WaterTime

A modular asset-focused set-up and business approach to managing small-scale piped drinking water systems sustainably

WaterTime components

- **A modular solar-powered piped water system**
- **A prepaid system**
- **Asset Management Tools**

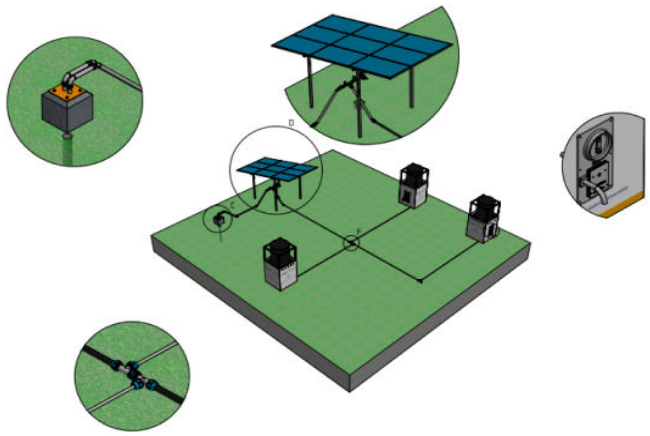
When used together, these components offer a solution for important challenges the rural drinking water sector faces, such as:

- low service level with long downtimes and far walk distances,
- lack of flexible water systems designed for smaller user groups,
- low revenue collection of water sales,
- lack of systematic approaches for operation & maintenance.

Each component can also be used individually as an add-on to existing (drinking) water systems.

Objective

Increase reliable access to basic water supply for people in underserved areas by offering a more sustainable alternative to commonly used handpumps.

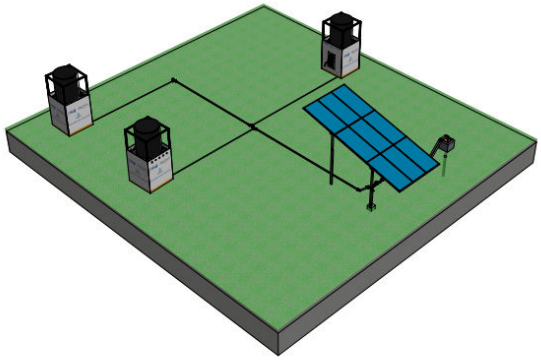


Pre-paid system:

Prepayment devices are added to enable the collection of water fees over the years to cover the cost of operation and maintenance. Various options are available on the market, mostly electronic devices. Practica, however, highly recommends applying mechanical pre-paid solutions in rural areas. These have limited maintenance requirements, which can be executed by local technicians.

Modular Solar-powered piped system:

A mini-grid piped water system. The core consists of small stand-alone water kiosks. Multiple kiosks can be placed in one village (or set of neighboring villages) – depending on local circumstances and preferences. These kiosks are fed from a single well without the need for a central water tower. This type of mini-grid setup can be stand-alone but also be attached to existing piped networks of water utilities to serve peri-urban settlements. When more people need to be served, additional pipelines, public standpoints, and also household connections can be established—using the same water source.



Asset management:

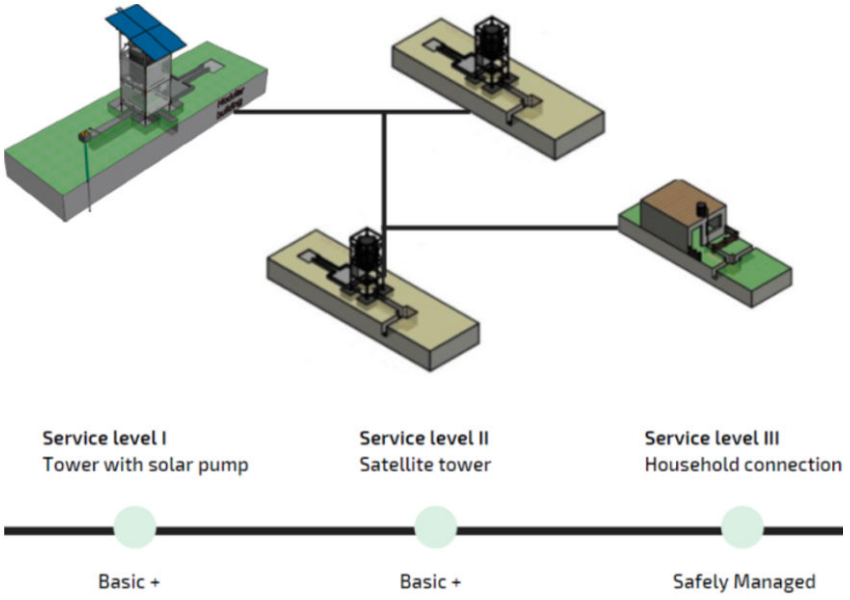
It is an approach to support water users' committees, water operators, caretakers, and governmental institutions in optimising the technical and financial performance of their water systems during the O&M phase. The AM tools support setting service level agreements, developing maintenance plans, selecting a suitable water tariff and tracking the performance of water systems during their operational phase (see next page an example from a digital web-dashboard).

Screenshot of the asset management web-dashboard displaying a financial comparison

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Actual Income	MTN 17000	MTN 18000	MTN 28000	MTN 26000	MTN 22000	MTN 26000	MTN 15000	MTN 19000	MTN 16000	MTN 12000	MTN 0	MTN 9000
Actual Expense	MTN 16200	MTN 22000	MTN 25000	MTN 5000	MTN 6000	MTN 15000	MTN 30000	MTN 5000	MTN 30000	MTN 3000	MTN 0	MTN 5000
Actual Cumulative Cash Flow	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	
Expected Income	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0
Expected Expense	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0
Expected Cumulative Cash Flow	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0	MTN 0

WaterTime benefits

- High service level because of low downtime and water close to beneficiaries' home
- More flexible with population growth and changing socio-economic conditions and lower installation costs than other piped small-scale water solutions due to its modular set-up
- Sustainable: water fees are used to maintain and repair the water system
- High cost recovery because of formalized payment using a build-in prepayment system
- Opportunity for entrepreneurs and therefore supporting local economy
- Stand-alone system so functions off-grid



The WaterTime concept has been developed by Practica, and deployed by the WASH Alliance International in Uganda. It has also been deployed in Mozambique, Kenya and Ghana.

WaterTime pre-conditions

- Requires community's willingness to pay for water
- Requires community's ability to pay, so less suited for 'poorest of the poor' settlements
- Sound manager and operator need to be installed and trained
- Sufficient training and technical servicing are required, in case digital pre-paid system
- Community acceptance that water might not be available on cloudy days and night-time, in case of solar-powered system
- Availability of sufficient capital investment: since costs are higher than for a handpump