# Advancing the right to water and the 'right to know' through telemetry innovation in South Africa

Andrew Swan & Nathan Cooper



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- The right to water and the ‘right to know’

- The current reality of water access

- The potential of SALT (sustainable alternative low-cost telemetry) technology to help realize these rights more fully

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# Why South Africa?

- Comprehensive Constitution – relevant rights

- Developing World problems
- Broader application

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# The Right to Water

**Constitution of the Republic of South Africa**
**Section 27(1)(b) :**

(1) Everyone has the right to have access to –[…]

(b) *sufficient* food and *water*

(2) The state must take reasonable legislative and other measures, within its *available resources*, to achieve the *progressive realization* of each of these rights.

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# Access To Information
# ‘the right to know’

**Section 32: Access to information.**-(1) Everyone has the right of access to-

(a) any information held by the State; and
(b) any information that is held by another person and that is required for the exercise or protection of any rights.

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# The Reality

More than 10% of South African Households do not have access to piped water.

The situation is not universal: Less than three-quarters (74.8%) of households in the Eastern Cape have access to piped water.

A third of users dissatisfied with water quality.

27.3% of households in KwaZulu-Natal felt that their water was unsafe to drink.

*General Household Survey, 2012*

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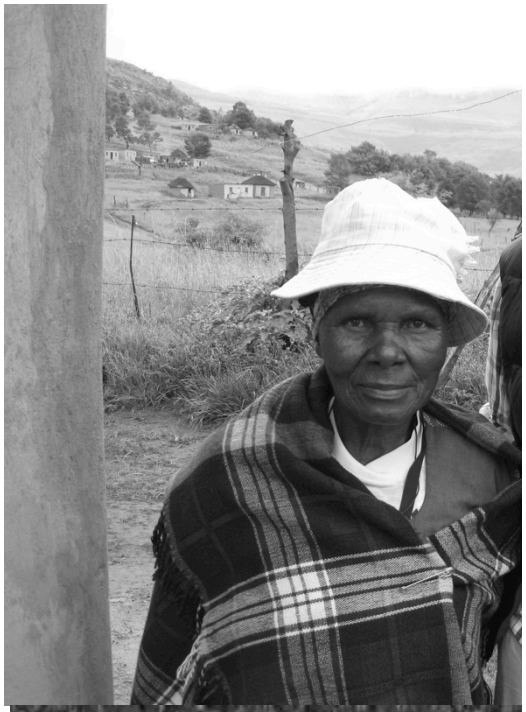
# The Reality

*"When it rains we collect the water from the roof. It's better than carrying it from the river [200 metres away]. The rain water can be rusty, from the roof, but we put extra Flash [bleach] in it. So it's ok. It doesn't taste nice when I make tea…*
*If it hasn't rained, I get one of the children to go to the river for us. We still have to put Flash in the water, because the cows shit in it. If not, I get the runs"*

'Gremmah' Mbongwa, Okhombe settlement
near Bergville Kwa-Zulu Natal.



*We get water from a standpipe, here. I used to get it to my house, but they [Durban Municipality] sawed it off"*
*"I don't know who supplies [the water]. I don't care, as long as we've got enough… The boys came to connect it again, but it's not worth it. So I just queue up… Sometimes no water comes through. But most of the time you get enough. But it takes a long time and I have to make two journeys if I want two buckets [20 litres each] and there are others waiting"*

'Nombuso' Burlington Township, Durban

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# Telemetry for water pumps in Africa
# Basic Rationale

- It is considered that:
  - ***Rapid growth*** *in cell phone network coverage and*
  - *the* ***emergence of simple low cost*** *telemetry devices*

has created a range of new opportunities for remote monitoring in many developing regions.

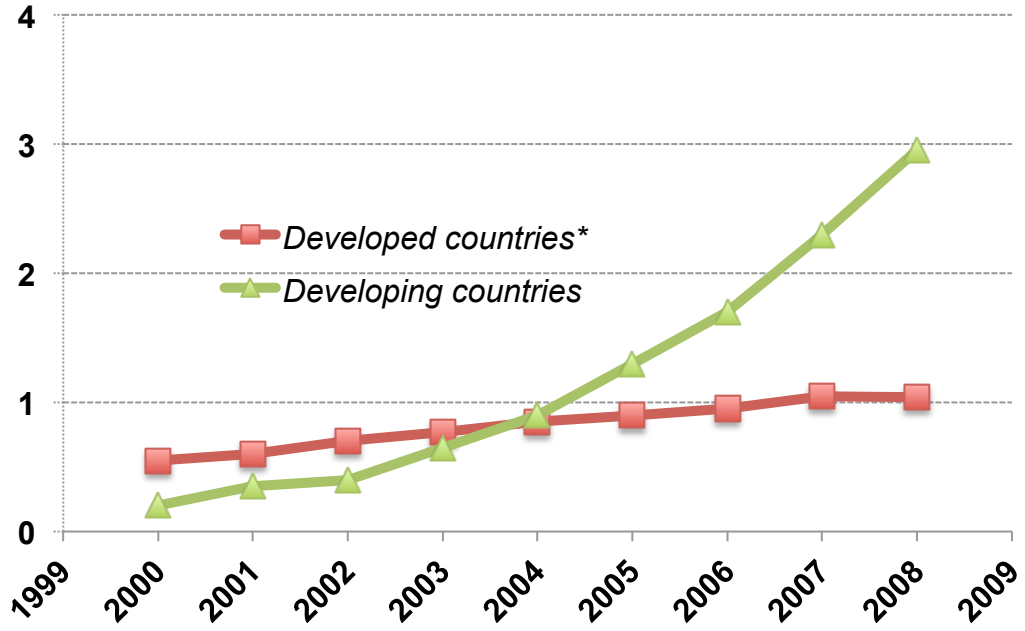


**Fig. 1.** Mobile phone subscriptions (billions) 2000-08 in both Developed and Developing countries (adapted from Oxfam, 2009)

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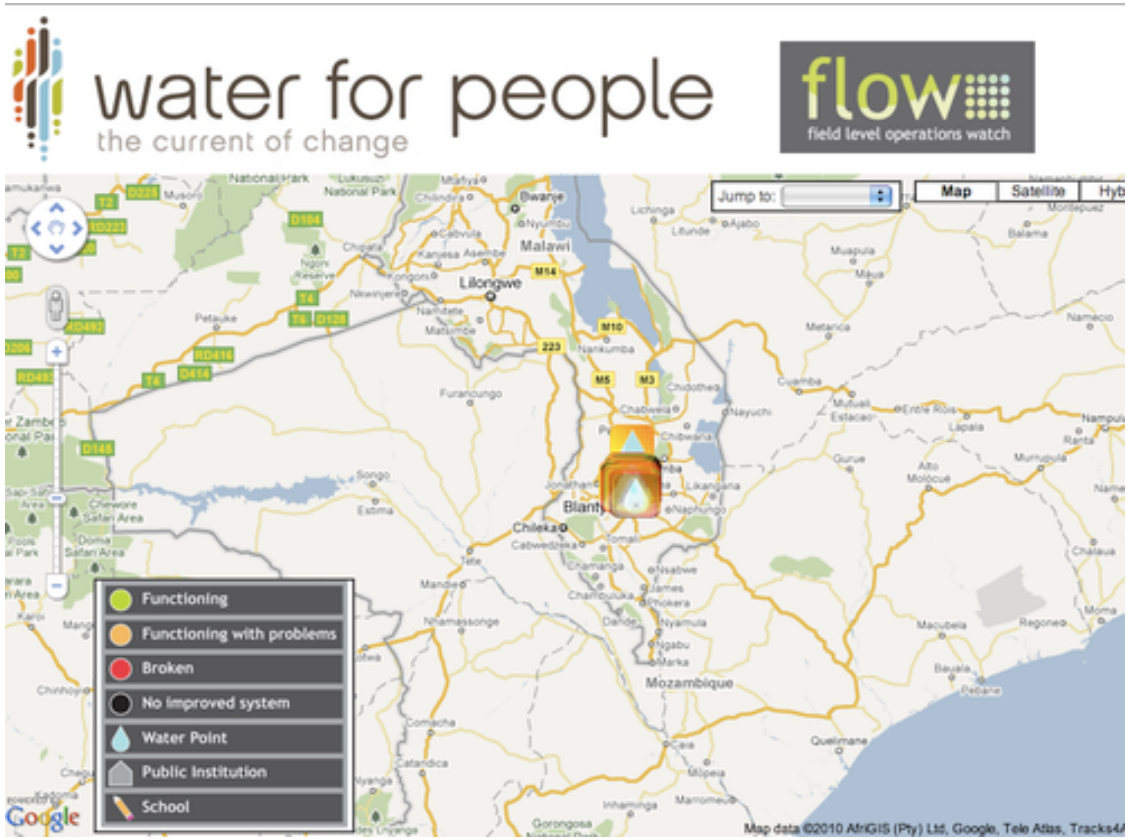
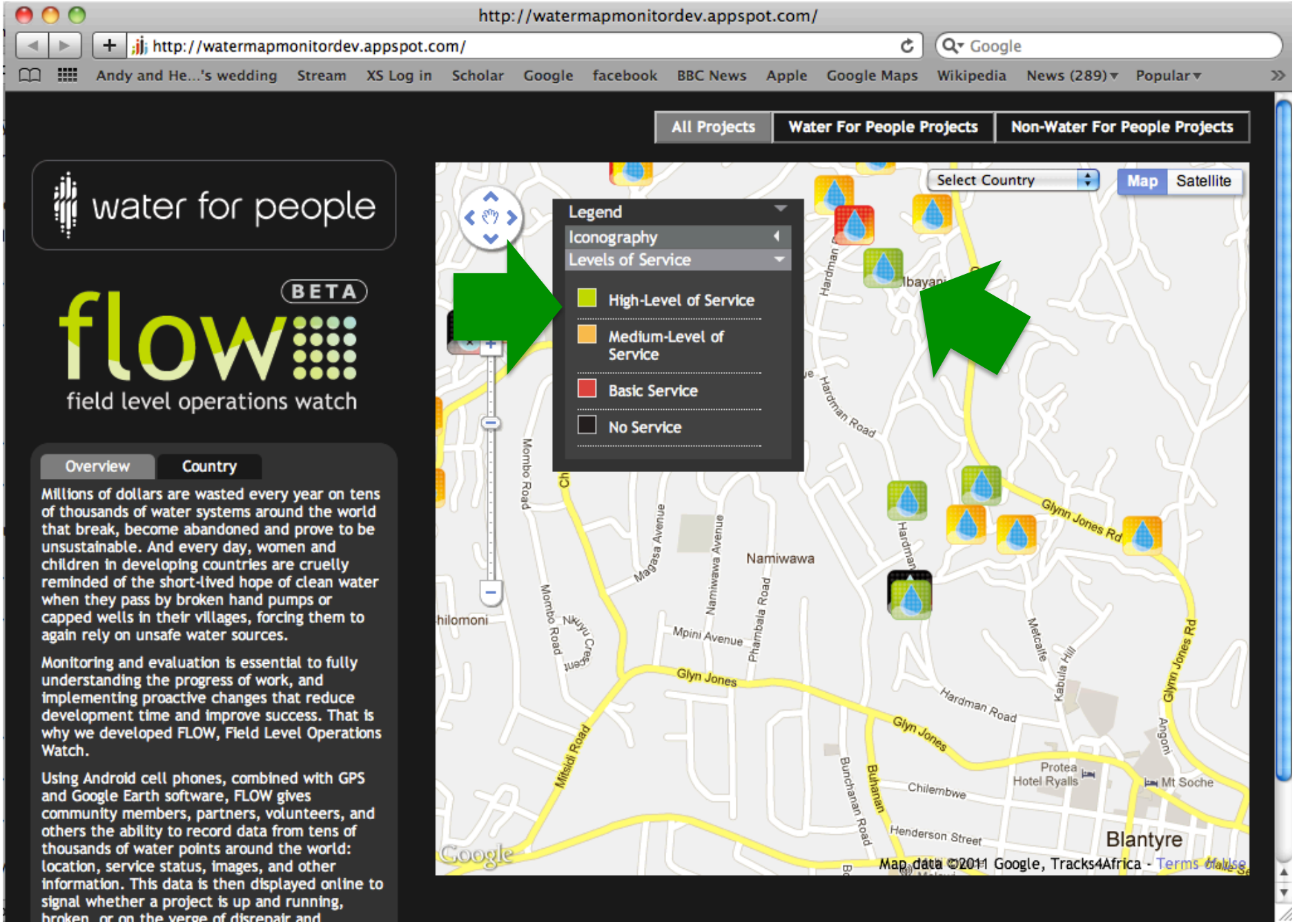
# FLOW ‘performance monitoring’ tool

- **Water for People** introduced the **FLOW (‘Field Level Operations Watch’)** tool to improve their post-construction monitoring of water and sanitation projects






Results website: http: watermapmonitordev.appspot.com/

# SALT Technology

## sustainable alternative low-cost telemetry

Must be cheap, robust, simple, secure & not reliant on mains electricity

- Monitors performance of pump automatically
- Sends data on performance via SMS… *to who?*

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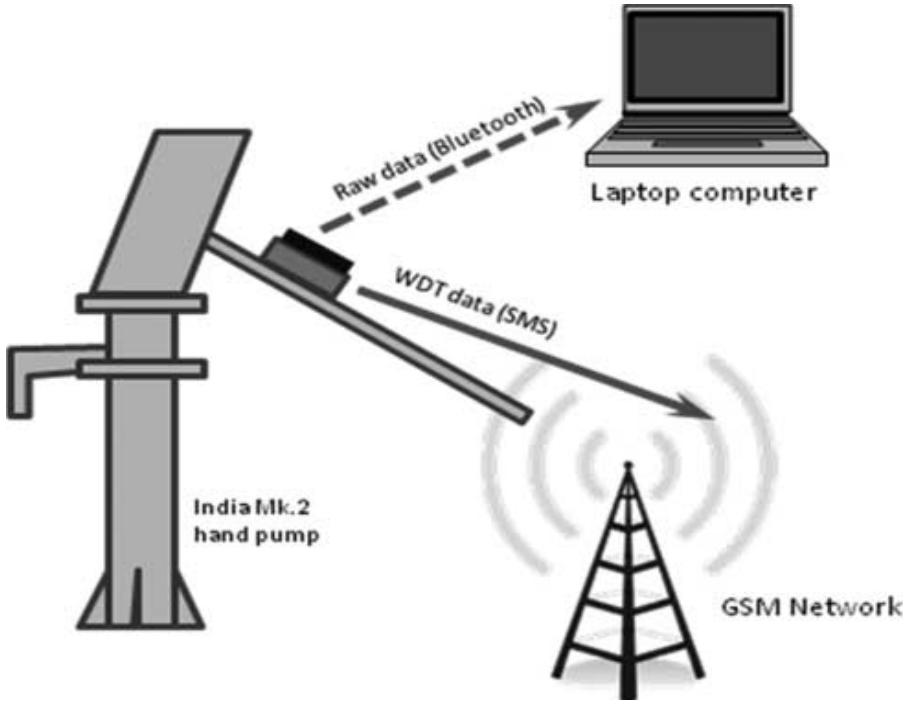
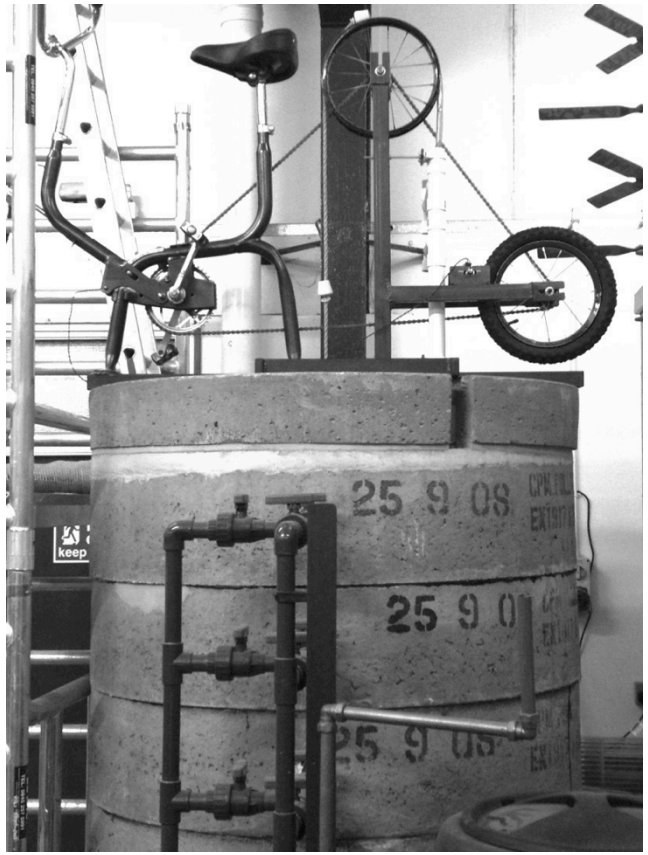


# Who *could* access the information?

- Local Municipality
- **Key stakeholders** (NGOs, local community, wider society, media, UN!)
- Access to this information has the potential to democratise the right to water by increasing awareness, accountability and action – **the 'right to know' helping to realize the right to water**

# Present position
## Lab testing

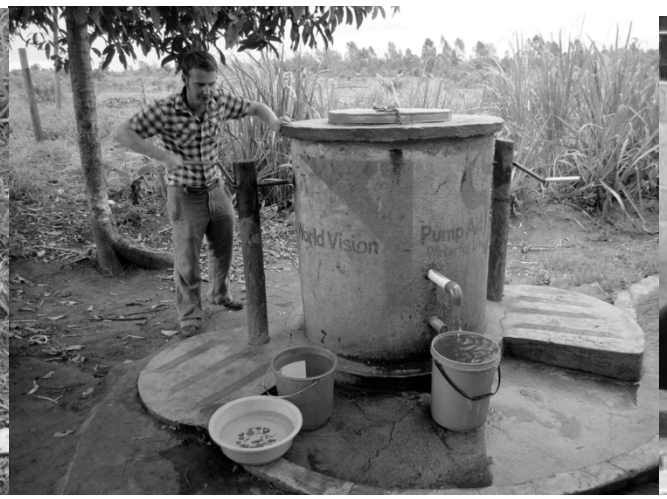
- Initial lab work is complete
- Parts are costed
- field-testing trials to evaluate prototype device have begun in Malawi



# Next steps

- Aiming to launch pilot scheme with public participation in South Africa in 2014

- Looking for collaborative research partners and funding




# Research collaborators so far

- Collaborative grant applications…
  IRSES
  (International Researcher
  Staff Exchange Scheme)







We would welcome input and collaboration from other interested parties

# Andrew Swan

Senior Lecturer in Civil Engineering

**a.d.swan@leedsmet.ac.uk**

# Nathan Cooper

Lecturer in Law

**nacooper@lincoln.ac.uk**