



**The FundiFix model:**  
Maintaining rural water services



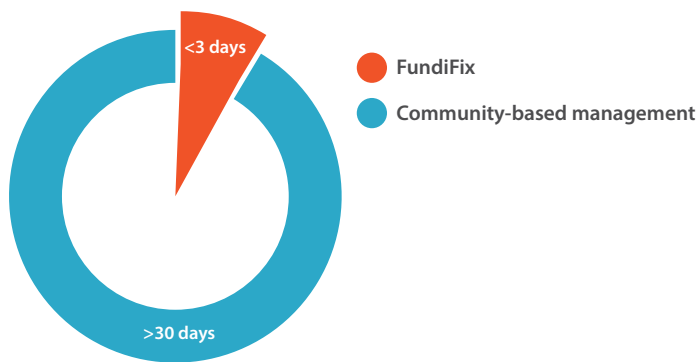
# Maintaining rural water services

The FundiFix model is one response to Africa's rural water challenge. It focuses exclusively on the maintenance of existing water infrastructure for communities, schools, clinics and other rural facilities. Led by local entrepreneurs and powered by Africa's mobile network, the FundiFix model offers a performance-based approach working with government, communities and investors to keep water flowing.

**Fundi** noun (E. Africa):

Mechanic (by profession), expert in repair and maintenance of machinery. Word origin – Swahili for craftsperson or artisan.

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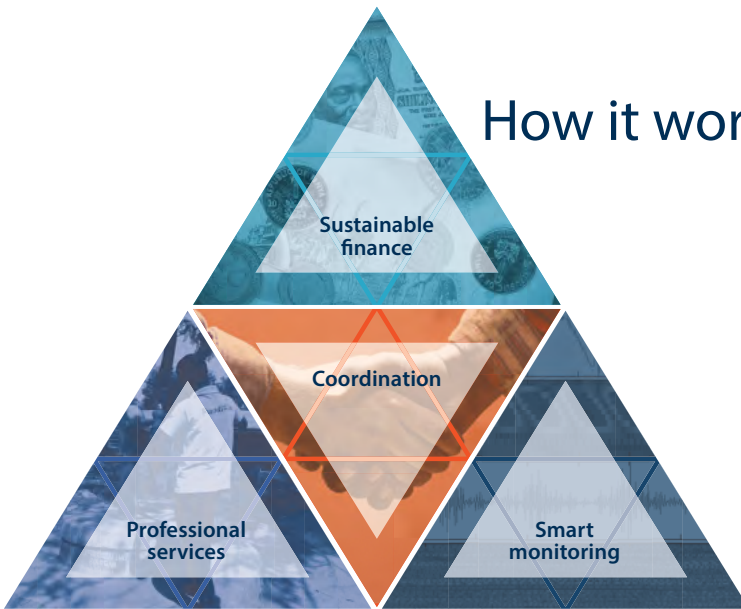


Improved performance with FundiFix model, Kwale County, Kenya, 2012–13

The business rationale is 'scale reduces risk'.

If all rural waterpoints are networked in one system economies of scale can improve service delivery and lower costs. Essentially, it's insurance logic applied to rural water infrastructure.

# How it works



The FundiFix model has four connected dimensions:

- **Professional Services** – user payments and investor finance are contingent on service delivery. The FundiFix model guarantees a rapid service with offices staffed by local entrepreneurs and qualified technicians, with contracts contingent on high quality service delivery;
- **Sustainable Finance** – stable and adequate flows of finance from government, users and investors are required to maintain water infrastructure across a diverse portfolio of waterpoints serving everyone, every day;
- **Smart Monitoring** – regular data flows from mobile technologies with data analytics support a rapid repair service and inform sector monitoring, regulation and resource management;
- **Institutional Coordination** – government leadership in separation of policy, regulation and delivery is critical to ensure sector partners have clear roles and responsibilities.

What's new is mobile technologies now allow operational and financial data to flow quickly and cost-effectively. Better information permits improved institutional design. Rather than each community tackling often similar but infrequent repairs, local companies guarantee a high quality team to fix repairs fast. Regular servicing also reduces the risk of breakdown in the first place.

Communities subscribe to a service contract which protects their rights but makes them responsible for regular payments. Local entrepreneurs have established companies in Kenya working in partnership with government, investors, communities and UNICEF.



## Professional services

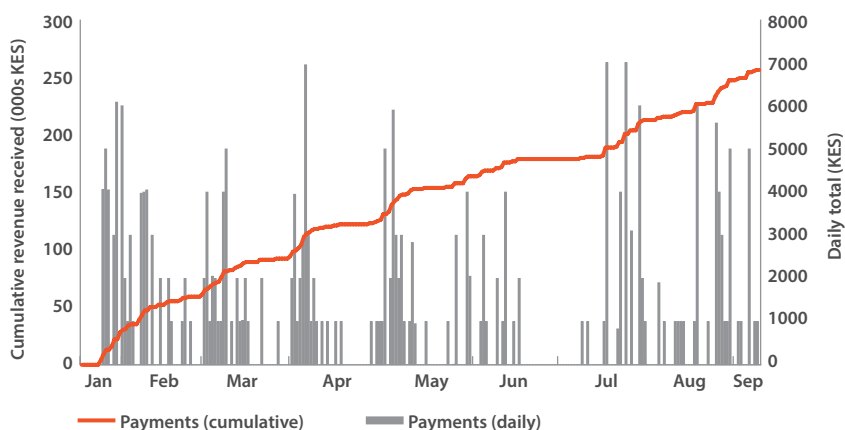
This dimension promotes local entrepreneurs appointed on performance-based contracts to maintain all rural water infrastructure.

### Performance-based contracts

Local companies guarantee to repair rural water infrastructure within three days. Work in Kenya has proved this guarantee can be met, and has reduced water infrastructure downtime from over a month. If a repair exceeds three days, communities receive a free month of service, thus building in a penalty for poor performance.

### Universal maintenance services

Universal service delivery means leaving no one behind and is made possible by exploiting economies of scale. An inclusive approach ensures all water supply infrastructure can be maintained for communities, schools, clinics and religious centres.



Cumulative and daily payments in Kwale County.



## Local entrepreneurs

Building trust is essential in securing regular payments from poor rural communities. Local companies are owned and managed by local entrepreneurs, employing mechanics who are well-known in the area. Additional training will enhance their skills and investment in local premises shows commitment for long-term delivery and growth.

## Service contracts

**Maintenance service providers operate in two counties in Kenya:**

- Repair within three days
- Replacement of broken parts with new quality spares
- Professional mechanics

**Customers:**

- Register through annual contract
- Pay a regular fee using mobile payments
- Receive messages on payment and service performance



**FundiFix KWALE**

**MISSION:** To provide quicker, cheaper and sustainable water maintenance service to rural communities

- **Quick fix** (less than 3 days)
- Hotline number available 24/7
- **Affordable** monthly rates
- **Quality** spares provided
- **Professional** local funds
- **Reliable** and trustworthy company

**CALL 0719 723000 for more information**  
**VISIT our office in Bomani**

Your handpump code is



## Sustainable finance

This dimension recognises the three major flows of finance for water and applies new financial instruments to manage funds effectively.

### Performance-based finance

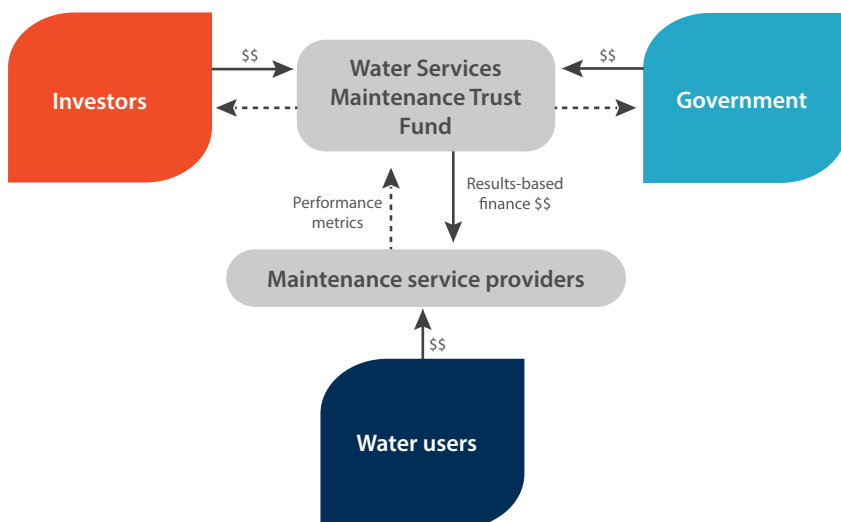
Service charges paid by communities to maintenance providers in Kenya are crowding-in government and investor finance based on performance-based metrics. Significant subsidies support urban utilities, including in OECD countries, and cost-sharing arrangements need to recognise shared responsibilities to improve services sustainably.

### Mobile payments

Communities pre-pay every month using mobile money. In Kenya, local companies use SMS-based payment management software to send payment reminders and confirmation as well as performance updates. The service is convenient, low-cost and transparent which allows oversight and targeted support based on objective information.

### Water Services Maintenance Trust Fund

A Trust Fund has been registered in Kenya for the exclusive purpose of supporting maintenance services to rural water infrastructure. Based on agreed performance targets the Trust Fund can release funds to local companies to improve or extend service delivery. Government and investors are able to support the sustainable delivery of services with access to timely and objective financial and operational data.





## Smart monitoring

This dimension illustrates recent advances in monitoring, managing and analysing data.

### Continuous monitoring

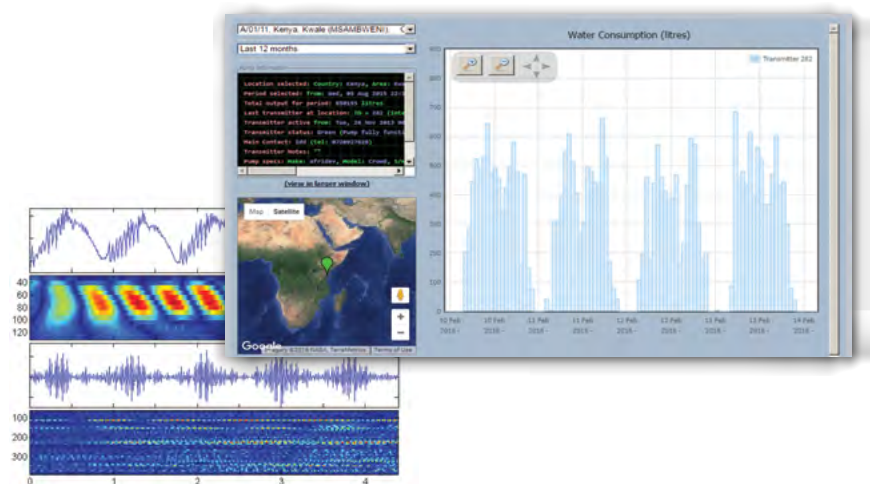
Smart meters are widely used in energy and urban water sectors to allow more effective management, monitoring and pricing. In 2012 the first 'smart handpumps' were successfully installed in Kenya providing the information base for local companies to be able to rapidly repair handpumps and monitor pump usage.

### Condition monitoring

Ongoing research by Oxford University in partnership with UNICEF is using advanced machine learning techniques to enable 'smart handpumps' to monitor their condition and flag imminent component failures prior to an actual breakdown. This could enable predictive maintenance and result in uninterrupted handpump services.

### Cloud-based computing

Monitoring systems need a flexible and responsive environment for public, investor and regulatory oversight. Cloud-based computing permits new and powerful data aggregation and analytics to provide appropriate and timely data streams to stakeholders and decision makers to drive better decisions and create better outcomes.



Basic and processed signal from a smart handpump.



## Institutional coordination

This dimension reflects the need for institutional coordination with separation of policy, regulatory and delivery functions.

## Law and policy

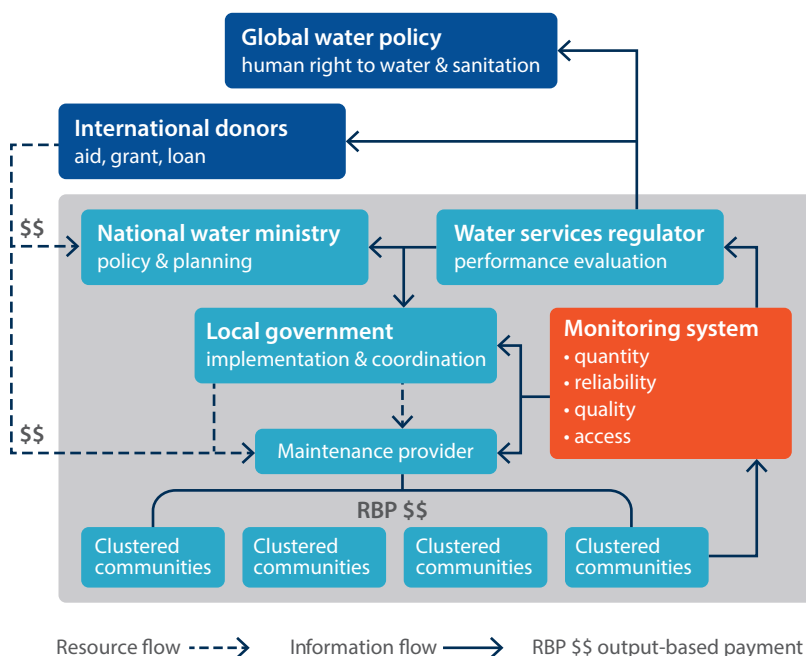
Universal, reliable and safe water services are recognised by the Human Right to Water and Sanitation, adopted in the new Sustainable Development Goals and enshrined in many constitutions, including Kenya. This provides a clear and consistent framework for planning and investment to move from building infrastructure to ensuring institutions deliver drinking water services to everyone, every day.

## Regulation

Independent and enforceable water service regulation is critical to monitor, evaluate and bench-mark the performance of maintenance service providers and water management committees. Regulation of rural water services has been a challenge due to uncoordinated infrastructure investments and a systematic data deficit. Improved monitoring platforms support regulatory reform to guide investment decisions to meet policy goals.



**National water regulator's report featuring the FundiFix model.**



**Results-based payment model for rural water services.**

## Service delivery

Institutional coordination is necessary for effective service delivery to meet policy goals. Where national or sub-national governments fail to coordinate infrastructure investments private interests may prevail over the public good. Coordinating infrastructure with institutions responsible for maintaining service delivery will increase the returns on investments.

## What's next?

The FundiFix model is working to provide a sustainable model for maintaining all water supply infrastructure for communities, schools and health facilities. The short-term goals are delivery at sub-national levels and then to support national level delivery. It's explicitly a universal and performance-based model with a focus on reaching the poor and vulnerable.

We have outstanding and ambitious collaborators from UNICEF, the Government of Kenya at the national level (MWI, WASREB) and county governments, and private sector partners, including our long term Kenyan partner, Rural Focus Ltd. Wider interest from government, private sector and NGOs has been registered across Africa and Asia.

Oxford University continues to lead research underpinning the model with advances in engineering science, politics and policy, finance and development economics providing the empirical evidence to guide our thinking and choices.



# Acknowledgements

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The FundiFix model has evolved as a collective endeavour with the following people instrumental in progress to date: Tim Foster, Susanna Goodall, Peter Harvey, Rob Hope, Adamson Katilu, Jacob Katuva, Johanna Koehler, Mike Thomas, Patrick Thomson, Andrew Trevett and the entrepreneurs in Kenya. The views expressed here are not necessarily endorsed by their respective institutes.

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unicef 

REACH

Improving water security for the poor

