Civic Forum on Human Development (CFHD) in the Regional Network for Equity in Health in East and Southern Africa (EQUINET)

Enhancing sustainable access to safe clean water and gender-sensitive sanitation services in Epworth

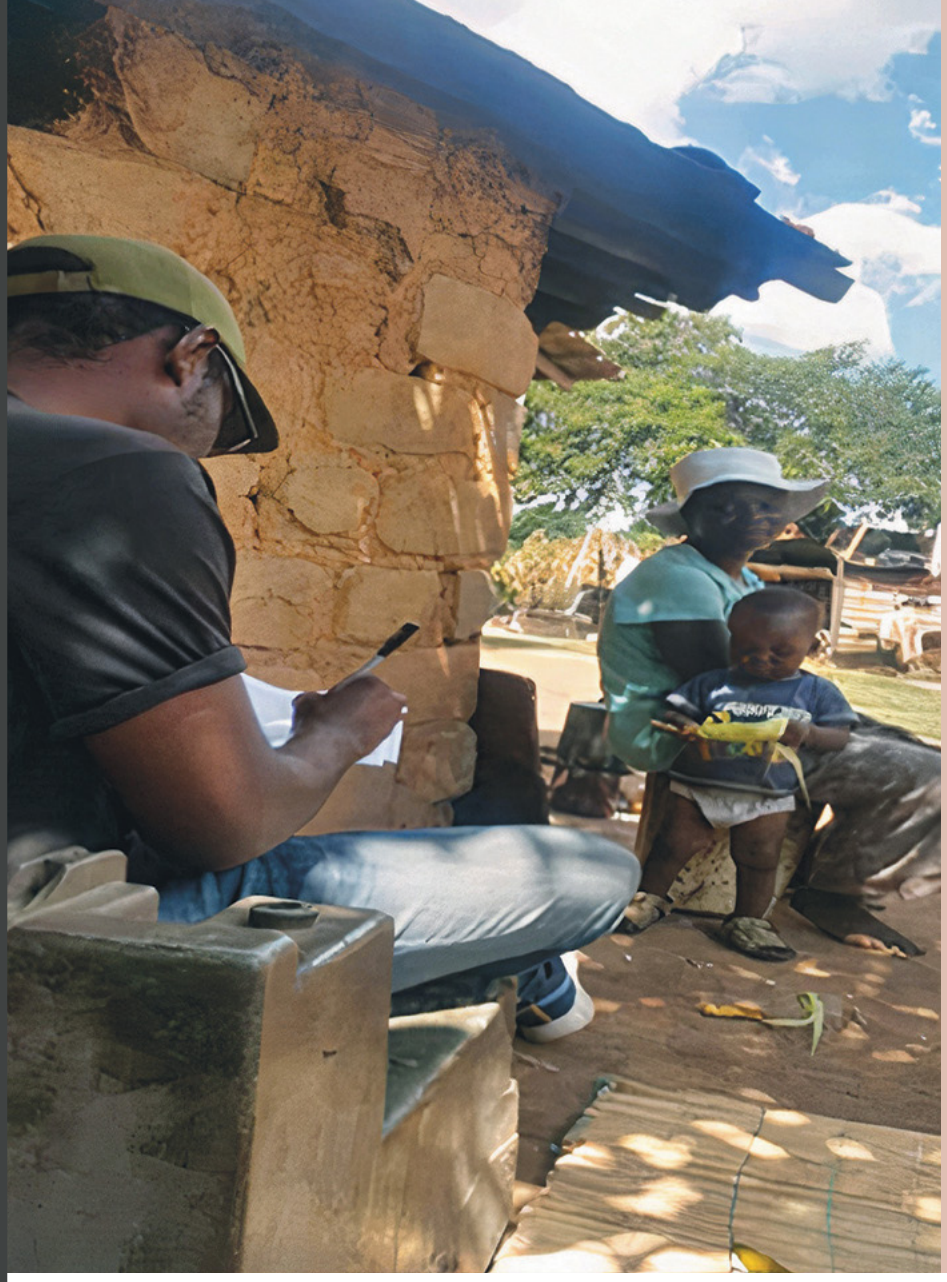
Left: Before the initiative
Right: After the initiative Both photos: T Mware, March 2018

Unsafe water and sanitation in Epworth as a major risk for health and wellbeing

Epworth district is a peri-urban settlement about 15 kilometers southeast of Zimbabwe's capital, Harare. Like many other informal towns, many of its 133,960 residents (according to the 2023 census) are poor and plagued by a dire lack of basic services such as water, sanitation, sewer systems, and roads. Without access to tap water, many residents depend on wells to tap the precious commodity and even so, have to trek for long distances to fetch it. The use of pit latrines in Epworth contaminates underground water leading to the outbreaks of waterborne diseases like cholera and dysentery. When wells dry up during the dry season, women and children have to go further distances to find water and many people drink water from alternative contaminated sources.

"As a result of water shortages we are being affected by so many diseases such as cholera."

Female Epworth resident, 2018



Improving access to safe and clean water in Epworth

The Civic Forum on Human Development (CFHD) set out to work with the Epworth community to increase access to water and sanitation services to reduce poverty and sustain livelihoods. Thirty households were selected and after dialogue with the community, consensus was reached to build better toilets and hygiene facilities, together with community health promotion. The households were selected through a participatory process and included households that were low-income, women-headed and child-headed, and those households hosting people with disabilities.

Administering a WASH household socio-economic assessment in Epworth, T Mware, 2018

Engaging communities on the plans

In March 2018, CFHD conducted a community-based needs assessment and tested water quality in the area. Water quality testing of existing water points was carried out in 7 wards in collaboration with private companies such as Aglabs and Chematron that are involved in the development of appropriate, reliable and cost-effective water testing and treatment options for people living in informal settlements such as Epworth. This showed that the water was contaminated and that the condition of the toilets posed a health risk to the community.

The results were shared in a dialogue with the community. Residents identified their water quality to be a health risk and identified 30 households in 3 wards to take part in piloting improvements. In these wards, an inception dialogue was carried out with local stakeholders and introductory meetings were held with Epworth Local Board stakeholders, Community-Based Organizations (CBOs), Sanitation Contractors, water communities, and health and hygienic educators (PHHEs).

Representatives of the community, of local CBOs and key stakeholders coordinated the dialogues and next steps. Residents from the 3 selected wards from CBOs, communities, health and hygienic educators and local stakeholders were trained as pump minders to maintain the improved facilities.

A three step ladder of engagement was used, shown below.

Step 1

- Community-Based planning was used as evidence to gather the information that informed the rapid assessment through Focus Group Discussions. Each comprised 10 members of the community (4 women and 6 men) and included CBOs, water committee members, health and hygienic educators and Epworth stakeholders. The water testing process proved that the water being used/consumed in Epworth is contaminated.

Step 2

- Realizing the challenges of water in Epworth, a two litre flush system was introduced to replace the BVIP by CFHD in partnership with UN-Habitat, Santinton Contractors. The convertinal flash water system demands nine liters of water.

Step 3

- The pilot phase benefited 30 vulnerable households
- Rehabilitation of 30 pit latrines was carried and an Eazi-flush toilet flushing system installed.
- Capacity buildng of the pump minders was carried out on key monitoring indicators.

The community adapts to a new sanitation technology

The CFHD collaborated with Sanitation Solutions, a local private company, to design, develop and test a low-/pour-flush sanitation solution, called the 'Eazi-flush system'. This system was seen to be ideal for Epworth as it is designed to be used where there is no proper sewer connection and limited or restricted water supplies.

It requires no water mains connection as it flushes manually with a small amount of grey (previously used) water. This eases the strain on families who have limited access to potable water and provides a safe and hygienic method to dispose of the households' grey water.

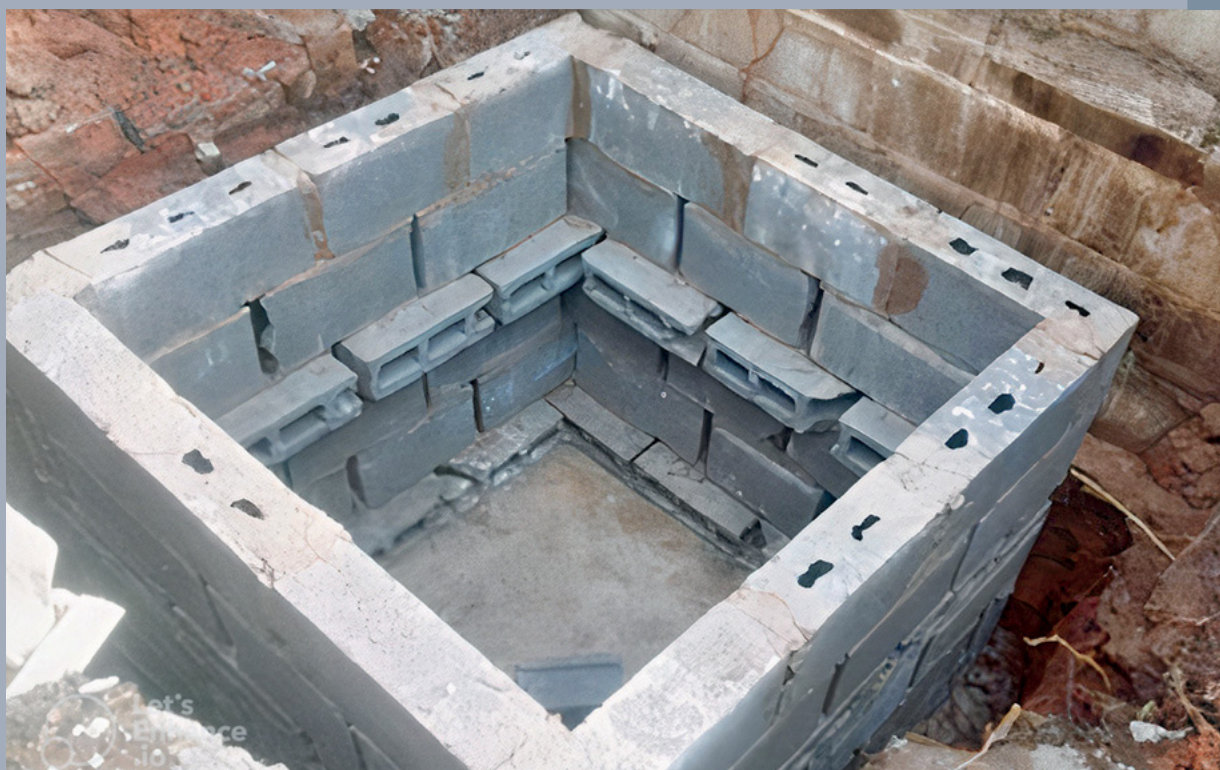
The 'Eazi-flush solution flushes with as little as two liters of water, compared to the usual nine liters usually used. This translates into a significant benefit not only for users, but also for the municipality and water authorities.

The Eazi-flush toilet, T. Ndlovu, 2023

The design also places far less strain on the sewage treatment plants, because of the reduction in the volume of water used for flushing. It is compatible with a range of rural 'back end' solutions, including a leach pit, septic tank, conservancy tank, biodigester, solids-free sewer system, or similar on-site/off-grid treatment, without adverse effects on the surrounding soil conditions. The system is extremely robust and easy to operate, with minimum maintenance requirements and limited risk involved. It can be upgraded from a pour-flush to a low-flush system with the addition of a cistern or external flush tank. Once sewage and water connections are available, they can also be connected at a minimal cost. The technology was thus selected as it is:

- **User-friendly**, with a simple operation.
- **Low maintenance** and easier to repair and maintain with fewer parts and technology.
- **With large water savings:** 2 to 3 liters as explained earlier, and
- **Cost-effective**, affordable to buy and maintain at lower cost than common flush-system

Leach pit hole before lining with bricks, CFHD, 2018



After the insertion of blocks, CFHD, 2018

Introducing the technology in the community

Five local stakeholder organizations were trained in water management approaches. They included women, youth, retailing business operators, Small to medium enterprises (SMEs), elderly and disabled people. Additionally, six community-based organizations (Combined Epworth Residents Trust (CERET), Shanduko Yeupenyu Child Care Trust, Epworth Business Association, Epworth Women Empowerment, Mukando Wamadzimai and Simukaufambe were trained on improved technology practices for water and sanitation.

Santinton Contractors presenting how the Eazi-flush system operates to Epworth CBOs: T Mware, 2018

To ensure continuity and problem-solving, stakeholders and the CBOs are now able to maintain and repair the system without supervision.

Mrs Samutsa training pump minders, CFHD, 2018

The technology was also easier for the community to maintain as it was less difficult to remove sludge from pits. Sludge from ventilated pit latrines is often too dry and contains too much rubbish to be removed with vacuum tankers used by the local authority, but the sludge in the new system was more conducive for vacuum removal because of the reduced rubbish and higher moisture content in its sludge.

The community was assisted to procure components by UN-Habitat, but provided their own labour to dig, build and line the pits and to main the system. Overall the initiative in the 3 wards cost (in US dollars) $500 per unit, $3000 for the testing of 20 water points, $500 for water purification and $5000 for the various capacity building and awareness raising workshops.

What we have learned and can share

We identified a number of enablers for improved water and sanitation in a community like Epworth, that has limited infrastructure, and faces water scarcity.

It is possible to source, test and introduce health-promoting technology in disadvantaged communities, and doing so makes a large difference to people's quality of life and health.

The water testing built community and stakeholder support for the initiative. Piloting and testing the technology and supporting it with training, including to maintain it in the community, created confidence for wider and more sustained and demand-driven uptake of the technology with key actors and stakeholders.

We also faced challenges. We needed authorization from authorities at the provincial and district level and this delayed the implementation. We did not have enough resources after the pilot to meet the overwhelming demand for the technology. As an initiative that used a technology developed by the private sector we needed funding from the community or institutional funders, such as from Government, municipality or external funders, and this was not easy to come by.

Planning to manage these issues from the onset is important, but should also not block demonstrating a useful innovation.

Technology is useful, but needs to be introduced in a way that supports and strengthens community-based planning for its effective use. This calls for engagement of key stakeholders and communities from inception and at all steps, building capacities and sharing relevant information, for ownership of the initiative.

Community engagement in building the new sanitation system.
T Mware, 2018

Where to get more information on the intervention

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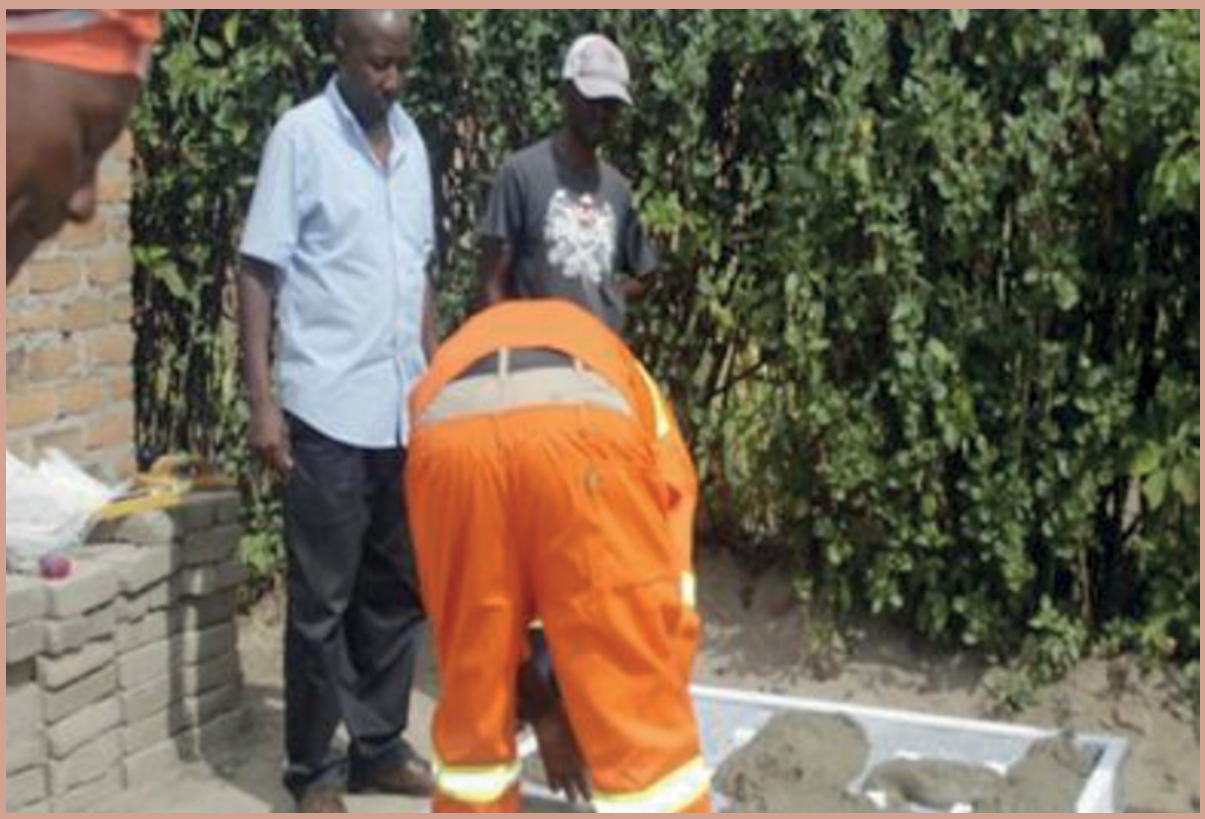

Building the Eazi-flush system, T Mware, 2018

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