Presentation from

2015 World Water Week in Stockholm

www.worldwaterweek.org

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Pump-priming payments for sustainable water services in rural Africa

Johanna Koehler, Patrick Thomson, Rob Hope
University of Oxford

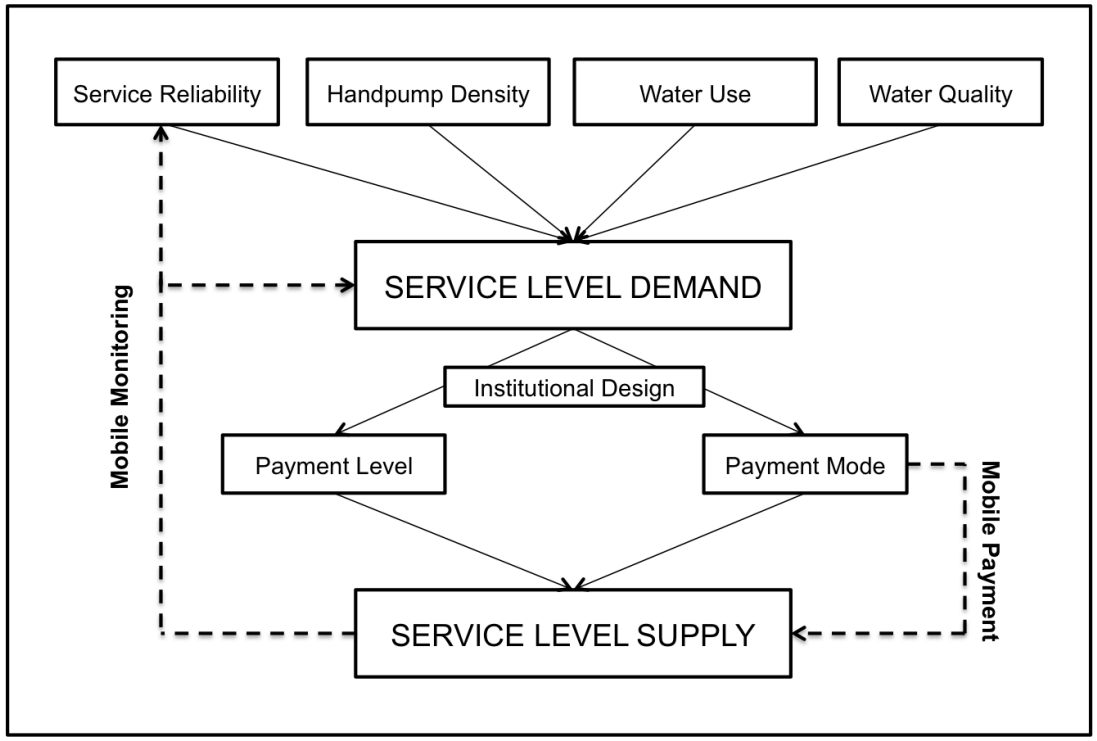
World Water Week 2015 | Workshop 2: Water as a driver for sustainable development and poverty eradication

Barriers to financial sustainability in rural water services

273m rural Africans lack improved water access

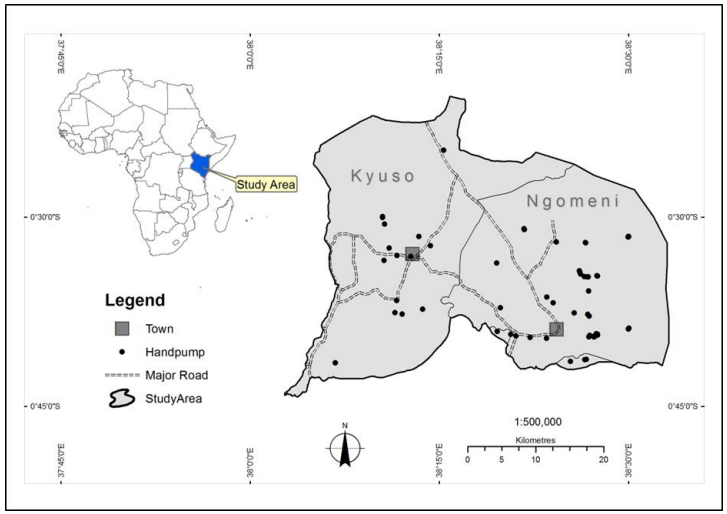
Goal 6. Ensure availability and sustainable management of water and sanitation for all
6.1. By 2030, achieve universal and equitable access to safe and affordable drinking water for all

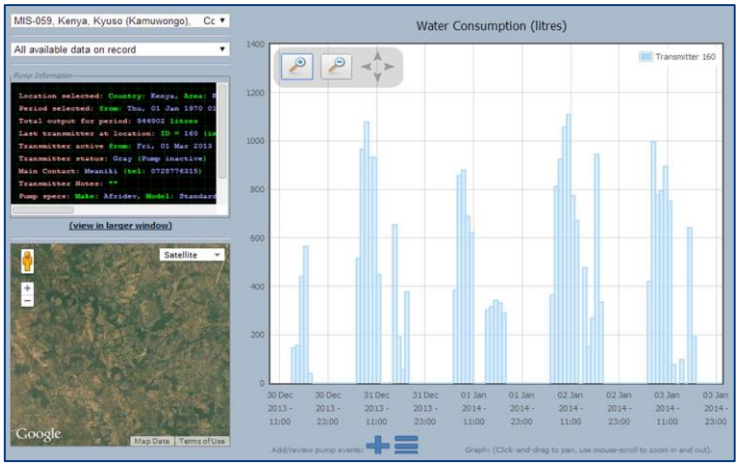
- **Operational barriers:** Delayed handpump repairs tend to discourage users from paying, as the source is considered unreliable.
- **Geographic barriers:** Handpump density can negatively impact payment behavior.
- **Institutional barriers:** The organizational structure of the user group affects fee collection.



Rural water sustainability depends on rapid, reliable and inclusive services, which can strengthen the institutional stability of user groups through aligning demand and supply and securing payment incentives for users.

User preferences for a new handpump maintenance model in Kyuso, Kenya

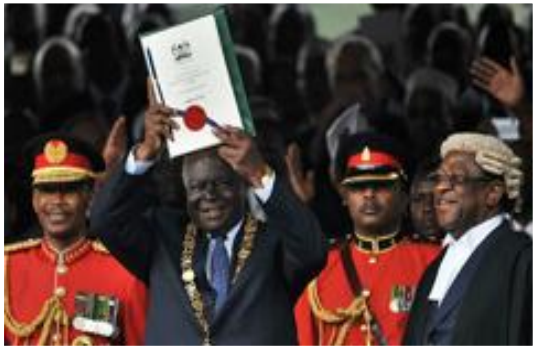




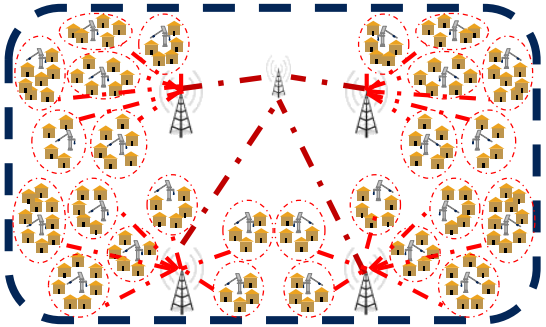
- **66 Smart Handpumps** serving 15,000 water users
- At the end of a one-year free maintenance service we explored **willingness to pay (WTP)** for this service
- **Focus Group Discussions and interviews** with 639 members over 63 field days on **WTP per user** and introduction of a new **mobile payment platform**

Maintenance service provider (MSP) model - performance-based and scalable

2010 constitution devolving water services to County

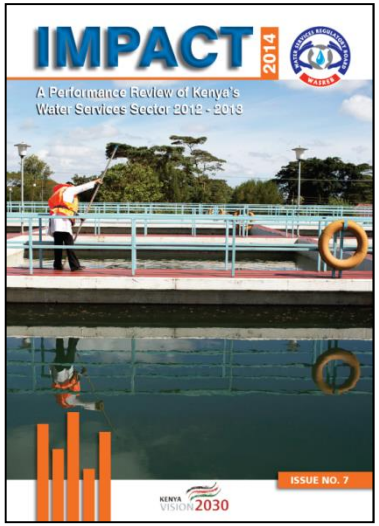


Handpumps are monitored at scale



Community support for trial and performance payments

FundiFix Ltd.
- trained, stocked, mobile



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HARAMBEE

Institutional design to align with national/county policy and water service regulation, and be replicable at scale

Payments are contingent on service delivery

Community-managed

27 days until repair

17% downtime

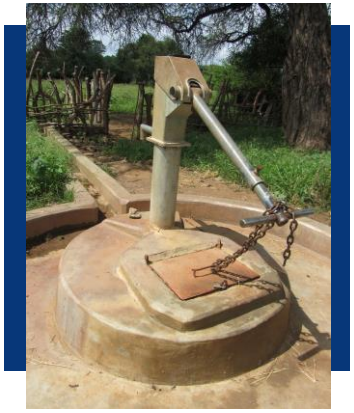
FundiFix Service

2.6 days until repair

2% downtime

Service delivery increases willing-to-pay levels

Handpumps repaired under new model (n=46)	Before			After			Increase in pre-paying handpumps	Increase in payment level
	% handpumps pre-paying		Mean household monthly payment	% handpumps to pre-pay		Mean household monthly payment		
	Yes	No		Yes	No			
	29%	71%	USD 0.2	91%	9%	USD 1	**318%**	**500%**

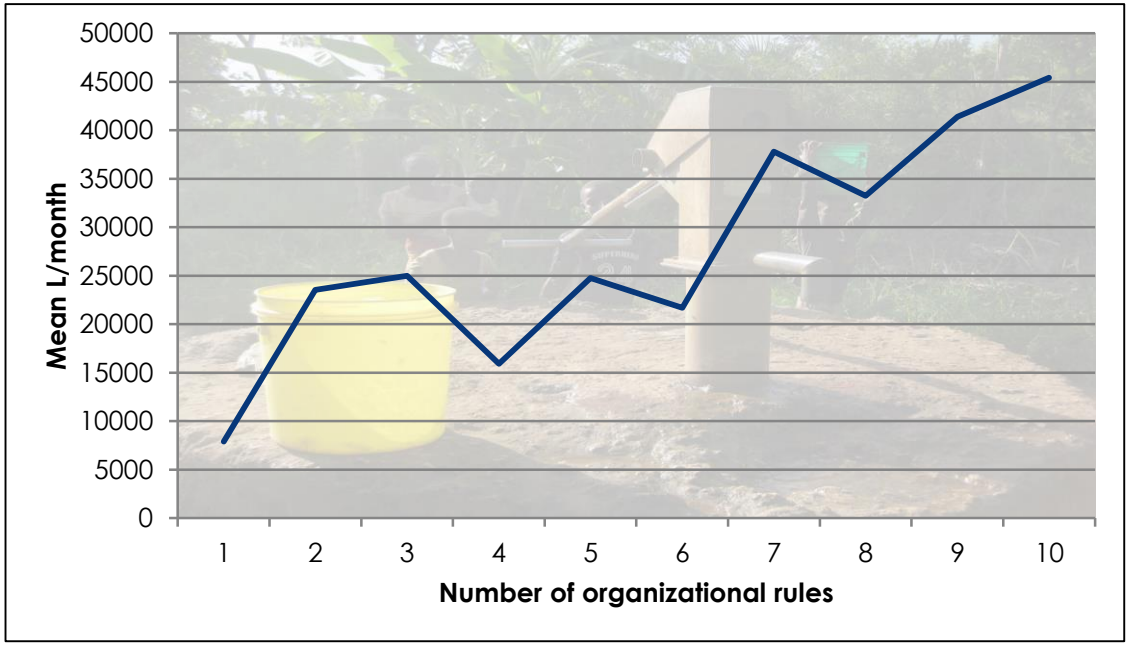


Community handpumps – pumps for all?

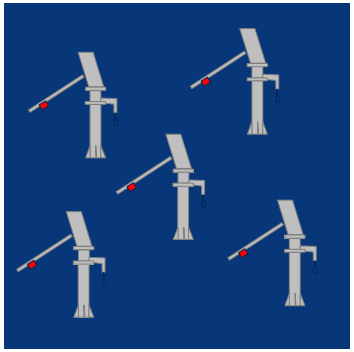
Factors determining institutional design and fee collection

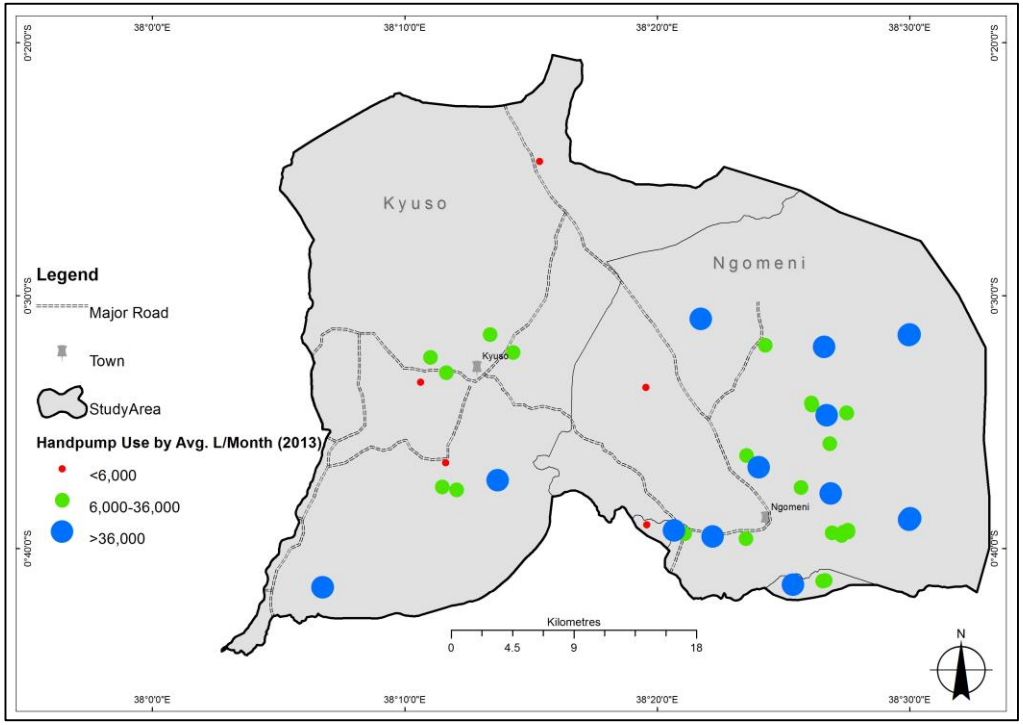
- **Financial:** membership fee, regular payments, non-member payments, fines.
- **Social:** labour contributions, regular meetings, usage rules.
- **Physical:** lock, fence, attendant.

Almost half of the handpumps had self-organised into **membership clubs** and choose a **semi-privatised** model with a tighter payment structure.



The legacy of clustering handpumps





Handpump usage by average liters per month, 2013

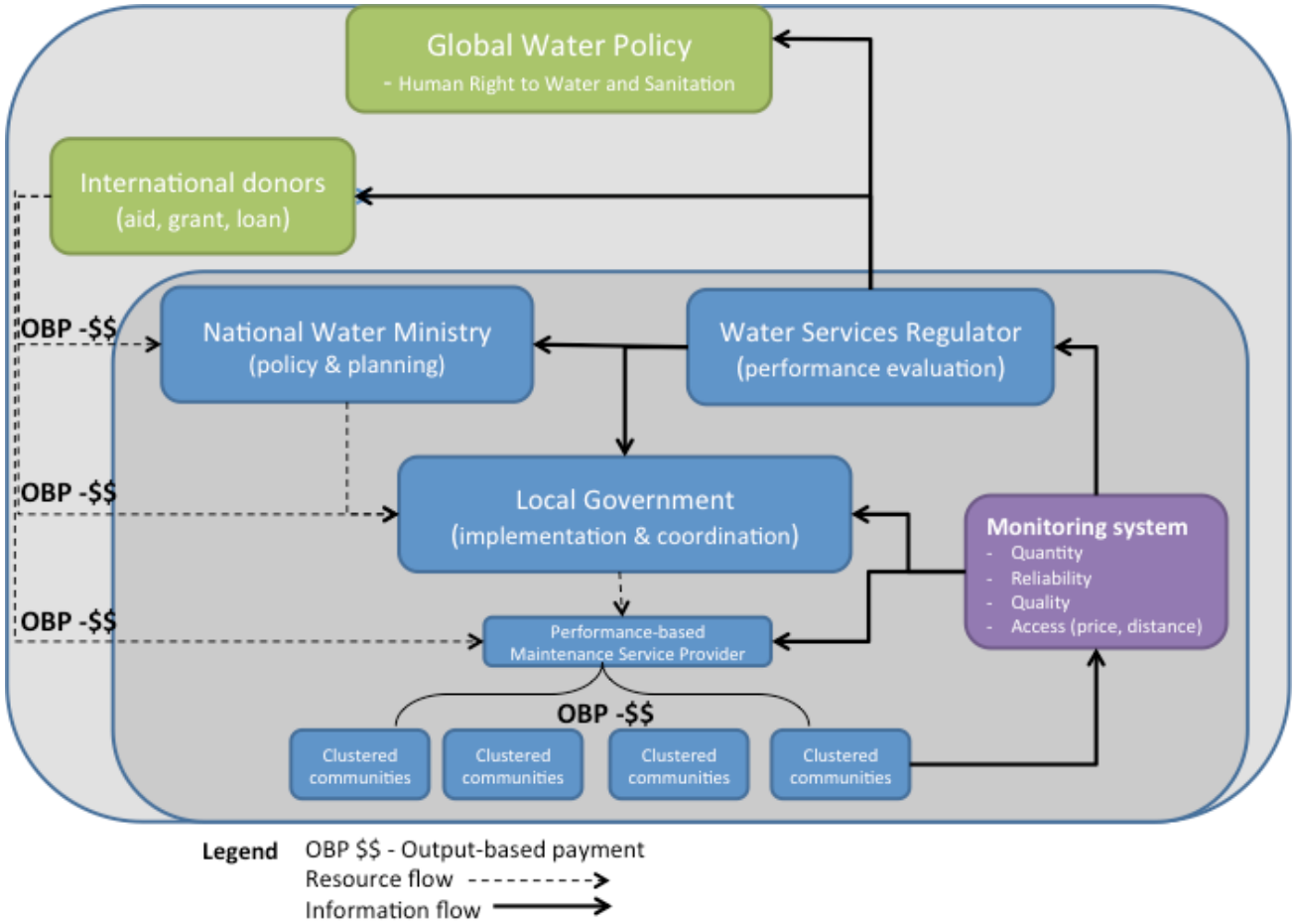
- **Single** pumps have **47% higher WTP** levels than **clusters.**
- **Clustering** handpumps is not only an **inefficient** use of resource but also **reduces** financial sustainability**.**

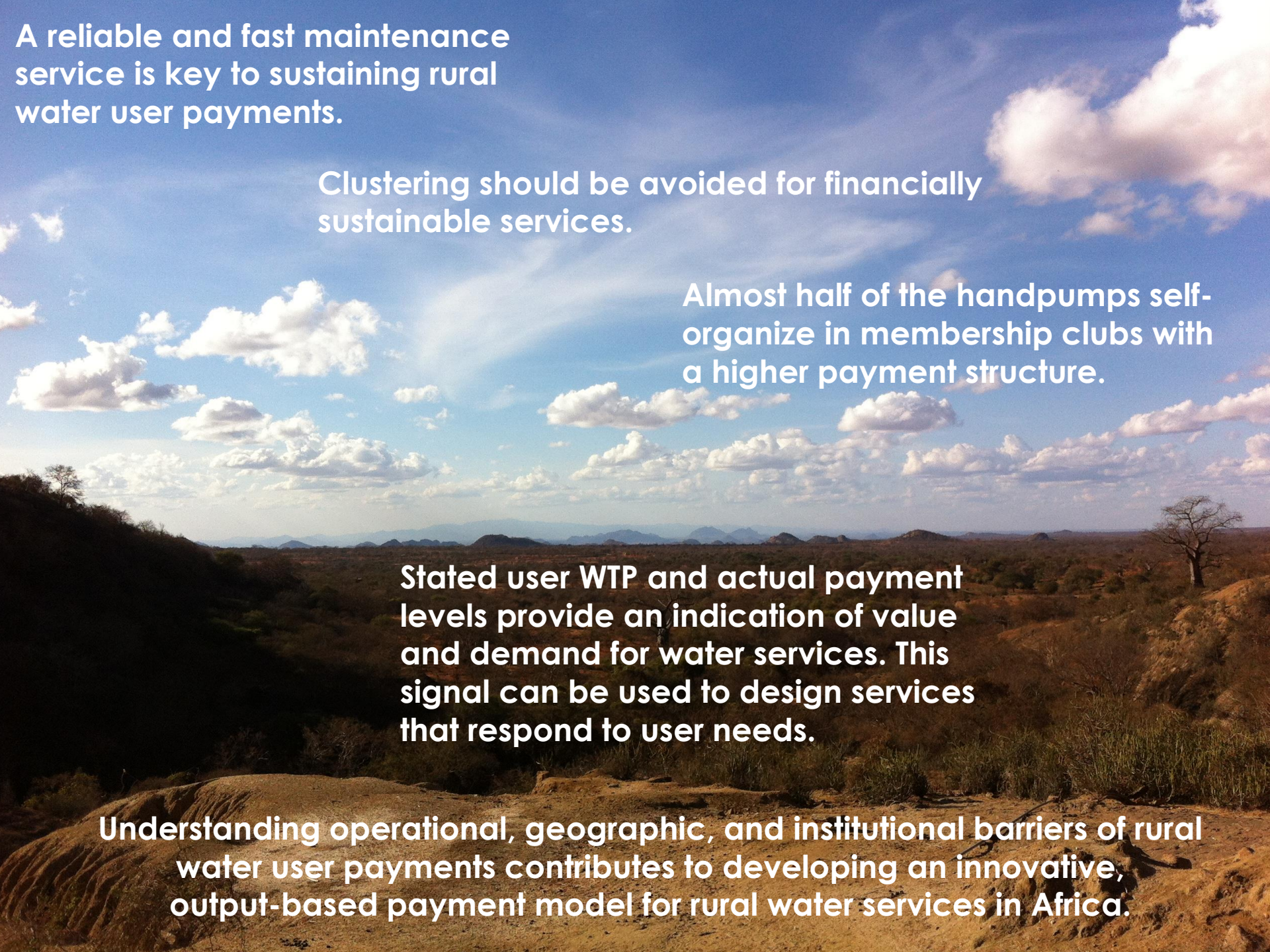
We need to balance demand-led approaches with **verifiable metrics** on usage and need to achieve universal and equitable access.

Output-based payment model of rural water services

- Payments by Results with performance metrics from 'smart handpumps'
- Depends on significant investment in water sector coordination

Mobile monitoring and **payments** have the potential to **improve institutional oversight** for a devolving water sector and **align it with national and international goals**.




A reliable and fast maintenance service is key to sustaining rural water user payments.
Clustering should be avoided for financially sustainable services.
Almost half of the handpumps self-organize in membership clubs with a higher payment structure.
Stated user WTP and actual payment levels provide an indication of value and demand for water services. This signal can be used to design services that respond to user needs.
Understanding operational, geographic, and institutional barriers of rural water user payments contributes to developing an innovative, output-based payment model for rural water services in Africa.

Questions and further information

Thursday, 14:00-15:30,
Room FH 307
(Re)thinking governance
Johanna Koehler, Oxford
Can decentralisation improve water security and promote equitable post-2015 development?

Presentation based on:

Koehler et al. (2015) Pump-Priming Payments for Sustainable Water Services in Rural Africa. *World Development,* Vol. 74, pp. 397–411.

Further publications:

Oxford/RFL (2015) Financial Sustainability for Rural Water Services – evidence from Kyuso, Kenya. SSEE Water Programme, *Working Paper 2*, Oxford University, UK.

Hope, R.A (2014) Is Community Water Management the Community's Choice? Implications for Water and Development Policy in Africa. *Water Policy*, 1-15.

Oxford/RFL (2014) From Rights to Results for Rural Water Services – evidence from Kyuso, Kenya. SSEE Water Programme, *Working Paper 1*, Oxford University, UK.

Thomson et al., (2012) GSM-enabled monitored of rural handpumps – a proof-of-concept study. *Journal of Hydroinformatics*, 14(4): 29-39.

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