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When water systems break down...

Why Asset Management is important to solve water systems' problems in the development context

Does world-wide water infrastructure coverage fulfil the Sustainable Development Goal (SDG) 6: “Ensure access to water and sanitation to all”? It would be great to answer this question with a confident ‘yes’ and considering the institutional efforts made and the increase in the number of water systems, we should be celebrating our progress towards this SDG. However, it is not that simple. When a water system is built, ongoing efforts are required to keep water flowing. For example, the latest reports (2014) from Nepal show that only 50% of the water systems in country are functioning well¹. This implies that most people in rural areas still do not have access to this vital liquid, or face serious constraints. For example, receiving water only for a limited number of hours per day and/or water of a poor quality. The latter leading to diseases such as cholera, diarrhoea, dysentery, and others.

Most common water systems' problems

Challenges related to the functioning of water systems are multi-faceted. One mayor issue is the strong focus on infrastructure construction. Once water systems have been built it is easy to forget about the continuous efforts required for operation and maintenance. In the long run, it is essential to have a solid planning on (future) costs needed to keep the system working. However, often the strategy is leaning toward

short-term thinking and solving challenges when they appear.

‘When the water system breaks down..., one seeks funds to repair it.’

Another common practice is to over-size water systems while designing them. Also, little reliable information is available related to the operation, maintenance, and functionality of water systems. This hinders accurate planning and leads to designs that are a ‘mismatch’ with the actual situation. Often, systems are bigger than necessary, which results in increased operational complexity and higher costs than smaller systems would require.

‘Some systems are thus designed to fail from the very beginning’.

Furthermore, there is not enough money set aside by the local communities to timely maintain or repair the systems. The knowledge on why and how systems break down and when certain parts need to be replaced before they leak, erode, or wear out, is often also lacking.

‘With high levels of non-functionality and low levels of service, it is clear that rural water assets are not being adequately managed. It is also a symptom of the current focus on first-time access, which needs to shift to a focus on

¹ For more detail, please see: <https://www.who.int/globalchange/resources/wash-toolkit/participant-handbook.pdf>

*long term service delivery. There is a need for actors within the rural water sector to follow other infrastructure-heavy and professionalized industries, and start adopting **asset management practices**.*²

The WASH Alliance joined efforts

Since 2019 the WASH Alliance has been working on the development of Asset Management Tools to improve the management and maintenance of rural and peri-urban water systems. Together with all the stakeholders involved (Water Users Committees (WUC), local governments, local NGO's, private sector, water users, and water providers) we aim to improve the sustainability of water systems. We raise awareness and develop essential skills together with local stakeholders about long-term planning and sound financial management.

*'The partners that support this initiative within the WASH Alliance ([Practica Foundation](#), [SIMAVI](#), [CIUD](#), [Lumanti](#), [Rain](#), and [SmartTech](#)) are **developing a comprehensive methodology and set of digital tools for asset management of small/medium-sized rural water systems.***

While doing so, the collection of relevant information is ensured and presented in such a way that it fits the needs and limitations of different stakeholders. Nepal has been selected for the pilot phase.'

This WASH Alliance programme initiative provides a unique opportunity to improve the long-term sustainability of water services by developing asset management tools together with- and tailored to the needs and capacities of local actors. This will not only be of direct value to water service provision in Nepal, but also within the WASH Alliance programme and to the wider rural water sector.

Tailor-made software development for the development context

Improving asset management of infrastructure is not a new concept, it has been discussed since the 1980s in Europe and the interest for this approach is still growing. It is commonly applied to all kinds of public infrastructure (bridges, railways, roads, sewer systems). Several specialized firms offer their services on this topic and a range of trainings are available nowadays. Also, commercial software is readily available on the market.

However, the majority has been developed from a Western perspective. This has resulted in very complete, but also very complex software packages. They are too challenging to be used by local Water User Committees and service providers in rural or (peri) urban settings in developing countries. Next to the high skill set required to work with these packages, their excessive costs make them completely out of reach for local water user committees or service providers.

In our next blog, the components of an AM plan, the implementation process and its role in improving the financial management of water systems will be addressed.

This document was developed by Practica Foundation as a member of the WASH Alliance International, partner of the WASH SDG Consortium. For more information please contact: office@practica.org

² For more information, please see Boulenouar, J. (2014). Infrastructure asset management: a key building block for sustaining rural water services.