



*WaterTime system
Nhamatanda, Mozambique
(photo credits: Dorcas)*

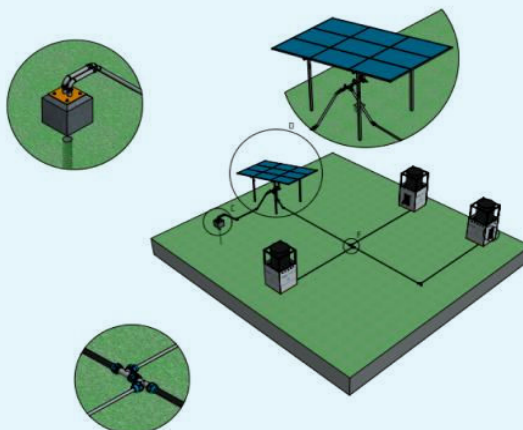
The entrepreneurial model to manage rural drinking water sustainably

Solar-powered WaterTime systems

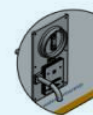
A business case to deliver safe and reliable water services at people’s doorstep in urban areas is proven to be possible, but how to realise this for rural areas in the global South? Governments and rural communities like to make the transition from handpumps to piped mini-grid systems, but struggle to overcome the numerous challenges they face, like low service levels with long downtimes and far walking distances, small and spread-out user groups, low revenue collection and a lack of systematic approaches for operation and maintenance.

The WaterTime concept provides a solution to these challenges by combining:

1. A modular solar-powered mini-grid system



2. Pre-paid water system



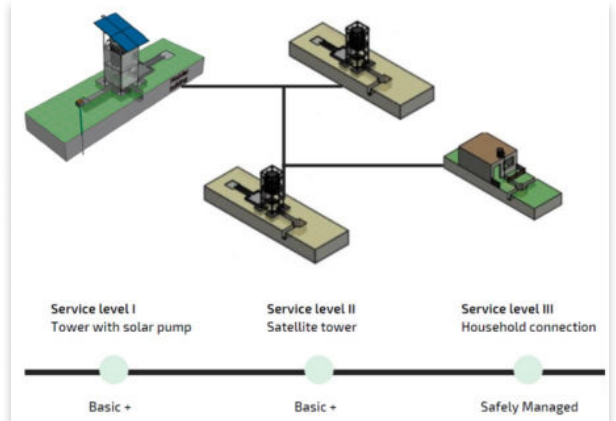
3. Water system asset management (WSAM)



Watch Dorcas & Practica WaterTime system in Mozambique

1. Modular solar-powered mini-grid systems

Rural areas can slowly make the transition from handpumps to solar-powered piped water systems by using a **modular approach**. The **initial investment is rather small**, just consisting of one or more small stand-alone water kiosks spread across an area. These kiosks are served 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 and **socio-economic circumstances allow more investments**, additional pipelines, public standpoints, and also **household connections can be established**— using the same water source.



2. Pre-paid water systems



Practica's mechanical pre-paid device: TokenTap

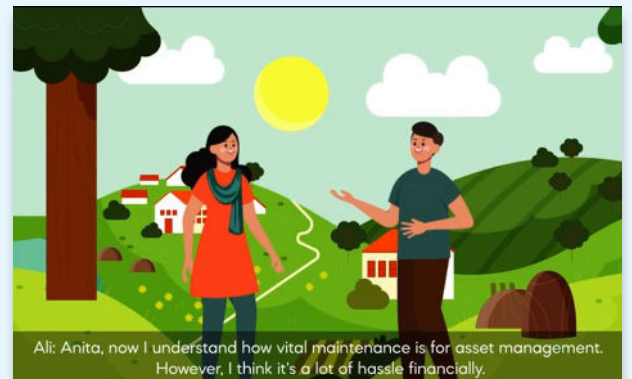
Prepayment devices enable water fee collection to cover for operation and maintenance costs over the years. Various options are available on the market, mostly electronic devices. Practica, however, recommends applying a **mechanical pre-paid solution** in rural areas for both **piped networks and handpumps**. This solution avoids competition between free and paid water sources, it is affordable and has simple maintenance requirements that can be executed by local technicians. Practica offers this solution, called the TokenTap.

3. Water System Asset Management - capacity building

For more than a decade, Practica does **capacity building** of the WASH sector in **Solar-powered water systems (SPWS)**, for both **domestic and productive uses**. By now, several training materials on siting, (modular) design and installation of SPWS are available, however the rural water sector still has little knowledge and skills with respect to financial management and operation & maintenance (O&M) of SPWS and other water infrastructure. Therefore, Practica initiated the development of an **open-source toolbox for Water System Asset Management (WSAM)** which supports rural water operators, caretakers, and governmental institutions in optimising the technical and financial performance of their water systems during the O&M phase. The WSAM tools enable setting service level agreements, developing maintenance plans, selecting a suitable water tariff and tracking the water systems performance during the operational phase.

The toolbox consists of a **paper-based training manual** with Excel templates for planning and monitoring, a **free-access e-learning environment** for three different target groups, an **Android app for caretakers** to insert cash handlings and log issues and maintenance, and a **web-dashboard for managers** to track financial, technical and water quality parameters.

Reach out for more information. Practica is also well-versed with **other developments and applications in the sector**, like mWater, and in the position to provide independent consultancy and training on how to sustainably plan, design and monitor your water assets.

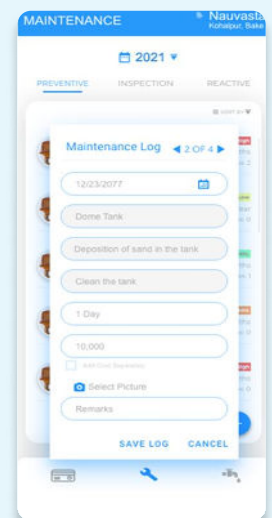


Screenshots of our open-source toolbox for WSAM.

On top our e-learning environment and on the right our mobile app displaying a maintenance log. All data entered via the mobile app is automatically displayed in a web-dashboard.



Watch our video for more information



Practica - Innovative technologies managed by local entrepreneurs

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