



Asset Management for water systems

A financial-technical approach for improving water supply services

Water Systems' Asset Management 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. It assures the water quantity & quality, and systems' reliability and accessibility matches the demand of customers, and it supports decisions on infrastructure's design, use and maintenance.

Why is asset management needed?

The foundations for a sustainable water system are laid in its design. Initial decisions, like dimensioning the water system and determining its water tariff, will affect its financial and technical performance. Moreover, during the operational phase it is vital to understand maintenance requirements and costs. One needs to know whether revenues generated can cover the expenses.

Water systems' asset management does exactly that: making financial models of the envisioned service comparing this with the cost of maintaining and delivering this service. Long-term monitoring allows comparing plans with reality. This enables informed decision-making - before and during the operational phase.

How does the toolbox contribute to water systems' sustainability?

As part of the WASH Alliance International, Practica has taken the initiative to build the capacity of stakeholders on Water Systems' Asset Management by developing an open-source digital toolbox in collaboration with Simavi, RAIN, CIUD, Lumanti, Practical Action Bangladesh and SmartTech Solutions Nepal. The tools have the objective to enable water operators and decision-makers to set jointly with local users service level agreements, and support them in developing Asset Management plans. The tools also enable selecting a suitable water tariff and tracking the performance of water systems during their operational phase.

Playing the AM
serious game in
Uganda



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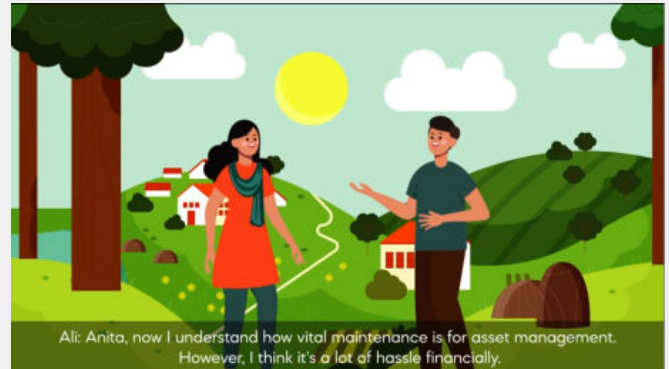


Which tools are being developed?

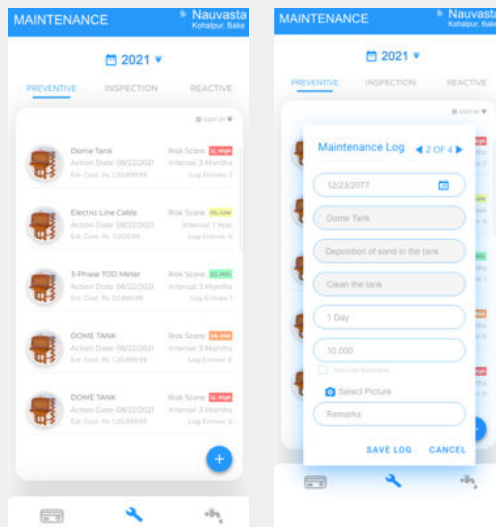
Three asset management tools are currently being developed: (E-)learning environment, Android app and a Web-Dashboard. These are based on open-ended design processes, led by the local software developer SmartTech.

Learning environment

The learning environment is a user-friendly, and interactive digital training module on Asset Management. It consists of 3 different modules aimed at different target groups: from end users to WASH professionals. The modules can be followed consecutively, depending on the capacities and needs of the target groups. It is suitable for online learning by professionals and as a resource classroom facilitation and field training to local staff and communities. It contains concept descriptions, animated videos, case studies, short quizzes and practical assignments for learning.



Screenshot of the e-learning environment



Screenshot of the mobile app displaying a maintenance plan and log from the Nauvasta water scheme in Kohalpur, Nepal

The android smartphone app

The Android app aims to support Asset Management improvements, planning, implementation and monitoring in the field in a digital manner. The app contains a mobile cashbook, a maintenance plan, log and notification function and the option to insert water quantity and quality data.

The web-dashboard

The Web-Dashboard enables a two-way data interaction with the app. It aims to serve as an online visual dashboard for insights on maintenance performance and/or as a planning or financial tracking tool for stakeholders on a decision-making level.



Screenshot of the web-dashboard displaying a financial comparison between expected and actual income & expenses and cumulative cash flow for an example water scheme.

What is PRACTICA ?

PRACTICA is a non-profit organization. We work in over 10 countries to support its partners like NGO's, governments, local entrepreneurs and farmer organisations with technical know-how on small scale technologies in the field of water, agriculture and sanitation.

We are not an implementing organization, but guide and train partners in the use, uptake and knowledge of various technologies. Research and development is a core part of our work at our head office in the Netherlands where we develop & test new products that could improve the lives of the poor. As an example, we have developed one of the first solar pumps on the African market, which is now being marketed by one of our partners Futurepump.

