Enhancing climate resilience of water, sanitation & hygiene services in healthcare facilities in Kenya

Story of change: Key findings & emerging impacts

Summary

- Coordinated action by governments, service providers, and sector partners is required to address WASH service gaps in rural healthcare facilities, especially in arid and semi-arid regions (ASALs) of Kenya.
- In 2020-21, REACH supported a diagnostic survey of WASH services in Kitui County, Kenya, and a pilot intervention providing professional delivery of water and soap services to rural health care facilities during COVID-19 lockdowns.
- The work provides a basis for county governments in Kenya to (1) include these cost estimates in future budgets and investment planning, (2) ensure sector coordination and policy reform, and (3) support and scale up inclusive professionalised service delivery models that guarantee reliable WASH services and mitigate the costs and social impacts of climate variability, especially droughts.

Photo by Jacob Katuva

Kitui County, Kenya

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WASH in Kenya's rural health care facilities: What change is required?

In rural Africa dispensaries and clinics are the most common health care facility (HCF) type and the first point of service for the rural population. WASH services provision in these facilities is key to disease prevention, as underscored by the COVID-19 pandemic. However, data from WHO/UNICEF indicate that half of all health care facilities in developing countries lack basic water services and a quarter of them do not provide hand hygiene at points of care, creating risks for vulnerable patients and health care workers.

Delivering health care services in rural areas is challenging due to low population density, lower relative incomes and educational attainment, and less frequent access to networked transport, energy, and water services.

As a result, current practice has not prioritised services for rural areas despite global and national commitments to universal WASH and health services coverage by 2030. WHO/UNICEF JMP data from 2006 to 2019 offers a national picture of Kenya's performance against global benchmarks for WASH in health care facilities (Figure 1).

In Kitui and other arid and semi-arid (ASAL) Kenyan counties, rural health care facilities often depend on rainwater harvesting, which is very often insufficient in the long dry season, or share community water supplies, which break down regularly and are not repaired for many weeks or months.

Instead of relying on community maintenance of waterpoints, new models of rural water service delivery that allocate risks and responsibilities between government and service providers are emerging.

Figure 1: JMP monitoring data on Water, Sanitation and Hygiene services in health care facilities in Kenya, 2006 to 2019.

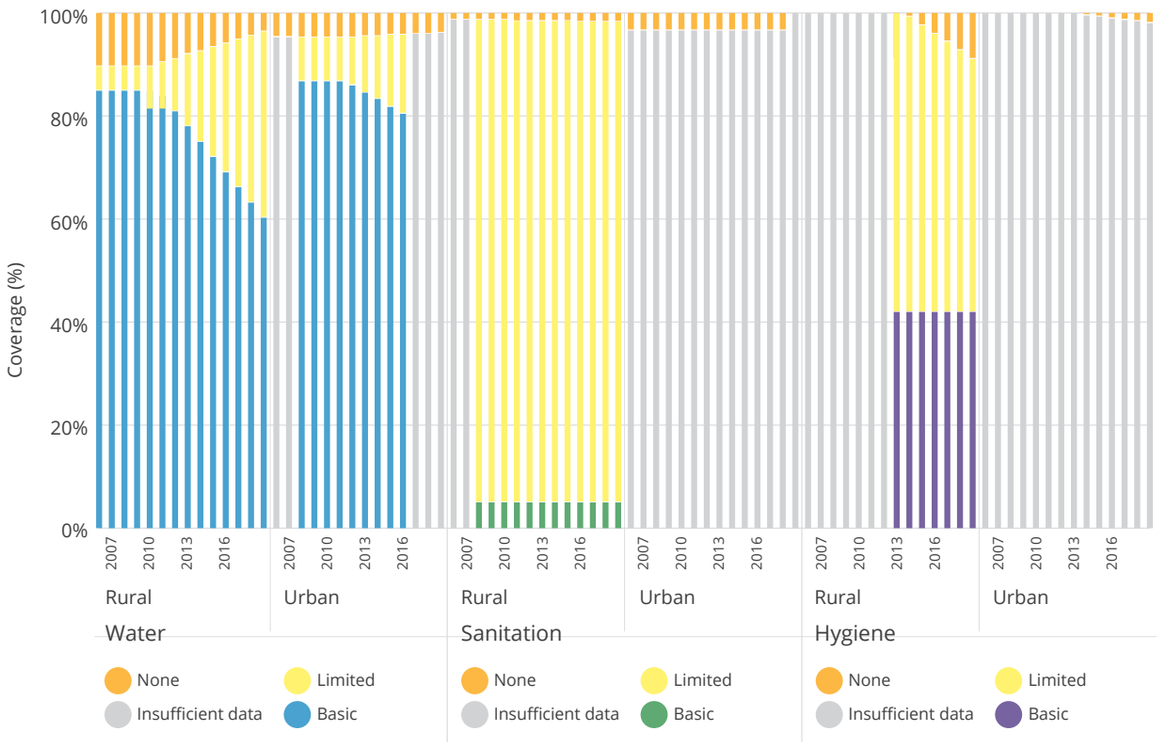


Figure 2: Kitui County, Kenya

FundiFix is one such example supported by REACH. FundiFix is a registered social enterprise working in rural Kenya that has since 2015 provided professionalised maintenance services to guarantee functionality of water points through a contractual obligation to fix waterpoint breakdowns within three to five days. In 2022, FundiFix completed 612 repairs for its 99 handpumps and 20 piped scheme clients, 99 per cent of them within two days. This translated to 100 million in litres of water supplied and guaranteed reliable water services for roughly 49,000 people.

A REACH science-practitioner partnership in Kitui County, Kenya ran a pilot programme to test how such a professional service delivery model could be applied to health care facilities to deliver safe water and soap reliably. This was informed by an initial diagnostic survey of 121 health care facilities in Kitui County in October 2019, a sample representing roughly 43 per cent of all facilities, which offered a detailed picture of WASH service delivery in the county.

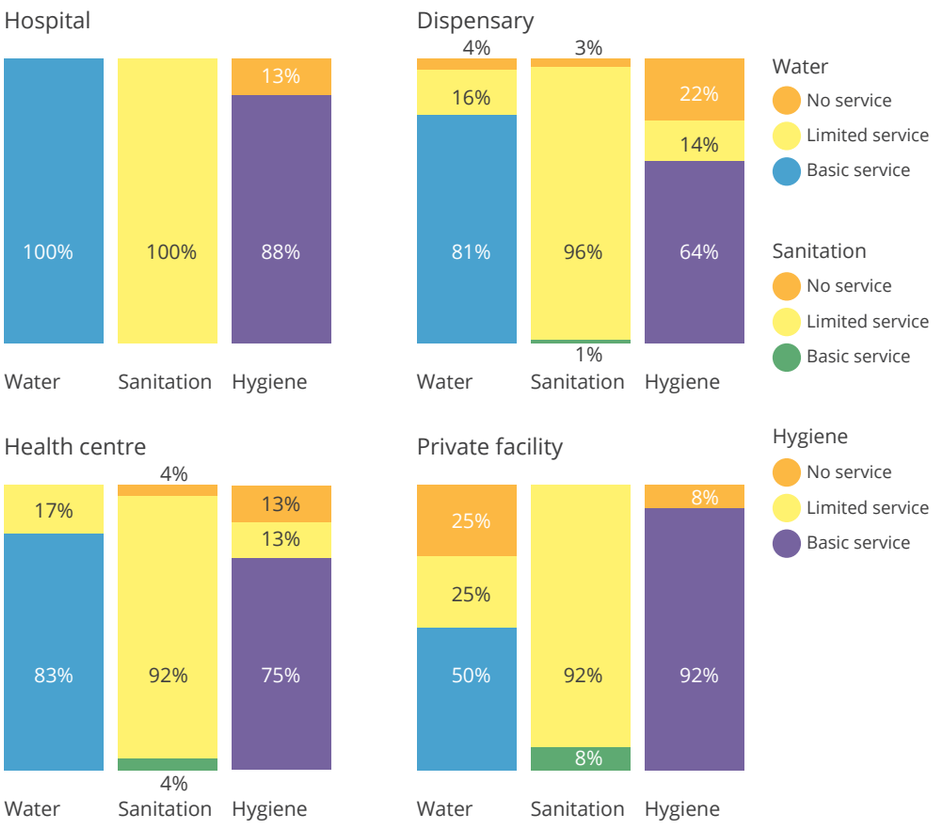
What did we learn?

The diagnostic indicated that sanitation service level is low across all facilities, with no sub county or county level hospital achieving basic service provision, while a third of the dispensaries lacked basic hygiene services, having no functional hand hygiene facilities with water and soap or alcohol-based hand rub at points of care, and within five metres of toilets (Figure 3). Eighty per cent of dispensaries were assessed as having access to a 'basic' water service (that is, water available on the premises from an improved source – one that is likely to be protected from outside contamination, and from faecal matter). However, the presence of an improved source on site does not guarantee water safety or reliability: the detailed survey revealed staff concerns regarding reliability, availability or sufficiency at eight of the 19 dispensaries using piped water as their primary source. Staff at 35 of 40 facilities using rainwater as their primary source were concerned about sufficiency, reliability, safety, and availability.

A primary goal of the pilot implemented by FundiFix was to ensure reliable water and soap supply to 12 health care facilities (11 dispensaries and one sub-county hospital). During six months of the COVID-19 pandemic, from late 2020 through early 2021, the 12 facilities received:

- Increased water access through installation and major repair of rainwater harvesting systems;
- Installation of additional handwashing facilities at strategic locations identified by health care staff;
- Installation of yard connections to community piped schemes or a local utility where present, with support to underwrite tariffs during the pilot period;
- Distribution of instructional posters on handwashing with further media campaigns in local markets on measures to prevent the spread of COVID-19. FundiFix also distributed posters to community water points to promote social distancing;

Figure 3: WASH service levels in a sample of Kitui County health care facilities (n=121)



- Regular water vending/trucking to replenish storage especially in the dry months, with chlorination and quality monitoring, to ensure a reliable and safe water service at the facilities;
- Ongoing repair and maintenance of water supply and handwashing infrastructure.

Monitoring of the pilot programme, including water safety, volumetric use, and cost data supported research to inform emerging policy recommendations.

Cost analysis to inform policy and practice

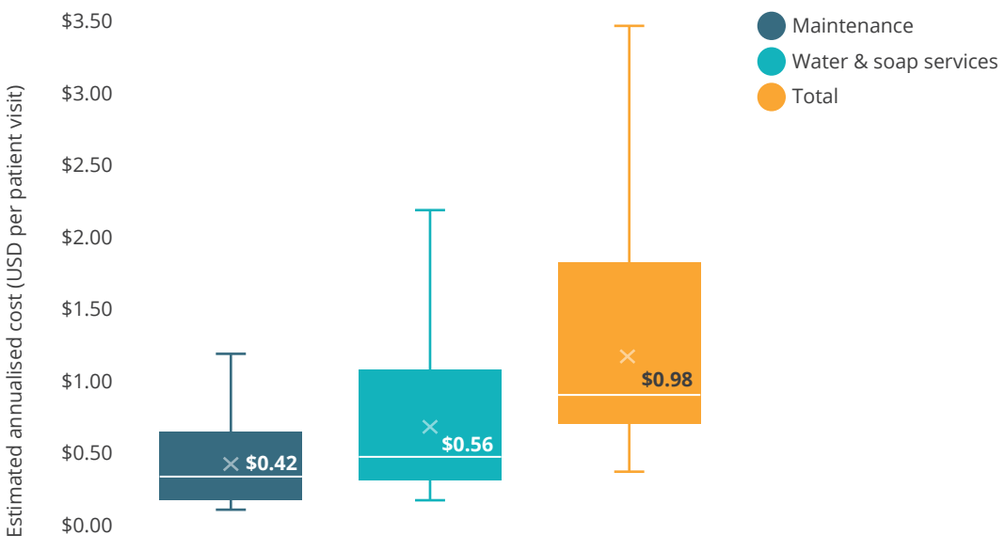
Costs of delivering water and soap in the 11 dispensaries were analysed then projected to county level using patient visit and population data to inform cost estimates.

We report costs by regular maintenance costs (new/replacement parts and materials, staff, travel) and water and soap delivery costs (liquid soap, vended or piped water with supporting staff and travel). This gives an annualised total cost of ~$ USD 1 per patient visit (Figure 4).

Costs can be cautiously scaled to roughly USD 2 million (KSH 250 million) per year to supply water and soap to all rural dispensaries, based on Kitui County's rural population of under one million people (86% of 1.1 million people) and assuming an average of two visits to a dispensary per person per year.

Further analysis described how costs vary by remoteness and water source type (Katuva et al, 2022). By understanding the relative costs and distributing these costs at the county level, the social impacts of droughts can be mitigated.

Figure 4: Annualised costs for safe water and soap delivery in health care facilities per patient visit



Professional service delivery offers an approach to bundle services across communities, schools, and health care facilities for economies of scale and cost efficiency to guarantee water and soap services in remote rural areas

Policy implications

County government can now estimate and make provision for safe water and soap services in health care facilities in future county budgets. The cost estimate of ~USD$1 per patient visit provides a basis for government planning and budgeting towards universal WASH service provision in rural health care facilities. Political commitment is key to securing support. Findings provide a basis for broader engagement by government and all health stakeholders to mobilise support for universal WASH service delivery in health care facilities.

County governments can promote professional service delivery models, such as FundiFix or similar service providers, to deliver and monitor high-quality WASH services. With responsibilities for WASH services devolved to county level, results suggest potential for synergies to build economies of scale and achieve cost efficiency.

In building a WASH service delivery model for rural areas, dispensaries, schools, and communities can be bundled into service areas as part of a comprehensive approach for delivering safely-managed services.

Securing safe water and soap services for rural communities can mitigate impacts of climate change. Reliable WASH service provision in health care facilities would reduce reliance on unsafe alternative sources of water by patients and staff, especially in the dry season, reducing health and time burden for patients/communities. In addition, adoption of service delivery models that guarantee reliable soap and water service would make health care facilities in rural and ASAL contexts more resilient to droughts, reducing the inequalities faced by rural communities and improving welfare.

Next steps

Policy reform and government coordination of health and WASH sectors. Successful extension of the service delivery model to health care facilities is contingent on government coordination of partners and investments to safeguard gains, ensure prioritisation, and avoid duplication for efficiency.

WASH investments often fail to budget for operations and maintenance (O&M), and this analysis provides a basis for policy reform to ensure future investments allocate responsibility and resources for O&M. The Kitui Water Bill, drafted with support from REACH and under review by the County Assembly (2023), establishes a coordination platform for the WASH sector and a fund for the operational delivery of WASH services.

Opportunities for scale up: FundiFix is part of a global effort: Uptime, an initiative started in 2020 to pilot a results-based funding (RBF) approach for rural water maintenance. As of 2024, Uptime is implementing these RBF contracts in 17 countries with 13 professionalised maintenance service providers (including FundiFix) and benefitting approximately five million rural people. This initiative provides a potential pathway for scaling up to include water and hygiene service delivery in health care facilities. Indeed, Uptime's results-based contract permits payment/reward of service providers for reliable water service delivery to schools and health care facilities. Parallel work on professionalised models for safe and reliable water service delivery is underway in Bangladesh and Kenya. In Bangladesh, the SafePani programme has implemented a professional service provider models for safe and reliable water service delivery in schools and healthcare facilities. In Kitui, Kenya, a model has been designed for schools to influence government debate and policy developments towards enhanced climate resilience of public institutions.

Selected outputs

Katuva, J., Hope, R., McBurney, E., Gladstone, N., Koehler, J., Nyaga, C. and Njung'e D. 2022. Improving water and hand-washing services in rural health care facilities in Kitui County, Kenya. Policy Brief, Sustainable WASH Systems Learning Program and REACH Programme.

Foster, T., Hope, R., Nyaga, C., Koehler, J., Katuva, J., Thomson, P. and Gladstone, N. 2022. Investing in professionalised maintenance to increase social and economic returns from drinking water infrastructure in rural Kenya. Policy Brief, Sustainable WASH Systems Learning Program and REACH Programme.

Koehler, J., Nyaga, C., Hope, R., Kiamba, P., Gladstone, N., Thomas, M., Mumma, A., & Trevett, A. (2022). Water policy, politics, and practice: The case of Kitui County, Kenya. *Frontiers in Water*, **10** (4). doi: 10.3389/frwa.2022.1022730

Hope, R., Katuva, J., Nyaga, C., Koehler, J., Charles, K., Nowicki, S., Dyer, E., Olago, D., Tanui, F., Trevett, A., Thomas, M. and Gladstone, N. 2021. Delivering safely-managed water to schools in Kenya. REACH Working Paper 8, University of Oxford.

Nyaga, C. 2019. A water infrastructure audit of Kitui County. Sustainable WASH Systems, USAID.

REACH. 2016. The FundiFix model: Maintaining rural water services. REACH Working Paper. University of Oxford.

Acknowledgements

This brief draws upon the collaboration and funding of many people and organisations over many years:

- **Oxford research team** – Rob Hope, Tim Foster, Patrick Thomson, Johanna Koehler, Ellie McBurney, Cliff Nyaga, Jacob Katuva, Alex Money, Susie Goodall, Nancy Gladstone.
- **Research Funders** – FCDO (REACH, Programme Code 201880) and USAID (Sustainable WASH Systems Learning Partnership, Cooperative Agreement AID-OAA-A-16-00075).
- **Trustees at the WSMTF** – Prof. Albert Mumma (Chair), Ms Joy Busolo, Eng. Mike Thomas and Rob Hope.
- **Implementer** – FundiFix Ltd
- **Kenyan research partners** – Eng. Mike Thomas, Tom Traexler and staff at Rural Focus Ltd., Kenya.
- **Government of Kenya** – Kitui County Government (Mr. Emmanuel Kisangau, CEC Ministry of Agriculture, Water and Livestock; Ms Faith Kanini, County Public Health Officer).

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REACH is a global research programme to improve water security for the poor by delivering world-class science that transforms policy and practice. The REACH programme runs from 2015–2024 and is led by Oxford University with international consortium of partners and funded with UK Aid from the UK Government's Foreign, Commonwealth & Development Office. Project code 201880.

Story of change themes

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