



**WSMTF**

WATER SERVICES  
MAINTENANCE TRUST FUND

# Water Services Maintenance Trust Fund

July 2022

Impact Report, 2016-2021







Photo by Rob Hope



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FundiFix

University of Oxford



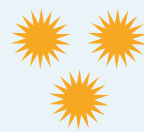
## Impact summary, 2016–2021

In 2016, a results-based funding model was developed to improve the reliability of rural drinking water supply services in Kenya. The Water Services Maintenance Trust Fund has tested a professional service delivery model in two counties and attracted new sources of results-based funds to guarantee water services in rural communities, schools and health care facilities. Water users pay an affordable share of the costs to guarantee repairs are completed in a few days rather than weeks or months. This summary reports some of the impacts from maintaining rural handpumps and small piped systems.



**2,724**

2,724 repairs completed from over 100 handpumps and small piped schemes



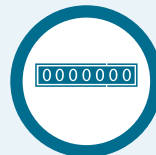
**98%**

Over 98% of repairs were completed in three days in 2021



**70,000**

Over 70,000 rural water users pay for professional maintenance services



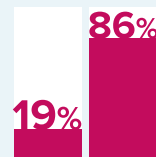
**400 million litres**

Over 400 million litres of water have been supplied to communities and schools



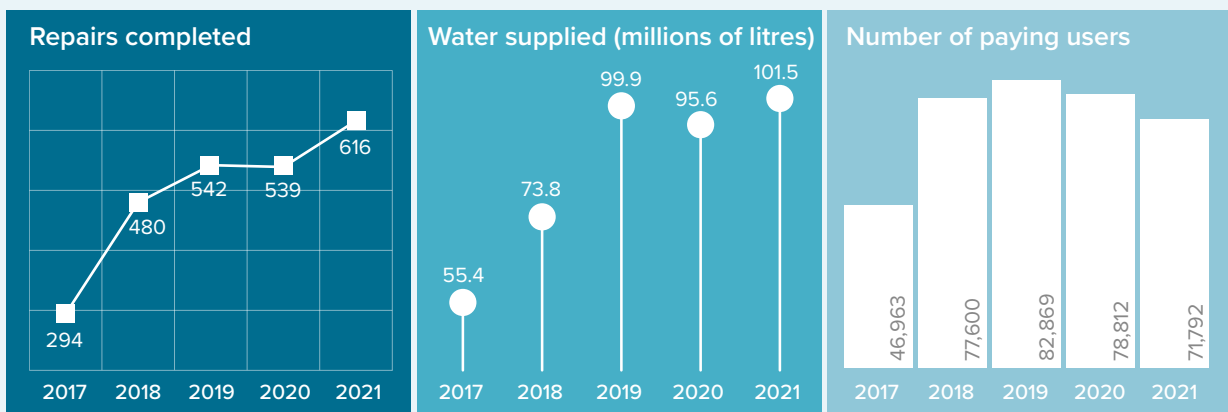
**1 in 5**

For every USD 1 paid by users, USD 4 is paid by non-donor results-based funders



**19% to 86%**

Results-based funds have grown from 19% (2017) to 86% (2021) of WSMTF resources



### Donor and non-donor contributions

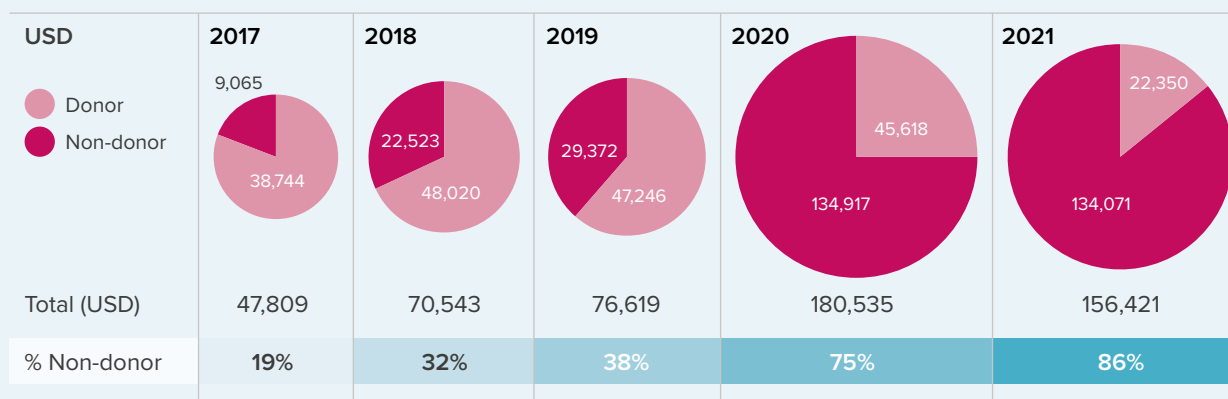




Photo by Rob Hope



# Welcome

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Conventional financing for community operated rural water supply systems is typically devoted almost entirely to infrastructure and facility development, leaving little, if any, funds for operation and maintenance. Given the inability of most community operated rural water supply systems to generate adequate revenues to meet operation and maintenance costs, most such systems suffer frequent breakdowns due to poor maintenance and experience extended periods of downtime, forcing communities to revert frequently to unimproved sources of water for domestic purposes.

Five years ago the Water Services Maintenance Trust Fund was established with the aim of piloting models for sustainable financing of community operated rural water supply systems. The Fund's trust deed states that the purpose of the Fund is "to provide financial support for the maintenance of equipment, facilities and infrastructure used to supply safe and reliable water (...) especially in areas where full cost recovery tariffs for water services are deemed not affordable to the majority of the local population."

The Fund aims to leverage research-based data and work collaboratively with partners to identify financing for the maintenance of rural water supply infrastructure for communities and rural based public facilities (schools, health care facilities). The aim is to promote water security within under-served rural communities.

This impact report, covering the period 2016 to 2021, documents the Fund's experiences over the last five years when the Fund piloted innovative financing models in two counties of Kenya: Kitui and Kwale. The Trustees believe that these experiences provide useful insights into how models for sustainably financing community operated rural water supply systems can be designed and implemented.

Challenges remain particularly with regard to how such funding models can be mainstreamed and scaled up within and by local governments. But the lessons so far demonstrate that, given a supportive institutional and policy framework, financing can be identified and tapped into to sustainably maintain community operated rural water supply systems in Kenya and, no doubt, further afield.

**Professor Albert Mumma**, Chair, Water Services Maintenance Trust Fund

# Foreword

Kitui County is a large, rural county of 1.1 million people whose lives are shaped by water. Located in the arid and semi-arid lands of Kenya, water is a precious commodity. Climate change is making life harder and more unpredictable. Groundwater resources are often saline and surface water is limited with a long dry season from June through October. Kitui County's growth and development depends on managing water effectively and fairly.

Since 2013, the County Government has collaborated with researchers from the University of Oxford in developing new ways to ensure community water supplies are more reliable. For example, when a waterpoint breaks, communities are often left without water for weeks or months, creating hardship for everyone's daily lives and their livelihoods.

In response, a professional maintenance model has been created to guarantee repairs within a few days for an affordable fee. FundiFix is a Kenyan-owned and managed social enterprise, which has produced good results over many years in this county and also in Kwale County. Progressively, FundiFix has grown to service both community handpumps and small piped schemes, as well as school and health care facilities. A key challenge for sustainability has been funding. It was clear that FundiFix would not be able to cover all its costs given the need for an affordable tariff and seasonal patterns in water use, which is three or four times lower in the wet season when other water sources are available.

In 2016, the Water Services Maintenance Trust Fund was established to meet the funding gap. At first, research programmes led by the University of Oxford met the funding gap. Over time, private sector companies have provided funding to the Trust Fund to support results-based contracts in Kitui County and also in Kwale County. Today, the majority of funds are from private companies who meet the funding gap after results have been delivered. This is a great achievement and provides many lessons for future sustainability.

Beyond the real impacts for over 70,000 water users enjoying reliable water supplies, the work has helped the county government develop new thinking to inform a new Kitui County Water Bill. While the Bill is yet to be passed in the period before the 2022 elections, I am confident the Bill will be of value to the new administration in Kitui County and many colleagues facing similar challenges across the arid and semi-arid lands of Kenya.

I hope you enjoy reading this Impact Report which provides a clear overview of the work and results of the Water Services Maintenance Trust Fund.

**Emmanuel Kisangau**, CEC Ministry of Agriculture, Water, and Livestock Development,  
Kitui County Government



# Reflections

## share

We are share (GmbH) – a social enterprise trying to change the business world. We are based in Germany and want to empower our society to help people by offering everyday products and services that make it easy to “share”. With every product you buy from us, like high quality food, beverages or personal care products, an equivalent assistance is donated. For that we support organisations doing good for people in need. In 2018, we launched our first products in the form of bottled water, nut bars and soap – everyday purchases that can make a difference. For example, with every bottle of water, a day's worth of drinking water is donated; a meal for every snack bar; and a hygiene product or service for every bar of soap.

We had read of the data-driven approach by FundiFix which was delivering professional maintenance services to ensure reliable drinking water in communities and schools in rural Kenya. FundiFix has a results-based approach backed by good data on the volume of water being supplied by handpumps and small piped systems. This allowed us to make a clear match between our consumers in Germany and rural water users in Kenya. Paying after the delivery of water supplied by FundiFix gave us confidence in the contracts being managed by the Water Services Maintenance Trust Fund (WSMTF).

Today, our partnership has deepened and we feature the work and results of FundiFix on our website and also on our product marketing. A QR code on the bottle of water takes the consumer to more information on the good work being done and how the consumer's purchase is making a difference.

We are happy to work with FundiFix and the WSMTF and we recognise that our social enterprise is strengthened by these partnerships. This Impact Report illustrates the real progress being made and share is delighted to be a partner in this successful collaboration

**Iris Braun**, Founding Partner

**Antonia Hammer**, Managing Director

**Yvonne Löwenstein**, Head of Social Impact & Sustainability

# share





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## Base Titanium Ltd

Base Titanium Ltd is located in Kwale County and operates Kenya's largest mining project, producing two titanium oxide and one zircon product. The company has adopted sustainable business practices to maximise the positive outcomes of its operations for its people, its host communities, and its host nation. One of these practices has been to support FundiFix's operation in Kwale since 2016.

Our host communities commonly rely on handpumps for their drinking water supply. Since the 1980s, little has changed in the management of handpumps with communities responsible for managing, maintaining, and funding daily water supplies. While this works well in some communities, many others struggle. The same challenges apply to water services for primary and secondary schools. FundiFix's strategy to professionalise service delivery with an inclusive social purpose fitted well with our overall community investment thinking.

After an initial results-based contract, we were pleased with the results and agreed a multi-year commitment to the Water Services Maintenance Trust Fund to support FundiFix in Kwale County. Supporting a local Kenyan social enterprise focused on creating meaningful and sustained impacts is a great fit for Base. Our investment in this project ensures that Base's legacy will live beyond the life of our mining operations and contributes to providing a lasting benefit for local communities.

FundiFix's work is far from complete or guaranteed. Progress to long term change is difficult and the Water Services Maintenance Trust Fund offers a means to increase the chances of success. The Trust Fund has managed to catalyse other companies to invest both in Kenya and internationally. This is remarkable and further substantiates Base's commitment as a founding supporter of the Trust Fund. Many other companies in Kenya may learn from the work documented in this report and the opportunity to build on this success.

Base Titanium is proud to partner in this important work.

**Simon Wall**, General Manager, External Affairs, Base Titanium Ltd, Kenya





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## doTERRA

doTERRA is a Latin derivative, meaning “gift of the earth.” From the beginning, the mission of doTERRA has been to share the highest-quality essential oils with the world. Having seen the incredible benefits of using these precious resources, a group of healthcare and business professionals set out to make that mission a reality in 2008. Today, our pure essential oils and wellness products are shipped to 86 countries.

Through industry-leading, responsible sourcing practices – Co-Impact Sourcing® – doTERRA maintains the highest levels of quality, purity, and sustainability in partnerships with local growers around the globe. The doTERRA Healing Hands Foundation®, a registered 501(c)(3) nonprofit organization, offers resources and tools to sourcing communities and charitable organizations, raising self-reliance, increasing access to healthcare, promoting education, advancing sanitation, and fighting against human trafficking. With our social impact mission to triple our impact by 2030, doTERRA is helping the world heal—one drop, one person, one community at a time.

doTERRA sources many of its raw materials from small-scale farming communities around the world and seeks partnerships with impact organizations in those communities to support community development and growth. The Water Services Maintenance Trust Fund has been such a partner delivering data driven solutions to drinking water supply challenges in Kenya where doTERRA and its partners work to produce and source important raw materials.

doTERRA’s support has been focused on Kwale County on the south coast of Kenya where rural communities and schools often lack reliable water services. Water quality is also an issue as the coastal aquifers can have high levels of salt which makes some of the groundwater sources undrinkable. doTERRA has invested in reverse osmosis treatment to support vulnerable communities where no sweet water source is available. Funding such initiatives requires both the initial capital costs but equally the ongoing operation and maintenance. The Water Services Maintenance Trust Fund offers a results-based approach and innovative service delivery to address this sustainability challenge. This is a partnership that doTERRA has been grateful to support and promote.

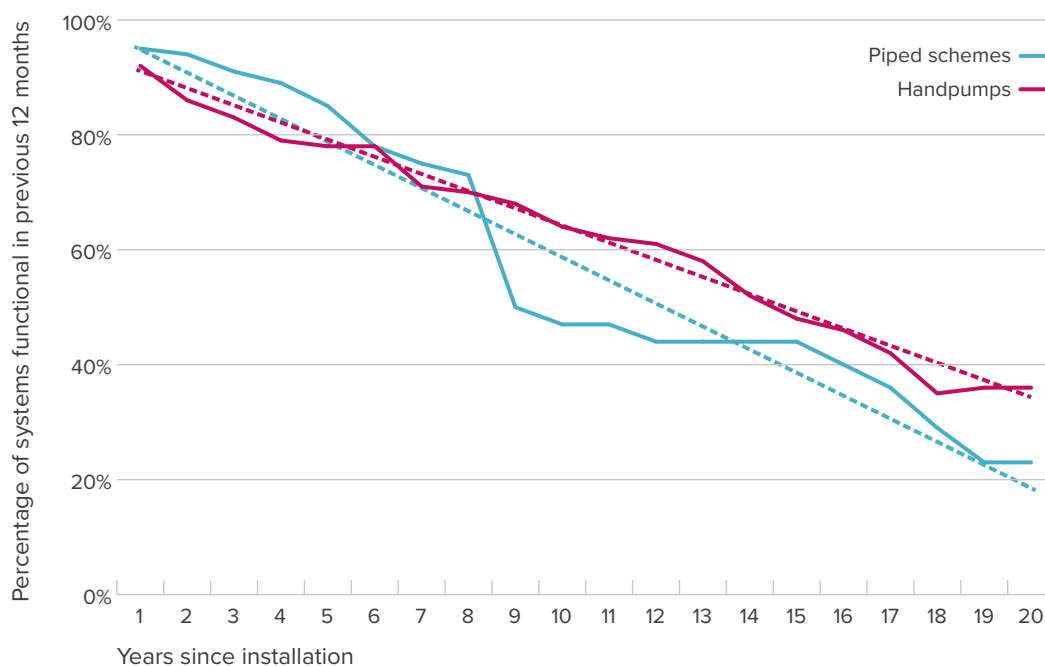
**Bishnu Adhikari**, Director, Co-Impact Sourcing  
**Taylor MacKay**, Lead Advisor, Co-Impact Sourcing





# 1 Why a Water Services Maintenance Trust Fund?

Governments and donors do not generally fund the operation and maintenance of rural water supply infrastructure. It is assumed that communities are both willing and able to pay these costs. In reality, rural water infrastructure fails regularly and leaves communities, schools, and healthcare facilities without water services for weeks and often months. Waterpoints can be abandoned after a few years, despite projected lifetimes at installation of 10 years or more (Figure 1).

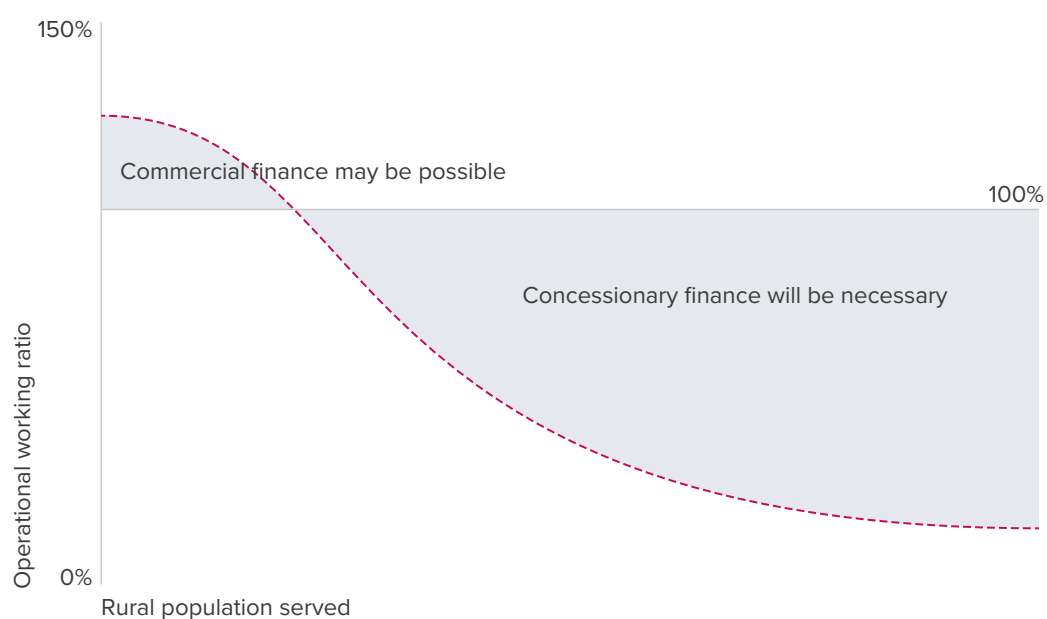


**Figure 1: Survival curve for handpumps and piped schemes in Kitui County, Kenya. Source: Tim Foster.**

A Water Services Maintenance Trust Fund (WSMTF) provides an alternative approach to pool and manage funds to provide longer-term certainty for rural professionalised maintenance service providers based on results. This is not particularly new or radical; similar models have been successfully applied in many other sectors to keep public services running reliably over time. The WSMTF explicitly focuses on ‘maintenance’ and ‘services’ as most government and donor funds focus on building infrastructure. The WSMTF targets existing infrastructure to improve the likelihood of achieving the projected longer-term benefits assumed in the project design.

The WSMTF aims to pool funds from government, water users, and results-based funders. A trust fund is a common and well-established instrument legislated and recognised in Kenyan law with associated legal provision under the Trustee Act and the Trustees Perpetual Succession Act. A governance structure offers appropriate fiduciary risk management.

Offering a long-term fund focused on the operation and maintenance of drinking water supplies allows unexpected shocks and costs to service delivery to be smoothed. Reliable service levels guaranteed by the provider ensure that water users have the confidence to make regular water payments. Meanwhile, a key aspect of the WSMTF approach is ensuring that payments are affordable for water users. Unaffordable tariffs create inequalities by forcing lower income groups to use unimproved water supplies, which are often more distant and of uncertain quality. While some commentators argue for full cost recovery from water user payments, there is little empirical evidence to show this is possible beyond occasional large piped systems which are not the norm in rural areas. Our work and wider analysis indicates that the level of subsidy required is in the order of USD 1 per person per year. Concessionary finance and new funding models will be necessary to achieve and to sustain progress to the constitutional goal of clean and safe drinking water in adequate quantities for all citizens in Kenya (Figures 2 and 3).

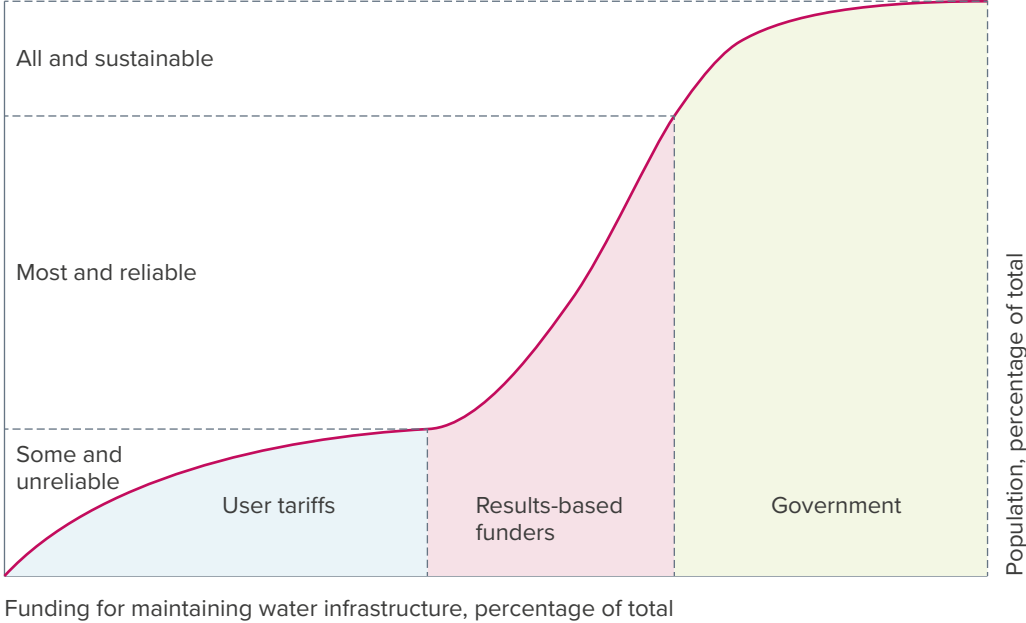


**Figure 2: Concessionary finance will be necessary to provide safely managed water services to more people in rural areas**

However, government support and funding is key to this challenge. It was not anticipated that government would invest in the WSMTF in the short-term due to structural and policy barriers. The transition to county governments created policy and legal gaps requiring new legislation to be progressively created from 2013. Further, whilst the Public Finance Management Act and national Water Sector Trust Fund provide mechanisms to guide and support county governments to build new waterpoints, they do not focus on long-term professional service delivery to rural areas. In 2016, the National Water Act (Article 94) made provision for alternative models to community-based water management for the first time.



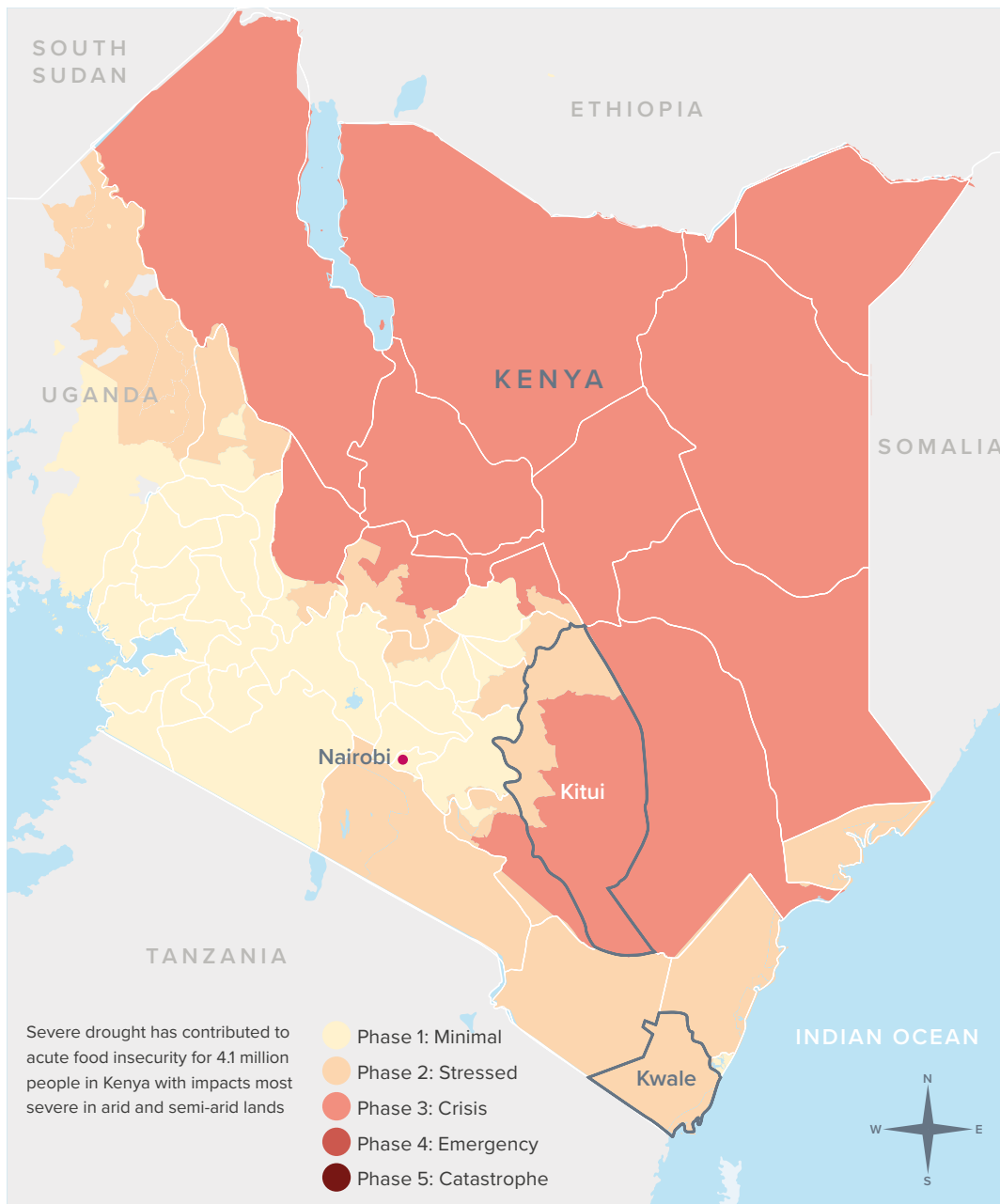
The WSMTF offers evidence and learning of how professional service delivery can work and what results may be achieved. As more county governments work to improve the historical legacy of unreliable and unsafe rural water services, findings from the WSMTF may provide evidence and pathways to be adapted to their particular context.



**Figure 3: Co-investing in maintenance costs to ensure sustainable and reliable water supplies for rural people**

The WSMTF emerged from collaboration between Kenyan practitioners and research led by the University of Oxford. Research projects in Kitui and Kwale counties from 2012 incubated a Kenyan-registered professional service provider company (Fundifix Ltd) to test and evaluate performance and pathways to sustainability. In turn, this determined the immediate scope of the WSMTF as an institutional response to determine the scale of the funding gap and the appetite for and applicability of results-based funding models. Research contributions to the design of the Fundifix model and the WSMTF includes institutional and policy analysis, user payment behaviour and welfare studies, and ‘Smart Handpumps’ sensor data on water usage.

Kitui and Kwale Counties have hosted Fundifix operations (Figure 4). The locations capture aspects of the diverse human and physical geographies of Kenya from a semi-arid, agro-pastoral inland context to a more diverse economy in the south Coast. Equally, they provide insights into how county governments may choose to engage with the inheritance of limited and unreliable rural water supplies from decades of relative neglect.



**Figure 4:** Location of counties supported by WSMTF reflecting drought and food insecurity risks (June, 2022). Source: FEWS NET/[Reliefweb](https://reliefweb.int/).



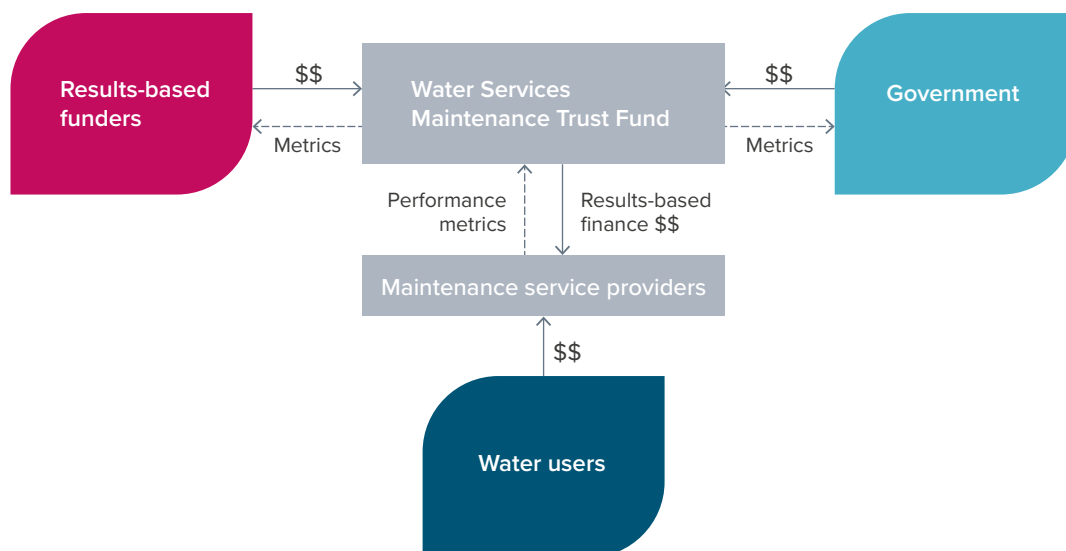
## 2 How does it work?

The WSMTF acts as a data and funding intermediary between professional maintenance service providers (here, FundiFix) and results-based funders (see Figure 5).

The WSMTF provides three functions:

- 1. Results-based contracts** – the WSMTF designs and executes contracts for service providers and results-based funders. For service providers, key performance indicators are determined in advance to provide metrics of (a) service reliability (uptime), (b) revenue from user payments, (c) service coverage and growth, (d) financial sustainability (e.g. local working ratio), and other indicators, as required. For results-based funders, funds are released against agreed key performance metrics and transferred on satisfactory completion.
- 2. Data verification** – the WSMTF has designed and tested an independent data verification process to ensure contracts are fulfilled, and to support the improvement of service delivery over time.
- 3. Sustainable funding** – the WSMTF aims to attract non-traditional funding from companies, individuals, and foundations interested in addressing the long-term failure in sustaining rural water services. The results-based contracts reduce risks to this wider group of potential funders, including national and international organisations with environmental, social and governance (ESG) interests.

By design, the WSMTF is not a project-based, time-bound initiative. Water is needed every day, not only for a three-year project or before an election. The work has an explicit learning and adaptation philosophy. The four Trustees offer Kenyan and global experience in the commercial sector, law and policy, finance and economics, and engineering. This includes close collaboration with the University of Oxford and the University of Nairobi promoting a fluid exchange of ideas and knowledge to inform and challenge existing assumptions and working practices. Ultimately, the goals of the WSMTF are the responsibility of Kenya's 47 County Governments. However, without an existing playbook of how to deliver safely-managed drinking water in rural Kenya, County Governments are learning and developing new approaches to address the deficit in services.



**Figure 5: How the WSMTF works.**

## 2.1 Results-based contracts

A contribution of the WSMTF was to design contracts with measurable outcome indicators. Research indicated that guaranteeing repairs to waterpoints within three days was feasible and of value to rural water users. This ‘uptime’ metric became the default indicator aligning results-based funding with value for users to unlock local payments. Evidence of service coverage and annual growth are complementary aspects of the WSMTF contract with service providers focusing on the delivery of results.

Local user payments need to balance financial sustainability with universal delivery. This includes ensuring affordable payment levels. The approach preferred was to set a ‘flat fee’ tariff of USD 10 per user group per month and a volumetric fee for small piped systems. A ‘flat fee’ does not restrict usage and reflected that most rural waterpoints are community handpumps without metering technology. The earlier work of Oxford’s ‘Smart Handpumps’ designed and tested sensors installed on handles to estimate water usage for over 200 handpumps in Kwale in 2013/14. These data provided new insights to understand water use behaviour and patterns of demand. Despite considering different revenue models, USD 10 per user group per month appeared a socially-acceptable payment with higher payments unlikely to be recovered.

To promote financial sustainability via cost recovery, the contract also measures a local working ratio. The ratio is a measure of local revenue divided by local costs of service delivery. It excludes indirect costs, depreciation, water quality monitoring, and other costs. However, it provides a simple measure to gauge the scale of the subsidy required and a means to monitor service performance over time. FundiFix operations have a local working ratio of between 10-20%. Though this seems low, the scale of the business is such that the subsidy required is roughly USD 1 per person per year and the aggregate amount may be considered a good investment to provide a reliable water supply to rural people.



The existing model of community-based management passes the risks and costs of waterpoint failure to people with limited means and capacity to absorb them. Monitoring performance through WSMTF's contract mechanism provides a transparent approach which can enable county governments to budget for the maintenance of rural water services, knowing the scale and type of subsidy required. Under contracts to monitor and review their service performance, maintenance service providers and their funders build their understanding of costs and service provision challenges, allowing different approaches to emerge to improve the working ratio over time.

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## 2.2 Data verification

Information asymmetry has been a challenge for decades in the rural water sector. A funder can provide resources to a local water service provider without any objective evidence of the results achieved. There is often limited information on the desired outcome measured over time. The unsatisfactory work-around for risk-adverse funders and donors has been to build infrastructure where they account for money spent on installing waterpoints, and stop there. No water service is required, and the responsibility for service delivery is passed on to the communities, schools, or health care facilities with insufficient post-construction support.

The WSMTF has worked to complete the missing link in the loop. It takes responsibility for ensuring services are maintained to an agreed standard. With increasing innovation in monitoring technologies and the expansion of small piped schemes, data are more transparent through analogue or electronic meters and the expansion of automated water kiosks (ATMs). This work is increasingly closing the information gap with greater visibility on performance. In turn, this allows wider analysis of patterns and behaviours in the water sector with insights to the risks and responses to climate or public health shocks. For example, floods and droughts are common though unpredictable in Kenya. Guaranteeing water services during these shocks reduces social and economic costs to rural populations at the clinic, home, or school.

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## 2.3 Sustainable funding

Funding reflects the concessionary nature of investments in contrast to finance which assumes repayment on commercial terms. There is very limited evidence that commercial finance will be realistic for rural water supplies unless population density, relative wealth, and water demand are high. A defining challenge for progress to safely-managed water services for all is how services will be paid for over time. If we accept that rural water users cannot pay all the costs, and international development assistance is neither sufficient nor dependable, then approaches to allocate and sustain funding needs new thinking.

Results-based funding is premised on the outcome being of value to a wider set of funders. It takes a position that there is sufficient funding but that funding depends on presenting a compelling and data-based case to a wider portfolio of funders. The WSMTF has made some progress in identifying and contracting results-based funding.

Progress has a geographical bias with Kwale County hosting private companies with explicit Environmental, Social and Governance (ESG) agendas. FundiFix operations provide a local Kenyan provider with legitimacy and credibility in providing high quality services which has been instrumental in securing multi-year results-based contracts. In addition, wider publicity of the work has led to a contract with a German-based ethical retailer with solidarity funds for a 1:1 match to water sales in Germany supporting water services in Kenya.

The sustainability of the WSMTF has increased from high dependency on research and donor funding to results-based contracting from private companies. In turn, this has allowed FundiFix to plan its operations with more certainty and confidence. This includes securing direct grants based on an established track record of performance over many years. It has allowed strategic growth beyond maintaining water systems to full management and new work to deliver safe water services to schools and health care facilities.

To date, no government funds from national or county levels have been transferred to the WSMTF. This partly reflects the time and steps needed for donors and government to change established practice and behaviour. The legacy of the past is hard to change though Kitui County Government has invested time and resources to develop a new Water Bill adapting some of the work and ideas of the WSMTF and FundiFix. The Bill remains to be approved by the County Assembly though provides [a template](#) with the conditions and provisions for systemic change in government policy, planning, and investment.

The Kitui Water Bill reform emerged in coordination with shared government and research interests with support from the WSMTF (Figure 6). The ability to convene the combined expertise across the wider collaboration of partners and the leadership of the County Water Minister, Mr Emmanuel Kisangau (2017–2022), allowed the co-production of technical reforms supported through a county working group and public consultation process. UNICEF was a partner supporting the formation of a County WASH forum to convene stakeholders in quarterly meetings with an increasingly professional and strategic agenda taken up by other partners since 2015. If passed, the Water Bill will introduce new and wide-ranging reforms to strengthen delivery of rural water services supported by provisions to:

- Formally recognise and fund the WASH forum from core county government resources
- Establish the Kitui County Government Water Services Fund with at least 10 per cent of the Water Ministry’s development budget appropriated to the fund annually
- At least 50 percent of the annual budget of the fund would be ringfenced for operation, repair, and maintenance of drinking water systems and sanitation infrastructure, equipment, and facilities in areas considered not to be commercially viable
- Recognise and support professional maintenance service providers with exclusive service area mandates
- Water Action Groups to provide stronger accountability and voice for consumers to enforce policy and regulation on service delivery.

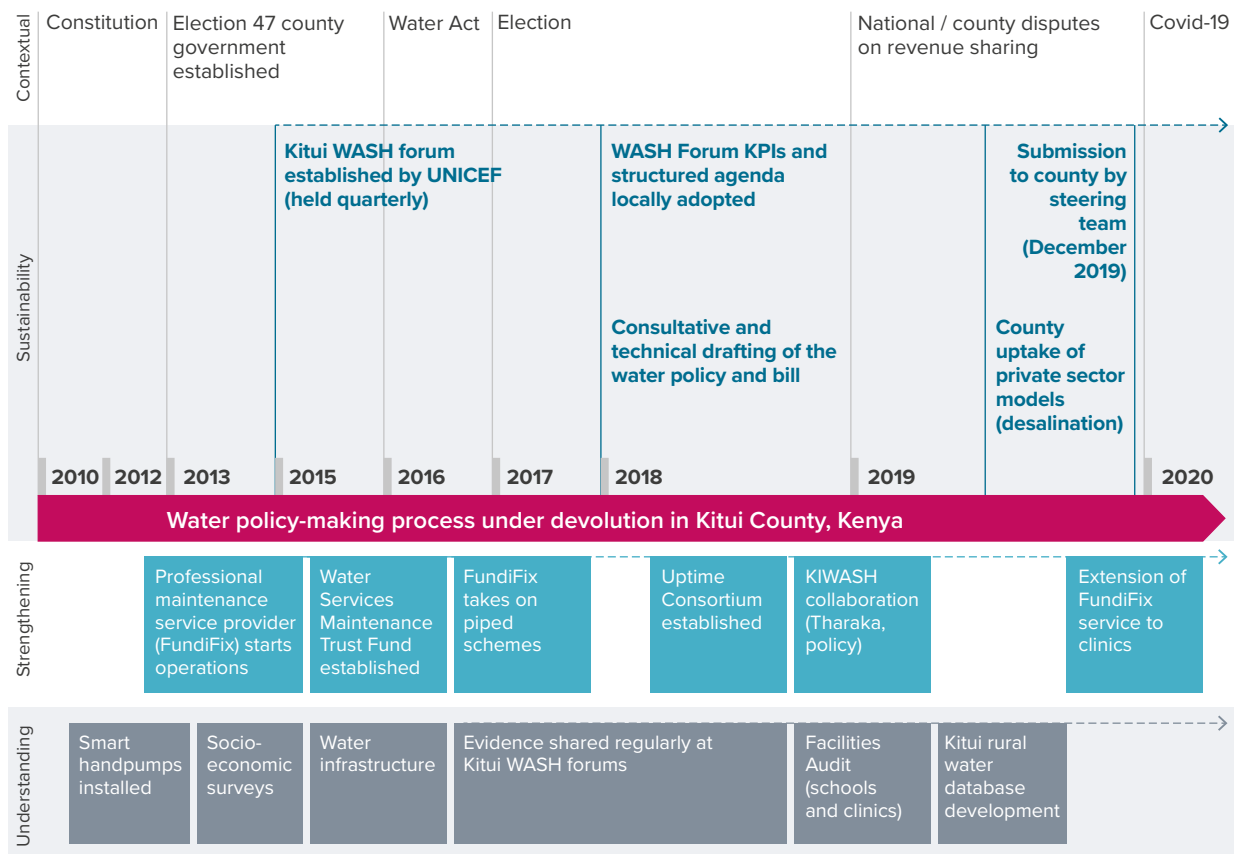


Figure 6: Key timelines in the Kitui water policy development process. Source: Johanna Koehler.





# 3 Impact

The case for investing in professional service providers is substantiated by broader impacts from economic, financial, and social returns. Figure 7 outlines a conceptual framework to illustrate how returns are linked to improved maintenance and their role in supporting an investment case by operational, economic, and political arguments.

- The economic returns from improved reliability include improved revenue collection, more affordable services, higher volume production, reduced days not working, and the avoidance of early rehabilitation or replacement of infrastructure.
- The social returns from improved infrastructure reliability contribute to reducing the burden of water collection, water-related illness, and psycho-social stress of having to turn to unaffordable, distant, or unsafe alternatives, which disproportionately impact women and lower income households.
- The financial returns include lower unit life-cycle costs, reduced emergency water spending, and the ability to design smarter subsidies based on better information.

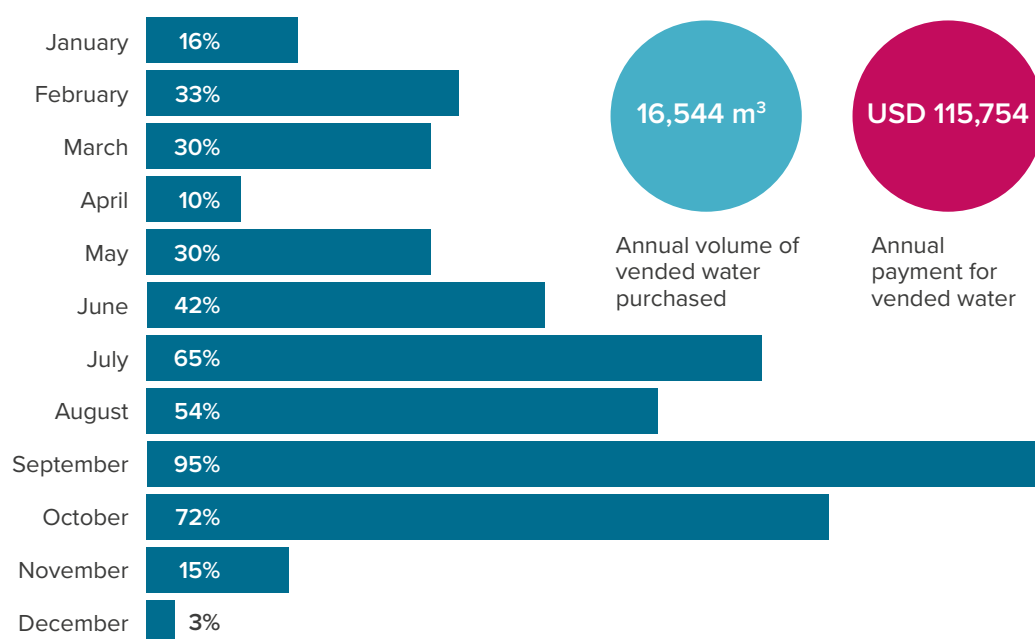


**Figure 7: Returns from investing in professionalized maintenance for rural water service provision.**  
Source: Rob Hope.

What we have been able to quantify from rural water systems relying on community management is longer repair times with women, girls and other vulnerable groups bearing the brunt of failed systems.

For example, when rural water infrastructure is not professionally maintained, household spending on alternative water sources due to breakdowns can be as much as the initial capital costs of the infrastructure over a ten year period. Droughts are common in the arid and semi-arid lands of Kenya and increase socio-economic hardship when waterpoints fail, particularly for handpump users with only a few days of water storage. For handpump users, the cost of alternative sources in the dry season increases by up to USD 0.38 per day, equivalent to 6–14% of daily household expenditure. Women bear the vast majority of time costs of collecting water from alternative sources.

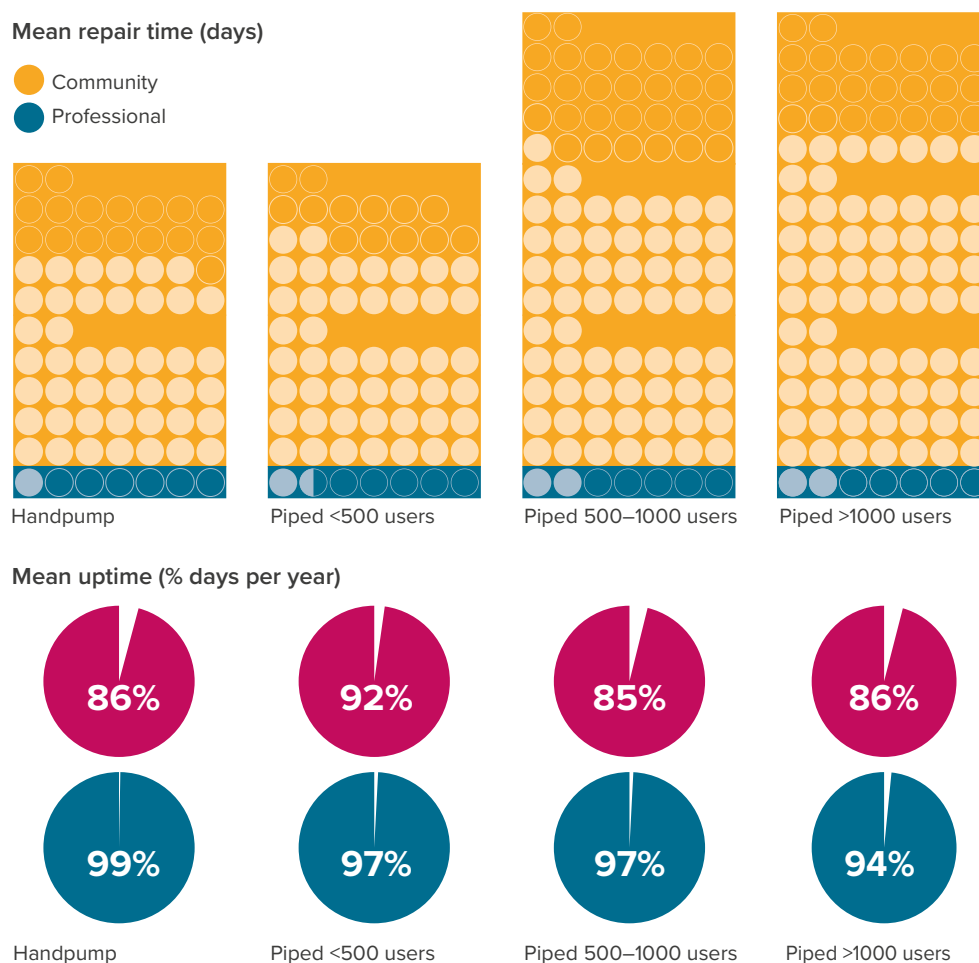
Governments and donors can pay three times more per litre of water from emergency water trucking compared to the cost of water provided by a functioning kiosk. These negative impacts affect children in schools with unequal outcomes depending on whether schools have the funds to purchase vended water when rainwater harvesting systems are insufficient. In 2019, an estimated 16 million m<sup>3</sup> of water was bought by around one third of Kitui’s 1800 primary and secondary schools at a cost of over USD 100,000 (Figure 8). We may conclude that not investing in professional maintenance of water systems reduces costs, though transfers economic and social hardship to the most vulnerable. The economic case is compelling, however, political commitment for change remains less clear.



**Figure 8:** Percentage of schools reporting 'high vending' by month, September 2018 to October 2019 (n = 643).

### 3.1 Professional maintenance means faster repairs

Professionally maintained water systems result in improved operational performance compared with those that are community managed (Figure 9). The proportion of days a waterpoint is working, or uptime, for handpumps with professionalised maintenance is higher than those based on a community management approach (99% vs 86%). This is driven by faster repair times (1 day vs 43 days). A similar trend is evident for piped schemes, with larger community managed schemes experiencing average downtimes of over two months.



**Figure 9: Comparing operational performance of community-managed and professionally-maintained waterpoints in Kitui County.**

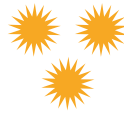
### 3.2 Will rural water users pay for professional maintenance?

Since 2016, the WSMTF has supported a ten-fold expansion of water users registering with FundiFix for guaranteed repair services. Water users have contributed USD 23,000 (KES 2.5m) in 2021 to operational costs. In turn, this has increased non-donor funds from less than one fifth to over four fifths of the resources managed by the WSMTF (Figure 10).





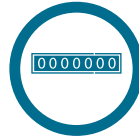
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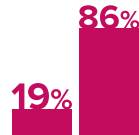
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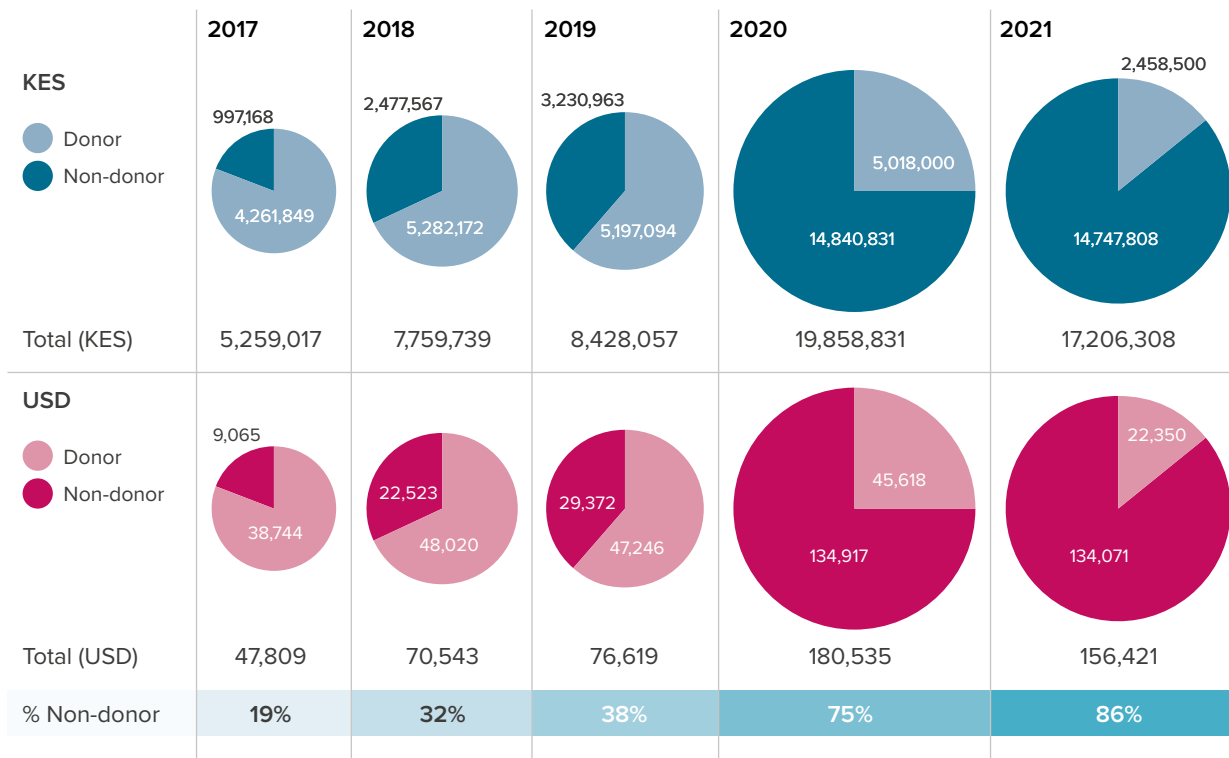
**1 in 5**  
For every USD 1 paid by users, USD 4 is paid by non-donor results-based funders



**19% to 86%**  
Results-based funds have grown from 19% (2017) to 86% (2021) of WSMTF resources

**Figure 10: Key impact metrics.**

The water supply infrastructure maintained by FundiFix has expanded from 42 active/paying handpumps in 2016 to 93 handpumps, with a further 24 small piped schemes in 2021. An estimated 74 primary and secondary schools with 25,000 pupils rely on waterpoints maintained by FundiFix. Over 98 per cent of all repairs in 2021 (608 of 616 repairs) were completed in three days with only three of the 296 handpumps repairs completed in the same period exceeding the three-day target. Over 101 million litres of water were supplied by waterpoints maintained by FundiFix in 2021.



**Figure 11: Resources managed by WSMTF 2017–2021. The non-donor proportion has increased four-fold as contributions from donors such as UK Aid were overtaken by corporate investments and water user payments.**

**Table 1: Impacts by water users, payments, and repair metrics, 2016–2021.**

	2016	2017	2018	2019	2020	2021	Total
Number of paying users	8,400	46,963	77,600	82,869	78,812	71,792	n/a
Water user payments (USD)	3,760	3,430	9,948	13,472	11,882	23,075	65,567
Results-based funding (USD)	0	9,065	22,523	29,372	134,917	134,071	329,948
Additional funding to rehabilitate broken waterpoints (USD)	0	0	37,220	21,100	23,000	153,000	234,320
Handpumps	42	44	75	99	108	93	
Small piped schemes	0	18	28	25	24	24	
Repairs completed	253	294	480	542	539	616	2724

### 3.3 Is results-based funding sustainable and scalable?

The growth in non-donor funding reflects wider interest in results-based funding models. The WSMTF has operated in two counties in Kenya with different funding opportunities.

In Kwale County, there has been corporate investments by agricultural and mining operations. Two of these companies have supported the work of the FundiFix operation in the southern sub-counties close to their operational hubs. Recognising relatively few local people may be directly employed in their operations, the companies have been interested in targeted investments where the wider community may gain benefits. A results-based fund with verifiable outcomes paid in arrears reduces risk for such investments.

Base Titanium Ltd has established one of Kenya's first mining operations extracting ilmenite, rutile, and zircon for global markets. After an initial funding agreement was successfully executed, a multi-year programme was agreed to support both community and school handpumps. doTERRA works with local farmers to grow essential oils for national and global markets. Similar to Base Titanium Ltd, they support an active community engagement programme where collective benefits such as drinking water services align with their corporate social responsibility strategy. Multi-year contracts have been agreed.

## Box 1: The solar revolution

FundiFix's Kwale operation includes coastal communities and schools where groundwater resources are often highly saline. As part of the collaboration with doTERRA, a recent investment has funded a solar-powered reverse osmosis facility to treat 2,000 litres of highly saline water (>10,000 ppm EC) per hour. doTERRA paid for the capital costs of the facility (c. USD 40,000) based on a FundiFix business plan that the operation and maintenance costs would break-even. Since opening in 2021, the kiosk has provided over 800 m<sup>3</sup> of safe water during 20 months of operation with water tariffs covering local operating costs, such as staff, filters, chemicals, transport and administration. Another facility is under consideration.

Solar kiosks are an attractive business proposition for selected communities to reduce high energy (diesel) costs. FundiFix has installed a solar kiosk in Mivumoni for around USD 10,000 to convert a borehole with a handpump, which could fill a 20 litre container in four minutes, to three automated tap dispensers filling the same container in 30 seconds. Dry season revenue has increased from around USD 10 per month to USD 40 per month. Higher demand has also led to a woman entrepreneur selling food outside the kiosk.



Photo by Jacob Katuva



The progress of the WSMTF has been discussed regularly with Kwale County Government to explore synergies and collaboration in improving drinking water supplies. This includes exploring links with the Government of Kenya's Water Sector Trust Fund which has a mandate to improve drinking water services in commercially non-viable locations with several investments in the county. Contractual constraints have not permitted any funding support to date with public finance management requirements limiting the transfer of funds to government or County-owned water service providers.

In time, these constraints may be relaxed in response to the 2016 Water Act which permits professional service providers to be contracted. For now, Kwale County supports community management as the preferred modality for providing drinking water services in rural areas. As noted, Kitui County Government has explored the transition permitted by the 2016 Water Act to develop a County Water Bill with provisions for a county water fund reflecting the ideas and operational structures advanced by the WSMTF. It is expected that the 47 county governments in Kenya will work at different speeds reflecting their priorities and capacity across the significant new mandates they are responsible for since 2013.

Kitui County Government has no similar major corporate interests as in Kwale County. However, the work of the WSMTF attracted the interest of a German ethical retailer, share GmbH, with a novel 1:1 matching programme for their food, hygiene, and water products sold in Germany. The emphasis on results-based metrics of functionality and measured water volumes has led to multi-year contracting and a strong partnership linked to their corporate and ethical mission. The nature of solidarity funds where consumers seek to connect globally to use their purchasing for good is advancing rapidly. Hotels, supermarkets, utilities, banks, and many other sectors are actively promoting and investing in results-based funding.

## Box 2: Sharing knowledge, increasing impacts

FundiFix's Kitui operation is based in the semi-arid lands of the Horn of Africa. The unpredictability and severity of droughts in Kenya, Somalia, and Ethiopia have led to interest in professionalising service delivery models. A USD 385 million World Bank programme will advance new work on groundwater resilience in the Horn of Africa with support from FundiFix staff. The knowledge and expertise gained over many years in Kitui on the operational, management, and policy issues and responses has provided insights and lessons to strengthen the design of professional maintenance models facing similar challenges.

Bilateral donors and NGOs also collaborate with FundiFix to improve the sustainability and value for money of their investments. This includes ensuring new schemes and rehabilitated schemes have a more sustainable business model. Over USD 200,000 has been raised directly by FundiFix for this work so far. The progressive shift from a maintenance to a management model for FundiFix operations mean contracts are agreed transparently in advance so operational and financial risks are shared fairly and effectively. Increasing accountability of service provision is good news for donors, water users, and for FundiFix as it diversifies its professional services and income streams.

However, sustainability is far from certain. The timing and nature of county government uptake is unclear. This presents a challenge to recruiting more companies who may seek evidence of long-term alignment. Weak governance systems and a lack of accountability in Kenya contributes to a risk-averse culture in many organisations with new and creative solutions needing to overcome significant administrative and institutional hurdles to change existing practices. Yet, there is an emerging and broader global marketplace for results-based funding. In Turkana County, a trust fund has also been developed in recent years. In 2022, a World Bank programme aims to support county-owned operation and maintenance funds in four ASAL counties from 2023.

In Africa, the ideas of the WSMTF are embraced in the Uptime consortium which partners with FundiFix and other professional service providers in seven African countries guaranteeing reliable drinking water services to 1.5 million people since 2021 ([www.uptimewater.org](http://www.uptimewater.org)).

In Kenya, County Government engagement and uptake is fundamental to progress. The WSMTF offers lessons and experience for how results-based funding can work. It is premature to determine the future but the body of knowledge generated offers insights and evidence for how other county governments committed to sustaining drinking water services in rural areas may advance their thinking and work. The Council of Governors offer a forum to socialise and debate these ideas further with the third round of elections across the 47 counties in 2022 a pivotal moment to accelerate change to benefit the lives and livelihoods of rural Kenyans.



### 3.4 Future work

From the outset, the WSMTF has recognised water safety as a major gap in rural areas. Progressively there has been collaboration in building capacity to monitor water quality in community, school, and health care facility waterpoints. In 2019, routine sampling was conducted for 22 water points across 17 schools, including 11 primary schools and 6 secondary schools. FundiFix’s Kitui office has established its own small water laboratory with equipment to undertake bacteriological analysis and other basic parameters (pH, temperature, EC, fluoride). Analysis of metals is not feasible but has been done externally in collaboration with KEMRI and the University of Oxford.

In response to the public health pandemic in 2020/21, FundiFix piloted an intervention to support safe water and soap delivery to eleven health care facilities in Kitui. The work provided costed estimates for how this work could be funded and maintained in the future if there was government support and a funding model (Figure 12).

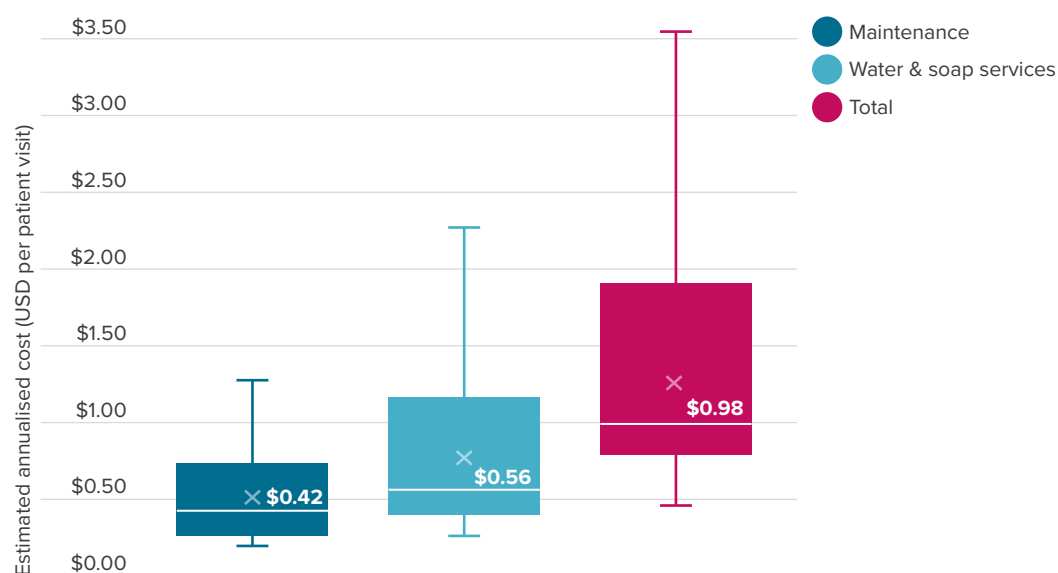


Figure 12: Annualised costs for safe water and soap delivery in health care facilities per patient visit



## 4 Governance

The WSMTF is guided by a Board of Trustees, selected for their expertise and experience in water supply management and water sector governance. The Trustees are responsible for strategic planning and management, fiduciary control, fund allocation, risk management, resource mobilisation, and legal affairs. Membership of the board also provides for investor and county nominated trustees to diversify the interests represented on the board. The Board of Trustees meet approximately once per quarter. Trustees serve on a pro-bono basis.

In 2017, a Secretariat was appointed after an open tender process to provide administrative support to the Trustees. The Secretariat is responsible for handling contracts with investors and grantees, financial management, statutory compliance, supporting board meetings, organising performance verification assessments, developing WSMTF reports and supporting information dissemination.

In the last five years the Trustees have provided due diligence to the fund by ensuring that it is legally registered, follows standard financial procedures and operates according to the rules and regulations laid out in the Operations Manual. The system of performance reports from the water maintenance service providers and financial and systems audits conducted by the WSMTF provide accountability for fund allocations and enable the WSMTF to remain responsive to emerging risks and challenges faced by the maintenance service providers. The Board of Trustees has successfully guided the operations of the WSMTF during a period of formation and growth through regular board meetings where progress is reviewed, financing applications assessed and allocation decisions made.

The Board is also responsible for setting the strategic direction of the WSMTF and this is where the exceptional experience of the trustees is particularly valuable. Latest evidence from within and beyond Kenya has been used to define a strategic direction which is not only 'cutting edge' but also grounded in the cultural and business context of the target areas.

## 5 Trustees

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### Prof Albert Mumma

#### University of Nairobi

Prof. Mumma is a lawyer with 30 years' experience both in the academic field and in the practice of law. He is currently Associate Professor at the School of Law of the University of Nairobi. He is a specialist in the legal and policy arrangements relating to institutional development, environmental and natural resources law, administrative law, tort law, and the governance of legal forms of associations.



Prof. Mumma has worked professionally at national, regional, and international levels. His experience includes assignments in the UK, Eritrea, Somaliland, Kenya, Uganda, Lesotho, Burundi and DR Congo. He prepared the initial draft of the Water Act 2002 as well as the Kenya Roads Board Act, 1999 on behalf of the Government of Kenya.

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### Joy Busolo

#### World Bank Group

Joy Busolo is a Senior Water Resources Management Specialist coordinating 2030 WRG country programs in the Africa Region. She joined the World Bank Group in 2016 as a consultant, working with the 2030 Water Resources Group Program in Nairobi, Kenya as the 2030 WRG Kenya Country Lead and supported the regional program as well.



Her recent focus is expansion of the 2030WRG into new geographies, supporting the establishment of multi-stakeholder platforms used as mechanisms to collectively design and development of projects and programs that catalyze private sector investment, enhance resilience, and promote water-efficient practices in industry, agriculture and municipal water use through public private and civil society partnerships in Africa.

Joy is a Chemical and Process Engineer (Moi University) by training with a Masters in Business Administration (University of Nairobi), a diploma in Public Policy (Strathmore University) and a Master of Commerce in Development Finance (University of Cape Town).

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## Prof Rob Hope

### University of Oxford

Rob Hope is Professor of Water Policy at the School of Geography and the Environment and the Smith School of Enterprise and the Environment at the University of Oxford. His research interests focus on water policy, poverty, and economics, largely in Africa and Asia. He has worked with a team of Oxford researchers in Kenya since 2008 which has provided empirical evidence to support the incubation of the FundiFix model and the establishment of the WSMTF.



In 2018, Prof Hope convened the Uptime consortium of five professional maintenance providers with operations in Central African Republic, Burkina Faso, Kenya and Uganda. In 2020, Prof Hope became a Trustee of the Uptime Catalyst Facility (UK Charity) designing and issuing results-based contracts for Uptime members supported by over USD 1 million of concessionary funds from GIZ/BMZ, Aqua for All, Vitol Foundation, Osprey Foundation, Waterloo Foundation and Vox Impuls. In 2022, Uptime members have 1.5 million rural waters in seven African countries with contracts guaranteeing reliable water services. Ongoing work has the goal of providing safe drinking water services to 100 million rural people globally by 2030.

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## Mike Thomas

### Rural Focus Ltd

Mike is a registered Kenyan water and environmental engineer with a specialization in hydrology. His training and professional experience has covered hydrology, water resources, water storage, water supply and environmental engineering. He has 20+ years of professional experience on a variety of projects in East Africa, Botswana, Madagascar, the UK, and the USA. Mike is a Director of the consulting firm, Rural Focus Ltd which draws together Kenyan and international expertise to provide professional services covering the planning, technical, institutional and management aspects of water supply and sanitation, water resource management and environmental services.



Mike's expertise and experience is extensive, covering hydrology, water resource management and water supply development. In this area Mike has extensive experience working as a professional engineer covering all aspects of project identification, design, construction supervision and contract management. His experience covers rainwater harvesting systems, storage dams, gravity and pumped water supply systems, smallholder irrigation schemes, and water treatment.



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Photo by Jeff Waweru



A man in blue work clothes is focused on adjusting a water tap. He is using a large wrench to turn the handle. The tap is mounted on a vertical pipe, and a small amount of water is dripping into a puddle on the ground. In the foreground, the rim of a large metal water container is visible. The background shows a dirt area with some trees and a brick building in the distance. The overall scene is set in a rural, arid environment.

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