May 2021

A glance at...

Asset Management for Water Systems

Ensuring the best possible use of assets to improve water supply services

What is Asset Management for water systems?

Water systems are made up of assets such as pipes, pumps, overhead tanks, treatment facilities and other components. Over their lifespan, these assets deteriorate and require regular maintenance to prevent them from breaking down. The cost of managing these assets increases over time as the system ages and depends on the selected service level (quantity, quality, reliability and accessibility of water).

Asset Management is an approach to assist water users' committees, water operators, caretakers, and governmental institutions to timely make decisions in managing water systems' assets. The ultimate goal is to deliver the required service level continuously and ensure long-term sustainability of water facilities by developing plans for repairs, replacements, and rehabilitation of assets and a long-term funding strategy.

Why is Asset Management needed?



'Asset Management ensures a prolonged asset life through efficient and focused operation and maintenance planning and budgeting.'

Having a clear overview of system components and assets' status allows for optimisation of water systems' functioning. This ensures that managers are prepared for maintenance, know when to replace or repair any component of the system, and the costs involved.

How does Asset Management contribute to water systems' sustainability?

- Documents / describes assets and makes maintenance plans.
- Generates financial models based on risk-based maintenance.
- Supports the water tariff determination.
- Monitors and optimizes the use of assets.

Asset Management provides stakeholders the tools to make informed decisions on the management of water systems. As part of the WASH Alliance International, Practica has taken the initiative to develop digital AM tools in collaboration with RAIN, CIUD, Lumanti and Simavi.

Which Asset Management tools are being developed?

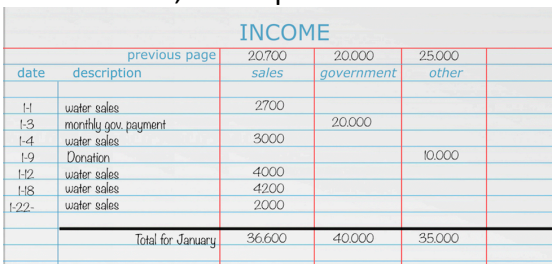


Four asset management tools are currently being developed: E-learning, Paper Cashbook and maintenance log, Android app and Dashboard. These are based on open-ended design processes, led by a local software developer.

1. **E-learning Tool** is a user-friendly, and interactive digital training module on Asset Management. It consists of 3 different modules aimed at different target groups. The modules can be followed consecutively, depending on the capacities and needs of the target groups.

Module	Target group	Content
1	WUC members, governmental representatives of village/town	The basics and rationale of AM
1+2	Govern. (regional) authority technicians, water systems caretakers, NGO field level staff	The practical dealing with an AM plan: implementation and monitoring
1+2+3	Professionals from government, NGOs, private companies	How to develop a step-by-step- AM plan

2. Paper cashbook & maintenance log is a simple, manual record keeping system of income, expenditures and risks, repairs, and replacements aimed at Water Users Committees, local operators or caretakers.



INCOME

date	description	sales	government	other
	previous page	20.700	20.000	25.000
1-1	water sales	2700		
1-3	monthly gov. payment		20.000	
1-4	water sales	3000		
1-9	Donation			10.000
1-12	water sales	4000		
1-18	water sales	4200		
1-22-	water sales	2000		
	Total for January	36.600	40.000	35.000

3. Android app aims to support AM improvements, planning, implementation and monitoring in the field. The actual design of the app will depend on the specific choices that will follow from an open-ended design process.



*Example prototype of app; the final features will be decided by the field need's assessment.

4. 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.



These are examples of the dashboard prototype; the final features will be decided by the field need's assessment.

Roadmap for the development of AM tools

1. E-learning, needs assessment, User Story Mapping & institutional embedding AM tools (Q1+Q2 2021) The AM e-learning tool will be developed. Experience from earlier paper-based planning exercises and field studies will be used as an input. At the same time, User Story Mapping will be applied to understand the local context, map the potential users, their characteristics and needs for the app and dashboard. The potential institutional embedding of the AM tools will be also investigated.
2. Android app and dashboard programming and field testing (Q3 2021)

App and dashboard (based on the final version made during the assessment phase) will be designed, shared with the local users and tested in the field in Nepal. An iterative process will be implemented to receive feedback for their improvement.

3. Implementation and roll out (Q4 2021)

The stakeholders hosting the AM tools on the long run will be confirmed. The e-learning, app and dashboard will in this stage also be rolled out in Bangladesh and Uganda, and the local stakeholders will be trained in their use.

4. Sharing, promotion & scaling (2022…)

The tools are provided in an open-source environment for its further scaling and improvement. The software will be maintained and updated for a period of 5 years by the involved software development company.