of processes:

- ♦ **Raw (or untreated) water** – this includes the cost of the dam or weir at a river where the untreated water is collected. The water is then piped or pumped to a treatment plant where it is processed into water of potable (drinking) quality. Alternatively, the water may be extracted from a borehole (using an electrical or diesel driven pump) and treated by the addition of chemicals to make it into potable quality water.
- ♦ **Storage and distribution** – this covers the transport of the potable water through a pipeline and into reservoirs where it is stored. There may be a number of pipelines and reservoirs in a system before the water reaches a specific community.
- ♦ **Reticulation** – this is the pipe network which distributes the water to the various houses and may include control valves, pressure reducing valves (PRV), bulk meters and meters at the supply to each house.



Sanitation

There are two acceptable basic forms of sanitation:

- ♦ **On-site systems** – these are where the sewage from the toilets is kept within the stand or plot and dealt with by allowing the fluids to seep into the soil and the solids to compact and break down naturally. VIP (Ventilated Improved Pit) toilets and similar, are known as "dry" systems as they do not require water to function. The "wet" system includes septic tanks and conservancy tanks both of which allow for the use of flush toilets. The benefit of these systems is that they do not need sophisticated infrastructure to be paid for and the maintenance cost they incur is when they have to be emptied. Care has to be given to the position of these toilets or tanks so that their outflow does not pollute a water supply point or contaminate the groundwater.
- ♦ **Off-site treatment** – in this case the flush toilets discharge into a pipe network which takes the sewage (effluent) to a treatment facility where it is processed to a standard which allows it to be discharged back into a river or the sea. The treatment facility can be a series of ponds where sewage is encouraged to break down naturally or it can be removed at a treatment works that takes the sewage through a series of processes to remove all the contaminants. Whichever is used, it is an expensive process which requires careful operation and monitoring.

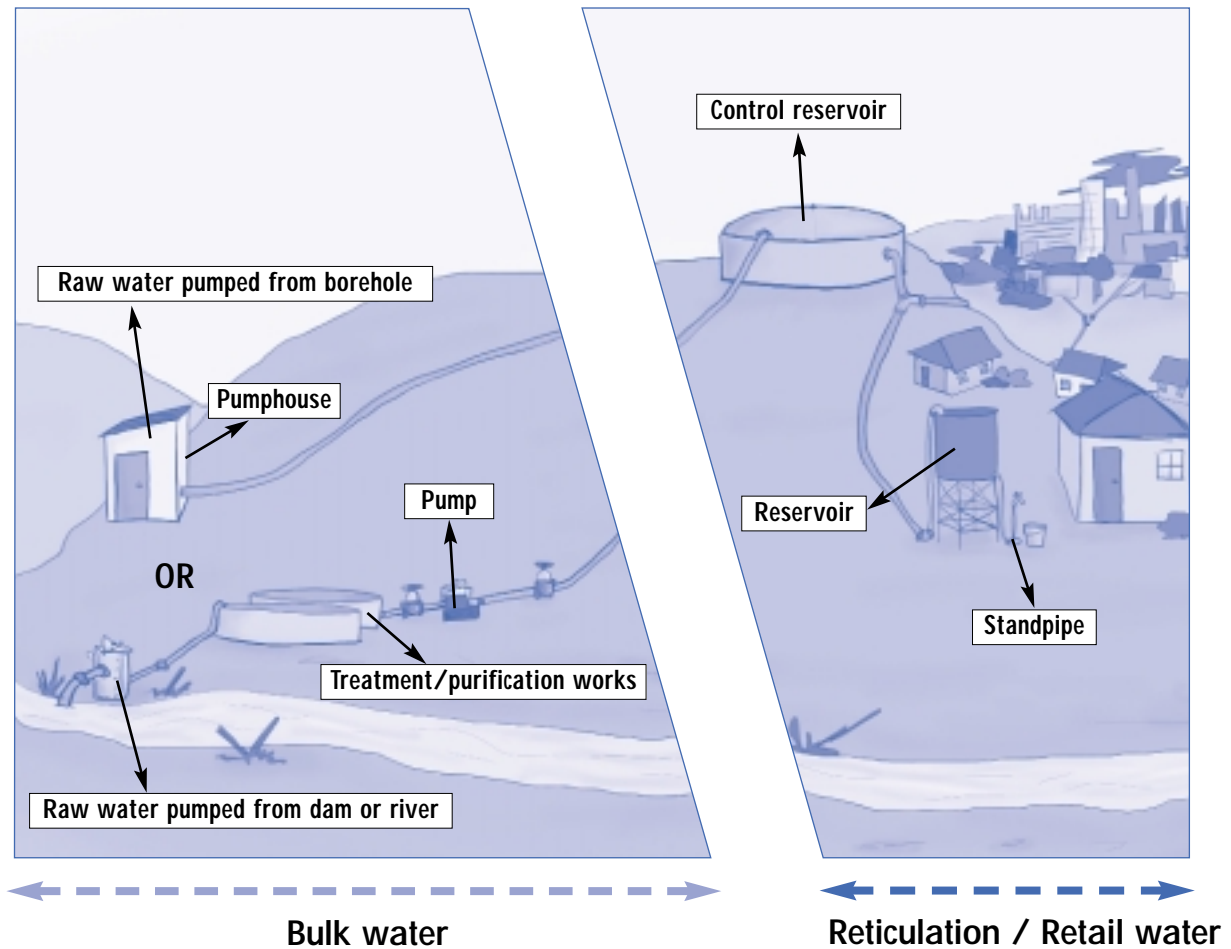


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WATER SUPPLY




Levels of Service


WATER SUPPLY


Metered supply  Where households pay for more than the free basic amount of water by pre-payment meter or by monthly account.


Restricted supply  Where households get the free basic amount of water or choose to pay for a fixed higher monthly volume.

Communal standpipes  Shared facility where connection to every property is not available - can be with or without a pre-payment meter (if no meter, connections to these taps, like hosepipes, are not allowed).

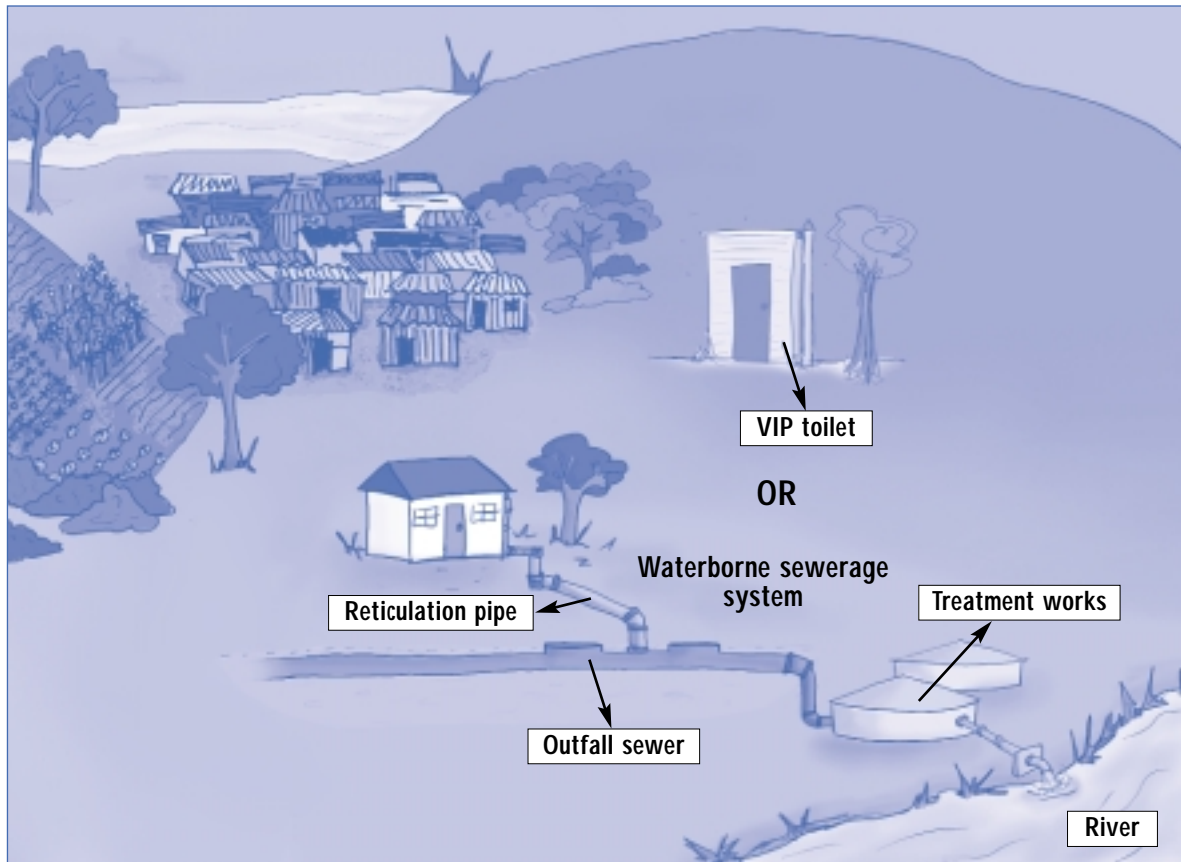
SANITATION

Waterborne sewerage  Provided only if the necessary treatment plant is available and the majority of the households served can afford it. Households pay for water used or at a determined rate per month.




Septic tank / Conservancy tank  Flush toilets without the use of the treatment plant but the stand size must be large enough and underground conditions suitable for on-site treatment.

VIP (Ventilated Improved Pit) toilet  Once built, there are no monthly costs except if the pit has to be emptied. Suitable in most circumstances but not if the houses are too close and underground conditions are difficult. They should not be located close to a water source.

SANITATION



How are Services Provided?

| | Funding | Functions |
|---|---|---|
| New works  | From capital budget (Capex) using: <ul style="list-style-type: none"> ▶ Own funds ▶ Municipal Infrastructure Grant (MIG) ▶ Commercial loans | Planning, design and construction of new facilities and major repair or improvement of existing facilities |
| Operations  | From operational budget (Opex) using: <ul style="list-style-type: none"> ▶ Revenue from tariffs ▶ Equitable share ▶ Own subsidies ▶ Own funds | 24/7 availability to ensure that all facilities are operating, that there is a fair distribution of available water, that quality standards are maintained and that any faults or leakages are attended to. |
| Customer services & financial  | From operational budget (Opex) using: <ul style="list-style-type: none"> ▶ Revenue from tariffs ▶ Equitable share ▶ Own subsidies ▶ Own funds | Attending to new applications and service enquiries, meter reading, billing, receiving payments, collecting unpaid bills, managing income and expenditure and advising on tariff levels. |

Who is Responsible for Providing the Services?



Water Services Authority (WSA) is responsible for:

- ◆ ensuring that the service is provided;
- ◆ funding the budget through setting tariffs and accessing grants and subsidies;
- ◆ establishing and enforcing bylaws and policies (including the free basic services policy);
- ◆ preparing and maintaining the Water Services Development Plan;
- ◆ if it so decides, appointing and monitoring a Water Services Provider.



Water Services Provider (WSP) is responsible for:

- ◆ providing the service in a cost efficient manner;
- ◆ planning, management and budgeting
- ◆ assisting and supporting the WSA;
- ◆ maintaining and protecting the facilities used to provide the service;
- ◆ meter reading, billing and revenue collection.



Who Pays for Water and Sanitation Services?



- ◆ The Water Services Authority receives a subsidy (Equitable Share) from National Government to provide free basic water to indigent (poor) households;
- ◆ The Water Services Authority receives a grant (Municipal Infrastructure Grant or MIG) from National Government for the construction of new facilities aimed mainly at providing a service to indigent households;
- ◆ All other costs, including any free basic service provided to non-indigent households, have to be paid out of the tariffs charged and collected from all other users of the service as well as any other allocated local funds. These tariffs have to be set so as to generate the revenue that is necessary to cover the costs.

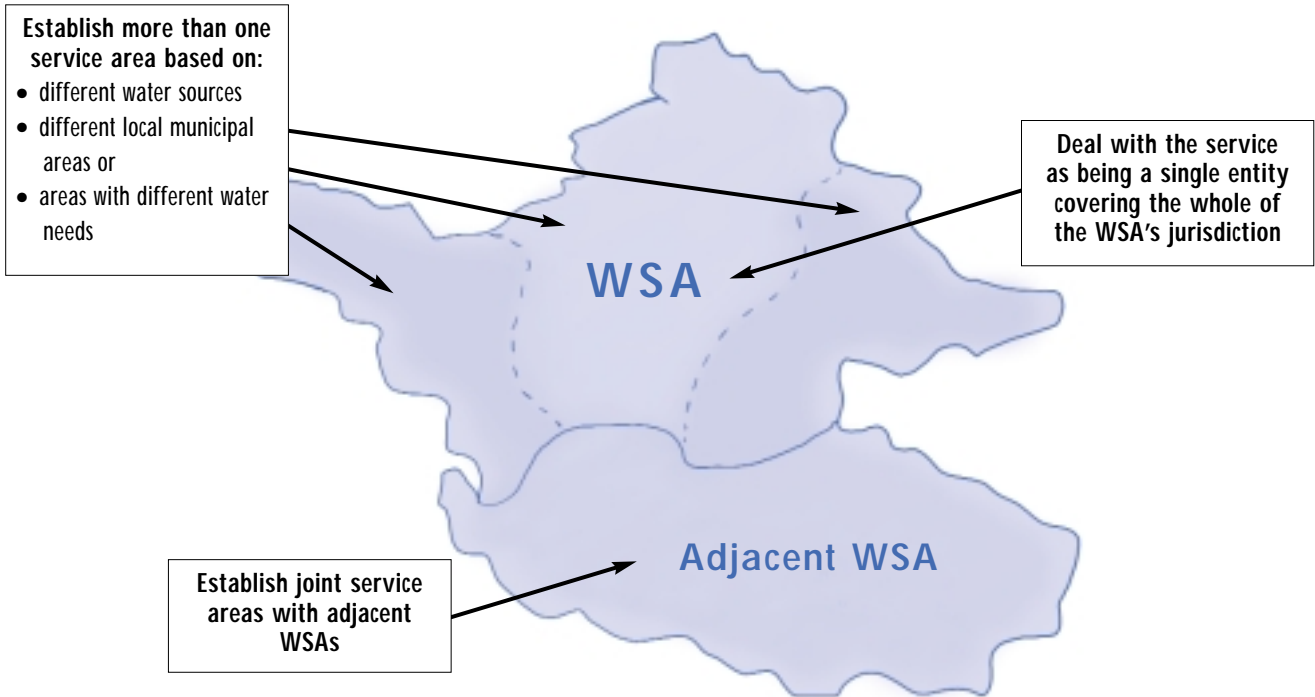
Some Typical Ways to Improve the Service

- Consider the benefit of leak identification and repair programmes as well as the possible use of pressure reduction techniques.
- Identify high volume users for the installation of meters.
- Reduce the amount of revenue being lost through non-payment, poor collection and incorrect billing.
- Update the customer database regularly to register indigent households and ensure that high volume users have meters or flow restrictors installed.
 - Improve customer service by introducing a public phone-in system for reporting faults to ensure quick corrective action; providing customer service centres in outlying areas; and introducing easy payment mechanisms, possibly using local shops.
 - Ensure that the water services team has trained operators and supervisors, qualified plumbers and a professionally qualified person on the staff and that they have the necessary vehicles, spares and equipment.
 - Outsource services such as billing, meter reading, plumbing and maintenance, operation of treatment plants, staff training and development, etc., where in-house skills or resources are limited.

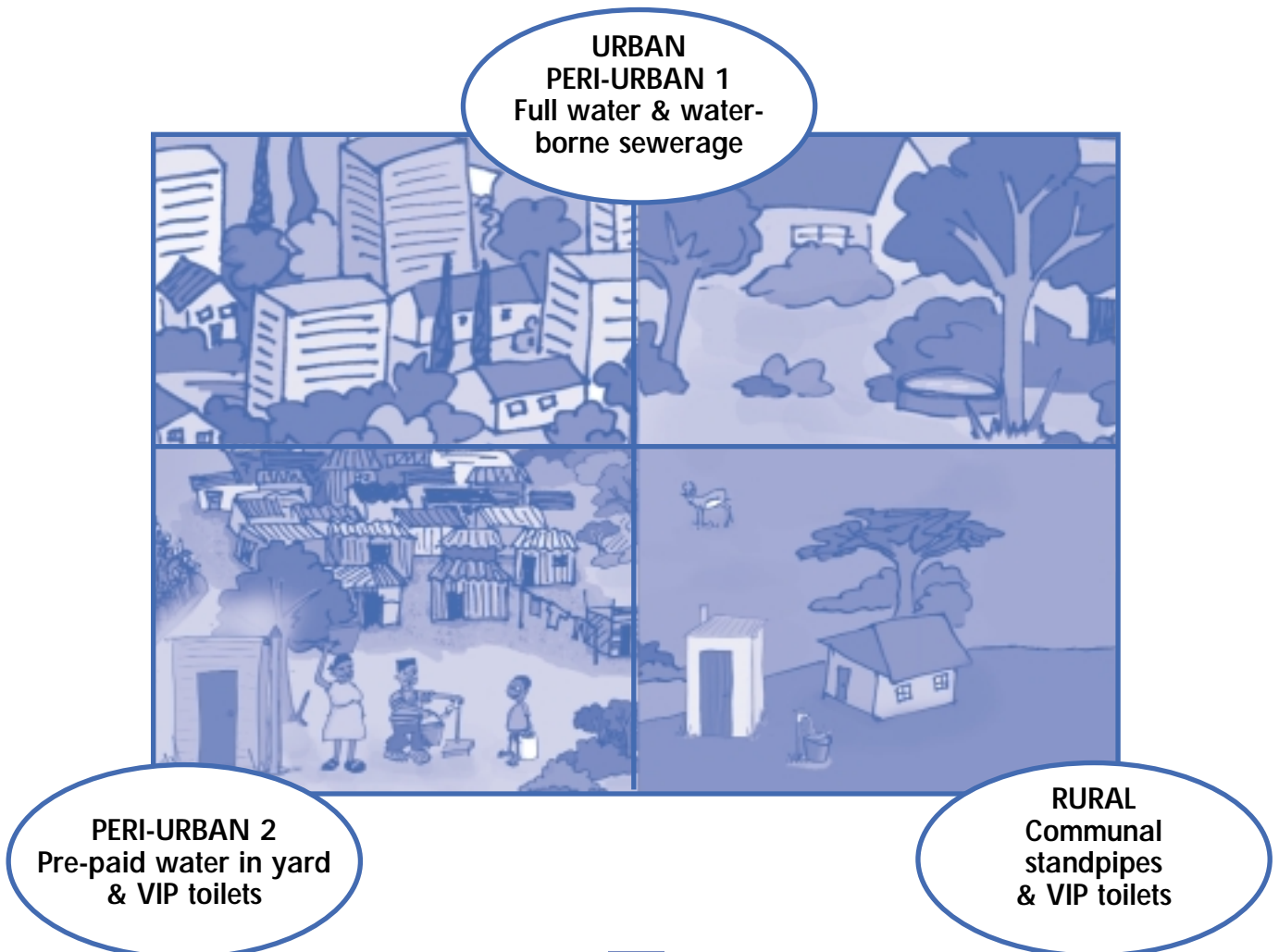


Options for Deciding on the Type of Service

Decide on the geographical area to be covered by each service provider or type of service



Decide on the maximum levels of service to be provided in each area



Decide on the Optimum Type of Delivery Mechanism

| I N T E R N A L | Structure | Description / comment | When to use |
|--------------------------------------|-----------|--|---|
| Department | | <ul style="list-style-type: none"> ▶ Technical department responsible for providing service ▶ Other departments responsible for billing and collecting income. <p>Comment: Customer enquiries difficult to deal with due to split responsibility. Generally there is a conflict over true cost and support services cost. Has benefit of not duplicating municipal services.</p> | <p>In smaller WSAs where skills are limited and have to be shared across different services.</p> |
| Business unit | | <ul style="list-style-type: none"> ▶ Single Water Services Business Unit responsible for all aspects of the provision of the service. <p>Comment: Brings together all costs into one unit but can create duplication with other municipal functions.</p> | <p>In medium to large WSAs where:</p> <ul style="list-style-type: none"> - a single point of responsibility for service delivery performance and costs are required - there is to be a focus on customer service in respect of water and sanitation. |
| Municipal entity or service utility | | <ul style="list-style-type: none"> ▶ Municipal Entity* is a company over which municipality/ies has effective control. <p>Comment: This option allows for an independent legal entity, but under the effective control of the WSA.</p> | <p>Where more than one WSA sets up a joint WSP or where a WSA wishes to create a separate legal entity which it contracts to provide the service, possibly with the assistance of an outside organisation.</p> |
| Another municipality | | <ul style="list-style-type: none"> ▶ Another municipality is the WSP in specific areas due to available resources, its special skills or local presence. | <p>Generally used where a District Municipality is a WSA and wants to contract with the local municipality to provide the service.</p> |
| Organ of state | | <ul style="list-style-type: none"> ▶ A Water Board or other organ of state is contracted by the WSA to be the WSP. | <p>Generally used where a Water Board is active in an area and/or can offer particular skills and capacity.</p> |
| CBO or NGO | | <ul style="list-style-type: none"> ▶ CBO or NGO generally already active in an area and may be a good source of local knowledge and commitment. <p>Comment: They often lack the necessary skills and legal ability to enter into a risk-taking contract.</p> | <p>These organisations are particularly appropriate for self-contained villages and rural schemes.</p> |
| Any other e.g. private sector | | <ul style="list-style-type: none"> ▶ Other / private sector is contracted to provide all or part of the service. <p>Comment: This could bring skills and training capacity to the service but any contract should be carefully worded to protect the interests of the WSA and the people it serves. Legislation requires a very specific process to be followed if this option is adopted.</p> | <p>Where skills and experience are lacking in a WSA or municipal WSP. The level of responsibility to be passed to the private sector will depend on the extent that its expertise is required. Any such contract should include the training required to develop in-house capacity.</p> |

* A Municipal Entity can be structured in one of three ways: as a Pty (Ltd) company over which a municipality has effective control and other stakeholders can be shareholders; or a service utility wholly owned and established by a municipal by-law; or a multi-jurisdictional service utility established by agreement between two or more municipalities.