

Smart Water Systems

Tuesday 7th December 2010

Lusaka, Zambia

RURAL FOCUS LTD.



Challenges and prospects of water management in Zambia



700 boreholes sunk

Government has this year sunk over seven hundred bore holes countrywide.

Local Government and Housing Minister, BRIAN CHITUWO says in the 2010 national budget, government had budgeted for the sinking of one thousand boreholes countrywide.

Dr. CHITUWO said in a ministerial statement to parliament friday that more boreholes are currently being sunk in Zambezi, Chavuma, Mpongwe, Masaiti and Lufwanyama districts.

He said other boreholes are being sunk in Kafue, Namwala, Chongwe, Kalomo and Itezhi tezhi districts.

Dr. CHITUWO also said next year, government targets to sink a minimum of two thousand boreholes.

Ends

14:51 Hrs sat 06/11/2010

SOUTHERN AFRICA

Shortages a Boon to Lusaka

Africa Energy Intelligence has learned that a delegation from Agence Francaise de Developpement will be in Zambia next month to examine the idea of AFD taking part in funding the 120 MW Itezhi-Tezhi dam on the Kafue river. (...) [230 words] [46]

Call for action over private wells in Africa

Tuesday, 16 November 2010 07:45

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By David Fox



1. Women fetch water from a borehole.

London. Academics may call it "self-supply of ground water"; those who benefit from it are more likely to refer to "having their own well". Either way, it is a crucial part of the water supply to cities in the developing world, and one which is almost entirely absent from official statistics.

Now a new study from the International Institute for Environment and Development (IIED) urges that much more attention should be paid to these wells, on which, it estimates, something like a third of all urban dwellers in Africa, and South and Southeast Asia depend for their water.

"The policy trend is to promote the use of piped water, but as our research shows, large proportions of urban populations are not served and must supply themselves with groundwater from wells," says the report's co-author Jenny Grönwall.

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President Banda Pledges More Investment for Zambia's Farmers

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LUSAKA, Zambia, November 24, 2010 /PRNewswire/ -- His Excellency, Mr. Rupiah Banda, President of the Republic of Zambia, yesterday launched the 2010/2011 agricultural planting season- promising to make more funds available to help Zambia's farmers.

At the official opening ceremony at Mweetwa Farm in Mumbwa District, President Banda reflected on this year's biggest ever harvest, which saw 2.78 million tonnes of maize produced - a surplus of more than 1 million tonnes.

In recognition of the huge efforts by Zambia's farmers to make this agricultural season the most successful in Zambia's history, President Banda pledged an increased budgetary allocation in the agriculture sector and the provision of K37 billion to build dams for irrigation and water supply to livestock.

To reap the maximum benefit of this commitment the President emphasised the importance of exploring and investing in agricultural technologies which will not only improve productivity but also help preserve the country's fragile environment.

Challenges and prospects of water management in Zambia

Kafue Flats a model wetland

Stakeholders unite to keep fragile area 'green'

Nov 21, 2010 12:00 AM | By LEWIS MWANANGOMBE

Dams, sugar cane plantations and rapidly growing population threatened the health of the Kafue Flats, a richly diverse wetlands in southern Zambia. But growing recognition of more sustainable use of its water and fertile soil are securing the health of the ecosystem.

Chingola Taps Still Dry

The Times of Zambia (Ndola)
November 2, 2010

Chingola is still without water following the pollution of Kafue River by mining effluent which prompted the water utility firm to shut down its water plant.

And Government has asked Konkola Copper Mines (KCM) to assist Mulonga Water and Sewerage Company (MWSC) to put in measures to ensure supply of clean water to the district while the pollution problem is being sorted out.

Meanwhile, KCM has confirmed that there was a leak in one of its old-age preg tanks at the tailings leach plant (TLP) at Nchanga, into the Kafue River but that immediate steps were taken to correct the situation by taking the suspect leach solution tank off-line and adding lime to neutralise the acid and spillage.

MWSC managing director Manuel Mutale said the water in-take and treatment plant was still shut due to high conductivity levels in the raw water.

He said with mineral particles in water, treating of water was extremely expensive thereby creating difficult for the water utility firm to meet the NWASCO water quality standard.

Zambia KCM Says Pollution In Kafue River Contained

DOW JONES NEWSWIRES

Zambia's largest copper miner by output, Konkola Copper Mines, announced Tuesday that an investigating team had found all the analyses on water quality in the polluted Kafue River had returned to normal, paving way for the resumption of normal water supply to thousands of households on the Copperbelt province.

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Africa Needs Innovative Sources Funding for Water and Sanitation, Says AfDB

MONDAY, 22 NOVEMBER 2010 08:48 NEWBUSINESSETHIOPIA.COM

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BY NEW BUSINESS ETHIOPIA REPORTER

Africa needs to introduce innovative sources of funding to meet its water infrastructure needs, which range from 45 - 60 billion US dollars per annum, the African Development Bank (AfDB) says.

An estimated 45 - 60 billion US dollars is required annually to meet Africa's water infrastructure requirements, of which drinking water supply and sanitation represents some 11 billion US dollars, the bank noted in a press statement newbusinessethiopia.com received.



Africa leads the way in the mobile money revolution

Forbes

PERSONAL FINANCE

Names You Need To Know in 2011: Mobile Money

Nov. 16 2010 - 5:52 pm | 959 views | 0 recommendations | 7 comments

Mobile Money. Mobile Commerce. It's so new it's too early to say what name will ultimately stick, but over the next year we're going to be hearing a lot more about our ability to zap funds between one-another without the shackles of coins, paper bills, plastic cards or checks.



Image via CrunchBase

Mobile banking revolution gathers pace, opens new frontier for profits

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Money transfer. Mobile cash transfers now stand at an average \$3 billion a day. File

By Robin Okoth (email the author)
Posted Thursday, November 18 2010 at 19:17

Kenya has been the birthplace of a banking revolution: with 65 per cent of mobile phone users now interested in adopting mobile banking services over traditional banking, according to a global survey last month by Netherlands technology firm Fundtech and research firm Aite

Africa now has 506 million mobile subscribers

10.11.2010

Categories: [Mobile](#), [Communications](#), [Mobility](#), [Wireless Communications](#)

Tags: [Mobile Phones](#), [Mobile Broadband](#), [Africa](#)

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Africa is shaping up to be the next hotbed of mobile innovation after it emerged the number of active mobile subscribers on the continent has crossed the half a billion mark.

At the end of September, Africa reached 506 million mobile subscribers, according to Informa Telecoms & Media.

At the end of the third quarter, Africa accounted for 10pc of the world's mobile subscriptions and was one of the world's fastest-growing regions – with the subscription numbers increasing 18pc over the year to September – as a result of the still low mobile penetration rate on the continent, as well as demand for new services, such as mobile internet access, that increase the need for telecoms connectivity.



Mobile's next frontier – Africa has breached the half a billion mobile subscriber mark, don't be surprised to see some of the next major innovations in wireless to emerge from this region

Africa leads the way in the mobile money revolution

Orange expects rapid growth from mobile money in Africa

Published: Wednesday 10 November 2010

Region: [Middle East & Africa](#)

Tags: [Orange](#) [France Telecom](#)

Orange announced the expansion into Kenya of its mobile money service which the operator says is on target to reach 1 million customers across Africa by the end of November. The France Telecom-owned operator aims to have 2 million African customers of Orange Money by next summer, according to Marc Rennard, the operator's executive director for Africa, Middle East and Asia Pacific, notes *Dow Jones Newswires*. The service is now available in six countries, following its debut in the Ivory Coast in December 2008. The Kenyan launch is in partnership with the Equity Bank Group, and the two partners are considering launching the service together in other East African countries. Mobile money services enable customers to carry out simple banking transactions via their mobile phones.

M-Pesa boosts war against poverty

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File | NATION The World Bank has praised M-Pesa saying it is an ideal story of why it pays to invest in the poor. The service provides a low-cost money transfer and savings service.

By Paul Redfern, Nation Correspondent, LondonPosted Monday, November 22 2010 at 22:00

IN SUMMARY

- 'Africa has a culture of saving but people often do not have the mechanisms to save'

The M-Pesa network is a model for taking banking services to the grassroots, the World Bank has said.

The managing director, Ms Ngozi Okonjo-Iweala, said M-Pesa is the ideal story of why it pays to invest in the poor.



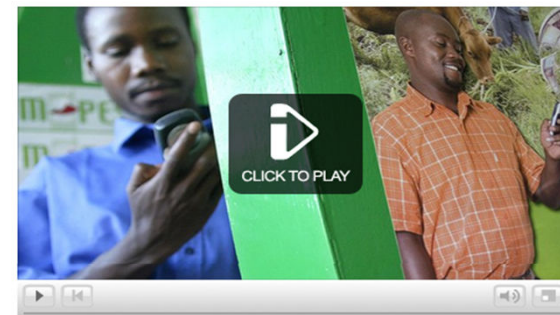
22 November 2010 Last updated at 08:55



M-Pesa: Kenya's mobile wallet revolution

By Fiona Graham

Technology of business reporter, BBC News



Why has the developed world been so slow to adopt the mobile wallet?

Think of the developing world, and the first thing that springs to

Zambia Stanchart roll-out mobile payment system



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Published on November 30, 2010 by admin · View Comments

By NKOLE CHITALA

STANDARD Chartered Bank (Stanchart) Zambia has started rolling out utility payment bills on its mobile banking system with Nkana Water and Sewerage Company and Lusaka Water and Sewerage Company.

Stanchart distribution general manager Sonny Zulu said the roll-out will enable the bank's customers to settle their utility bills with the two utility firms through their mobile phones. Mr Zulu said in a statement in Lusaka on November 29 that the service will be available 24 hours a day and throughout the week.

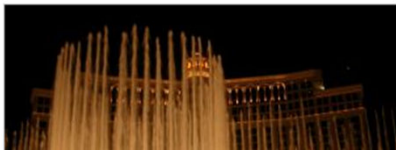
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Global growth of smart water metering technology

In future, water also must be smart

Published Friday, 12th November 2010



For now, the focus in smart metering is mostly on electricity, though dual electric-gas smart meters have already made their way into some households across Europe and the US. Smart metering, though, will eventually train the spotlight on consumption habits for yet another precious resource: water.

EE Times Home > News and Analysis

News & Analysis

Smart grid for water turns tap on innovation

Rick Merritt

11/10/2010 5:38 PM EST

Like the electric grid, many of today's water utilities are still using 19th century technologies. That's attracting a rising number of entrepreneurs to what is one of clean tech's newest and perhaps most critical sectors.

Some observers see a looming crisis as consumption of the planet's limited fresh-water resources continues to rise. Sensor networks and other electronics could be leveraged to rebuild an aging and inefficient infrastructure while accelerating the move to seawater and waste water reclamation, they say.

The Economist

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A special report on smart systems

Making every drop count

Utilities are getting wise to smart meters and grids

Nov 4th 2010

LONDON'S streets can be a bit of a maze, but below ground things are even more complex. Water pipes crisscross the city in all directions. Some areas used to have competing water companies, each of which built its own system. Not even Thames Water, the utility that operates the British capital's water-supply network today, knows exactly where all the pipes run.

Moreover, the network is ageing. Only a few years ago more than half of the 10,000 miles (16,000km) of water pipes below the streets of London were over a hundred years old and often burst. It did not help that over many years Thames Water, which was privatised in 1989, failed to invest enough. By the mid-2000s London had one of the leakiest water-supply systems in the rich world. Every day nearly 900m litres of treated water were lost and 240 leaks had to be fixed.

Global growth of smart water metering technology

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Smart meter roll-out picking up momentum by Francesca Vella

The smart meter roll-out, which began with a pilot deployment in May last year, is gathering steam, and about 4,500 meters are now being installed every month, according to Enemalta Corporation.

City-wide meter replacement project nears completion

Thursday, November 18, 2010 7:55 PM

(Source: The Garden City Telegram) By Shajia Ahmad, The Garden City Telegram, Kan.

Nov. 18--An ongoing city-wide project to replace electric and water meters for digital versions should be fully completed by mid-December, city officials said.

The \$3.4 million bond-funded project approved by city commissioners in May allows for more accurate meter reads and likely will pay for itself over the next decade in [savings](#), city officials have said.

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TNN(oc-meter.tim)cleared Hi-tech water meters in buildings soon

TNN, Dec 3, 2010, 01.23am IST

Disruptive technologies and developmental impacts

“Mobile telephony... can contribute meaningfully to every single MDG. The gains are breathtaking in promoting livelihoods, improved health, better schools, and other areas.”

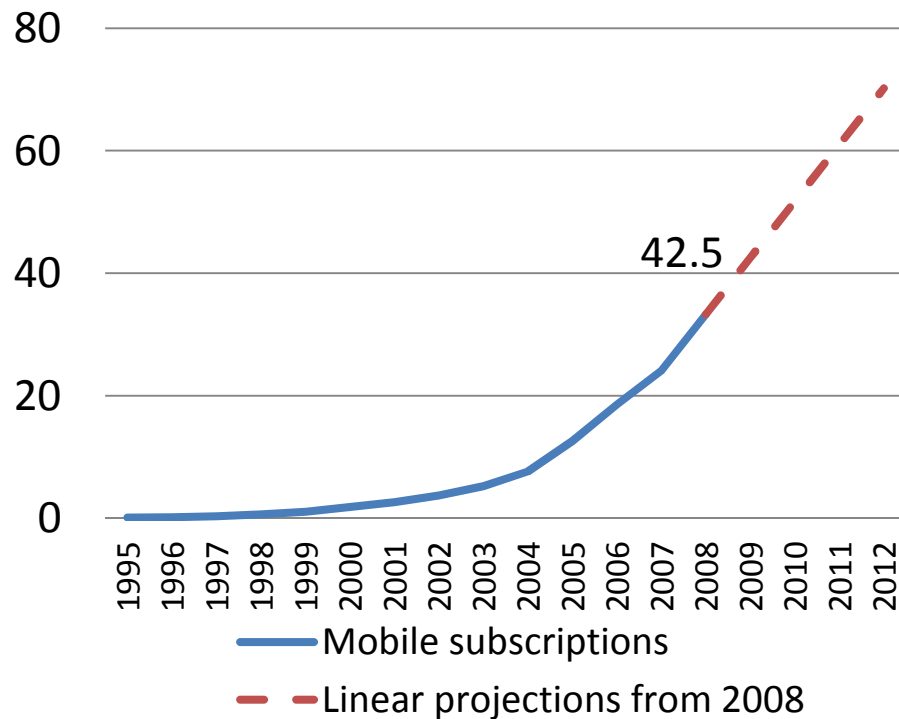
- Prof Jeffrey Sachs, special adviser to the UN Secretary General on the MDGs

“New technology-based solutions that did not exist when the [Millennium Development] goals were endorsed can and should be leveraged to allow for rapid scaling up. The most important of these technologies involve use of mobile telephones, broadband internet and other information and communication technologies”

- UN Secretary General Ban Ki Moon

Mobile money is leapfrogging traditional modes of banking in Sub-Saharan Africa

Mobile phone subscribers in SSA
(per 100 people): 1995-2008



In comparison, there are only 16.3 bank accounts per 100 adults in Sub-Saharan Africa

Rapid expansion of mobile banking services in Sub-Saharan Africa: 2007-2011

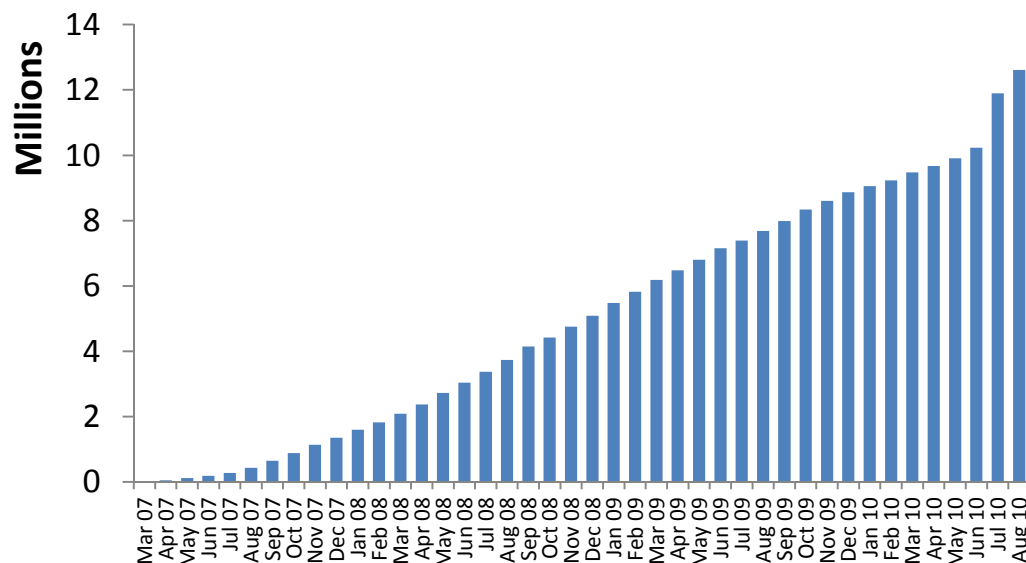


M-PESA in Kenya is the iconic success story

13 million users in just three and a half years



M-PESA users: Mar 2007-Aug 2010



By 2009, ~40% of Kenyans used M-PESA compared to 19% who had bank accounts

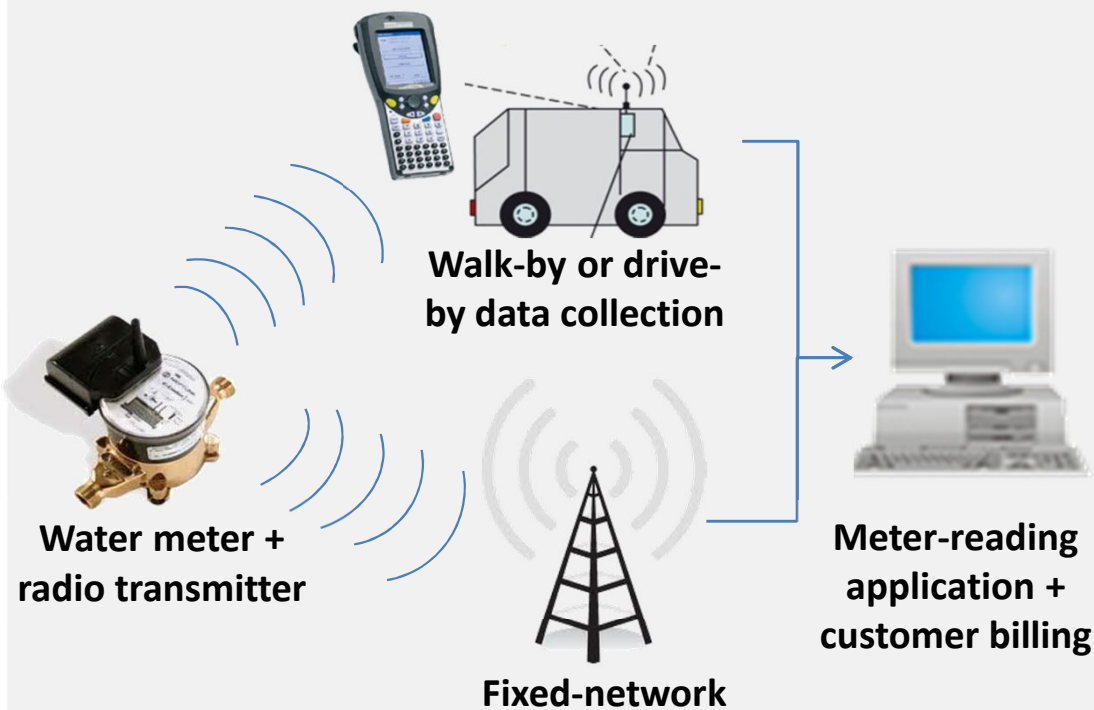
M-PESA success inspired a range of other mobile banking products

MPESA can now be used to pay water bills for metered customers in Eldoret, Kisumu, Nairobi and Nakuru

Now over 70% of households in Kenya and over 50% of the poor, unbanked and rural populations use M-PESA

Potential benefits of smart water metering

Typical AMR/AMI configuration

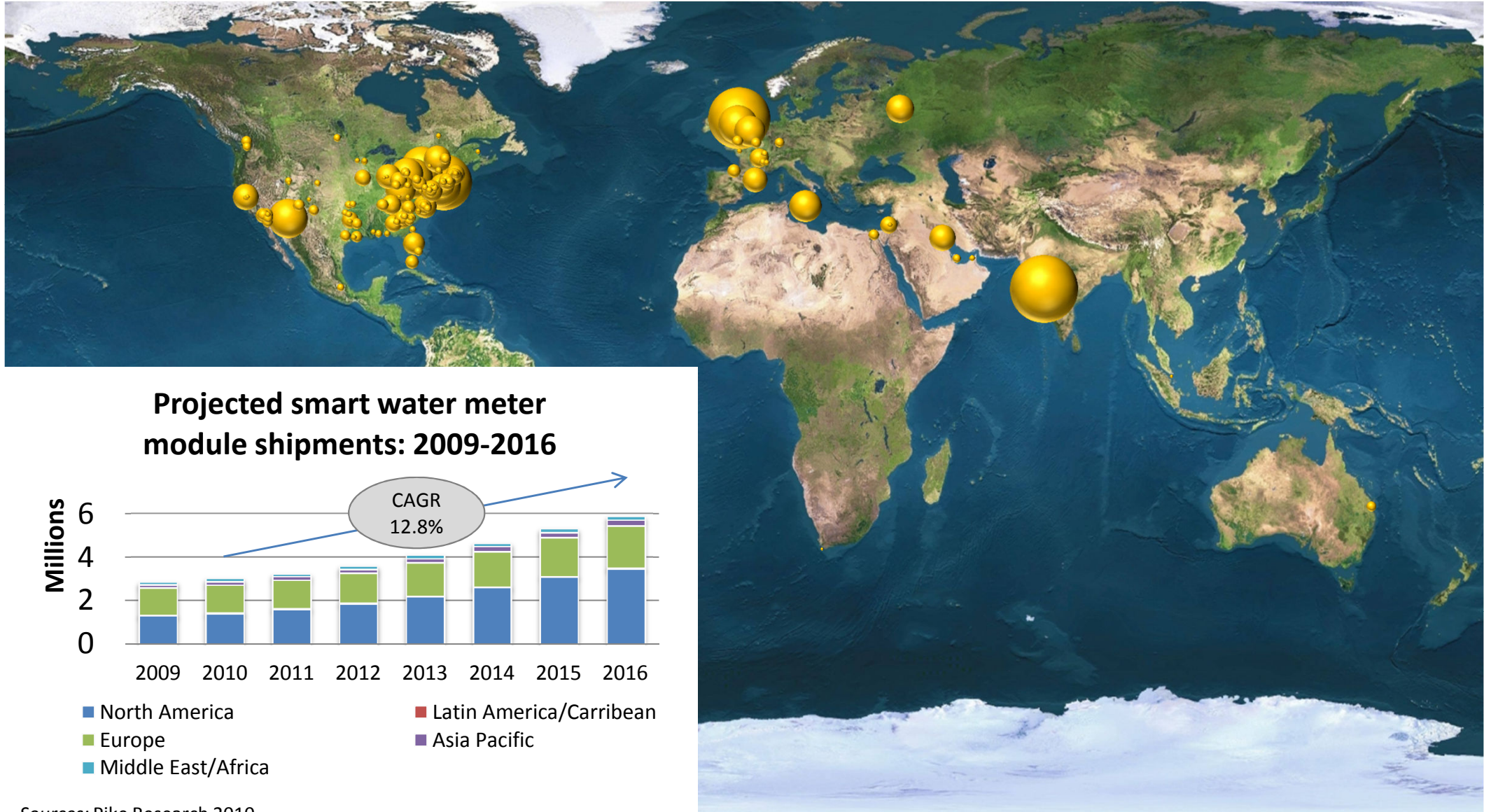


Potential benefits

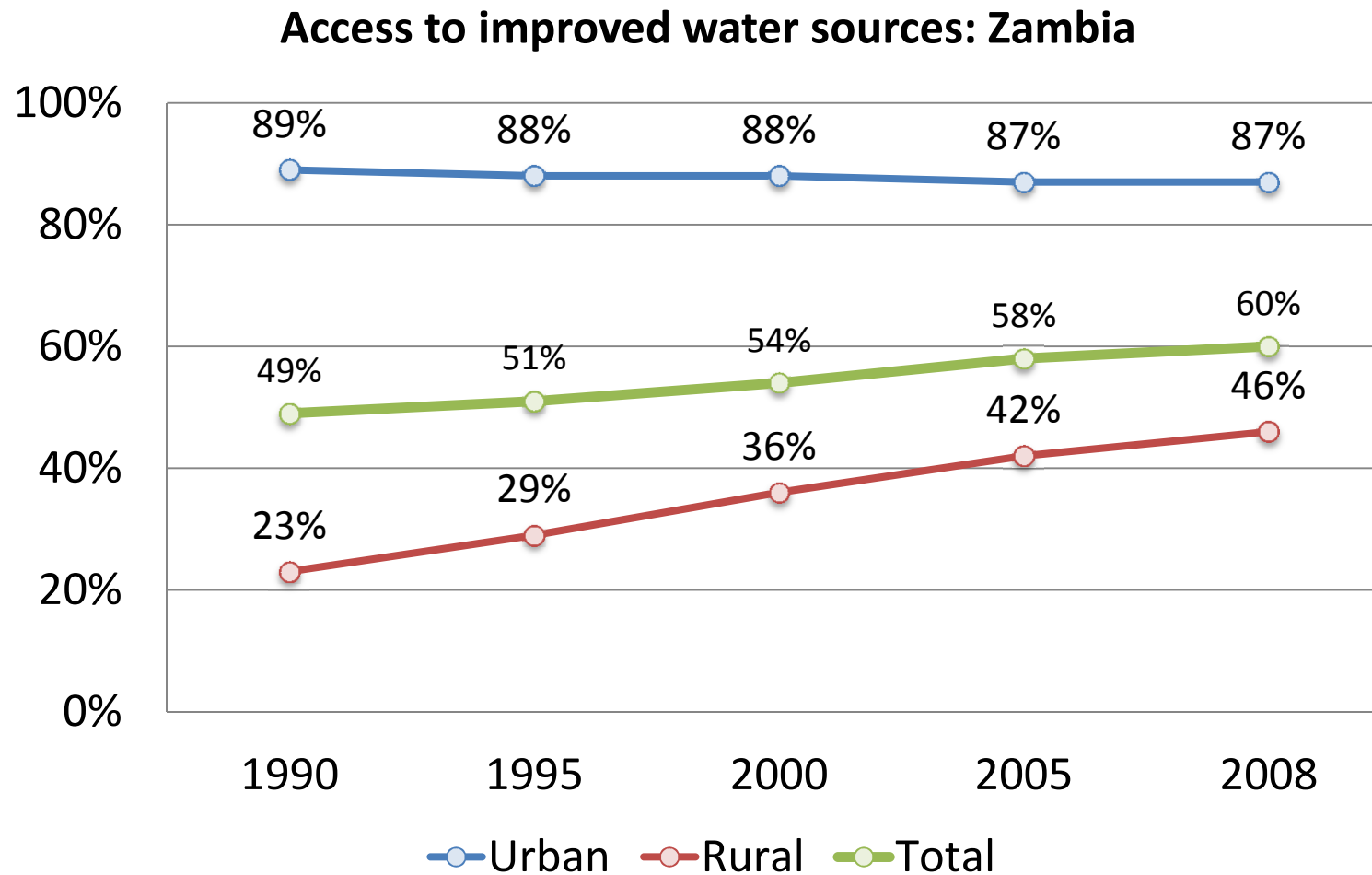
- Faster/more efficient meter reading
- Theft and leak detection
- Accurate measurement of UfW
- Billing accuracy
- Enabling a flexible tariff structure
- Improved debt collection
- Monitoring resource use
- Scope to integrate with mobile banking

Smart water metering projects are expanding rapidly

Global shipments of smart water meter modules predicted to double by 2016

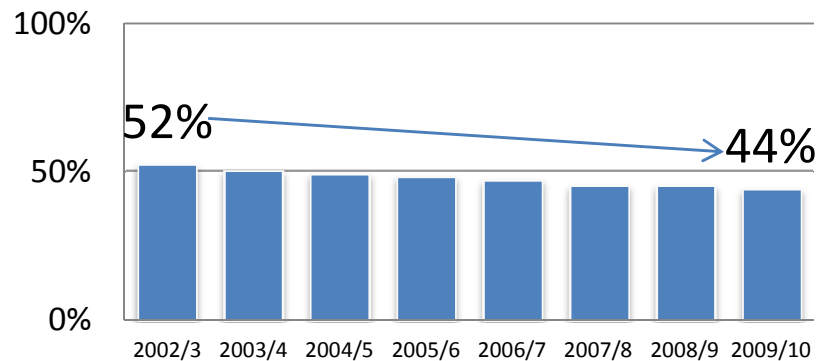


In Zambia, more people have access to improved water services than ever before...

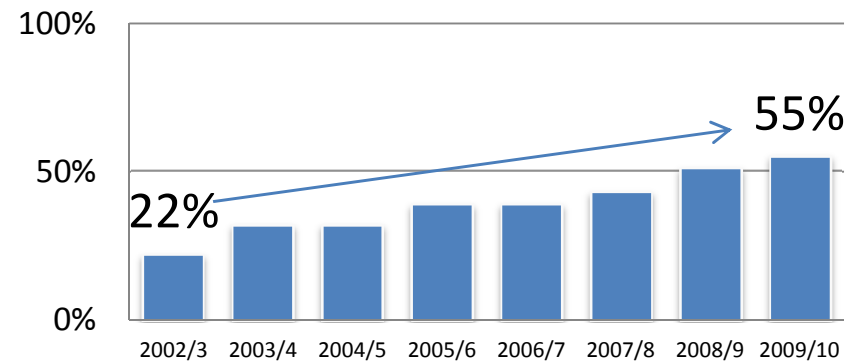


... and a decade of water sector reforms are beginning to yield dividends in urban areas

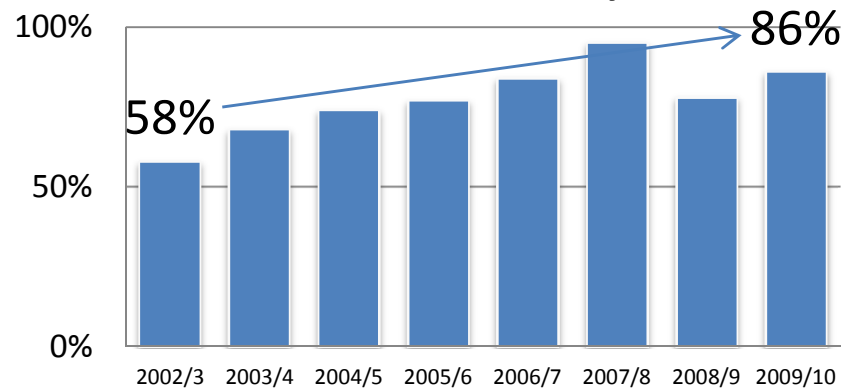
Unaccounted for water



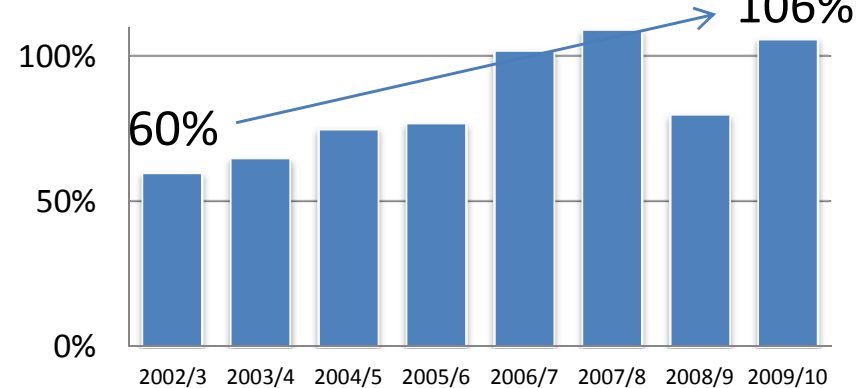
Meter ratio



Collection efficiency

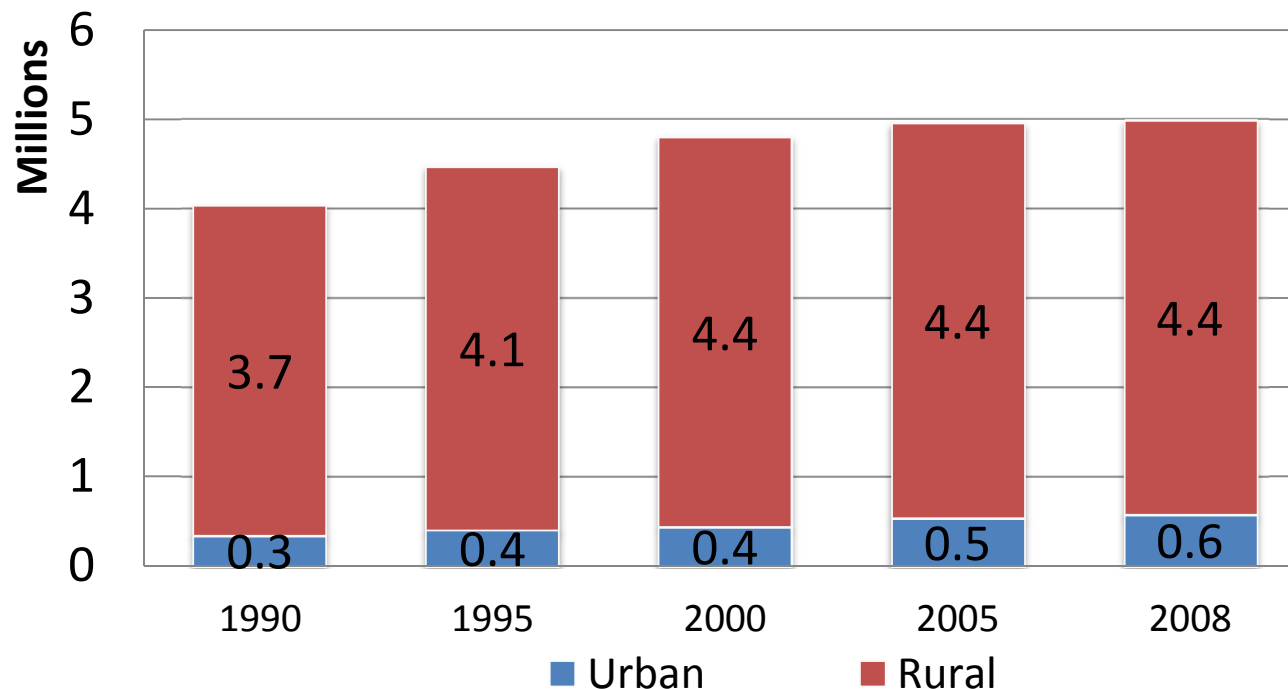


Recovery of O&M costs



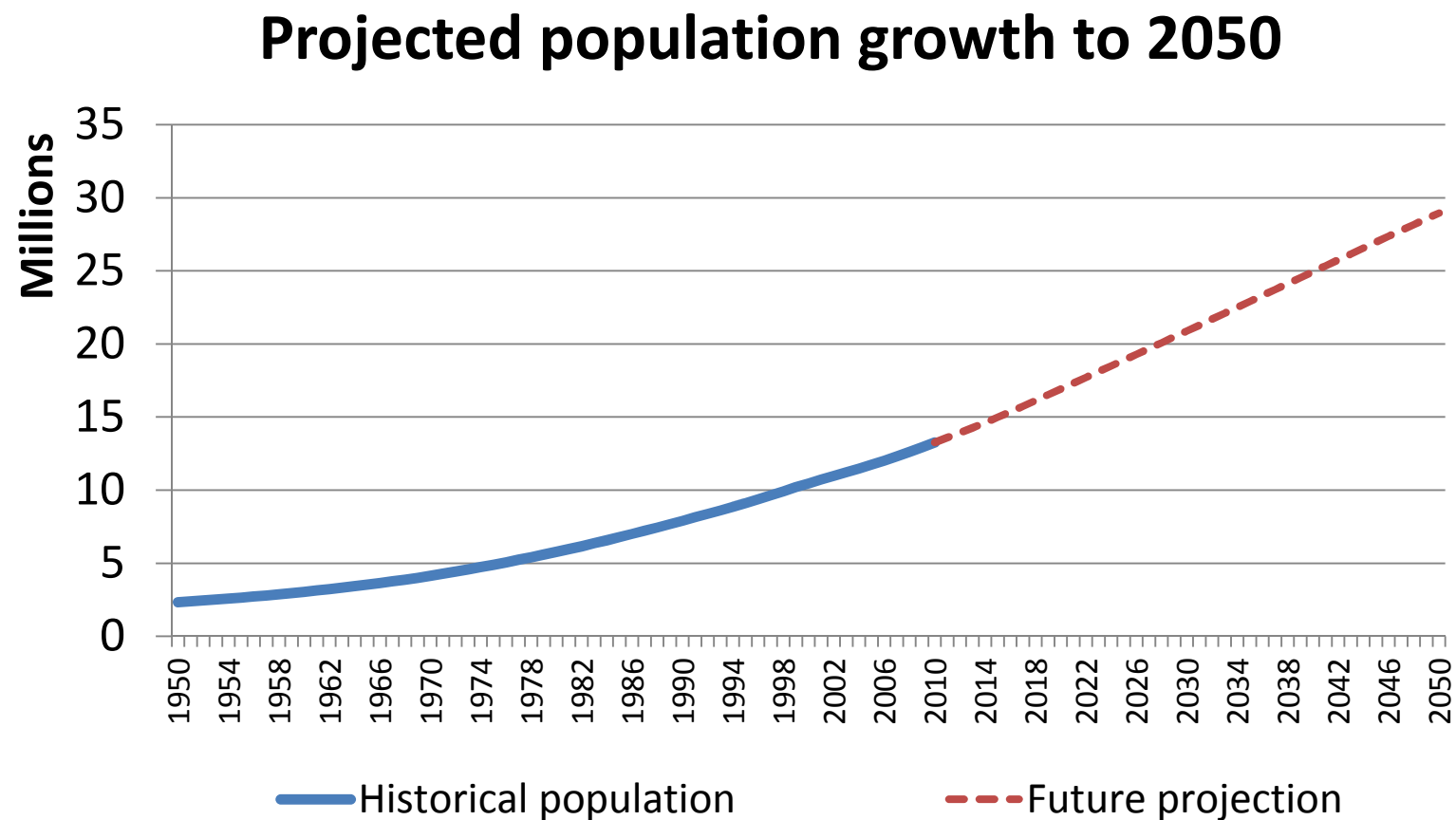
Yet major barriers to accessible and sustainable water services persist...

Population lacking access to improved water sources: 1990-2008



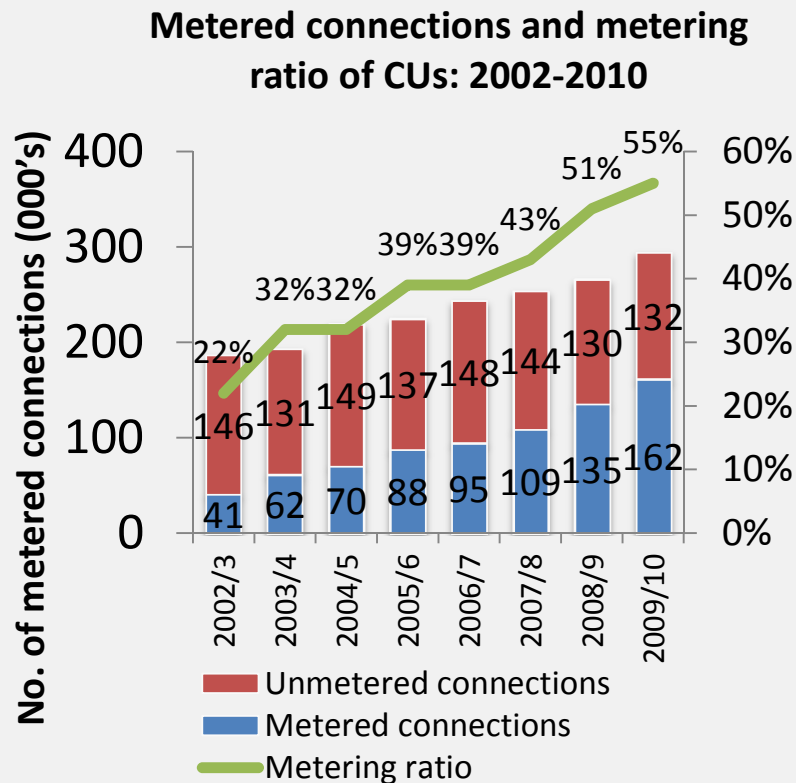
Around one third of handpumps in Zambia are thought to be non-functional

... and emerging trends may introduce new resource pressures



What are the major barriers to the sustainable provision of water services in Zambia?

45% of urban water connections are unmetered



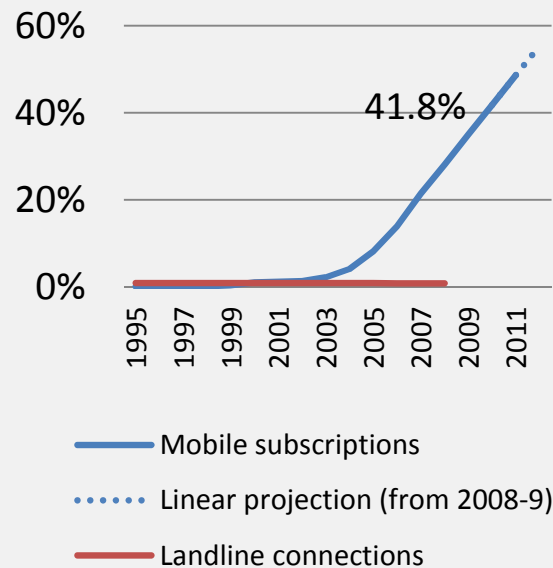
NWASCO identifies challenges facing the water sector

- Low investment flowing into sector
- Dilapidated and inadequate infrastructure
- Water pollution, especially from mining activities
- UfW remains high
- Lack of regulation on the use of underground water

What are the prospects for mobile banking in Zambia?

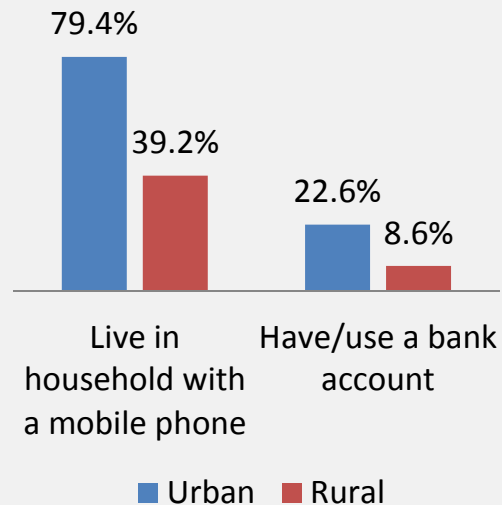
Mobile phone subscriptions are growing at a rapid rate

Phone access in Zambia (per 100 people): 1995-2009

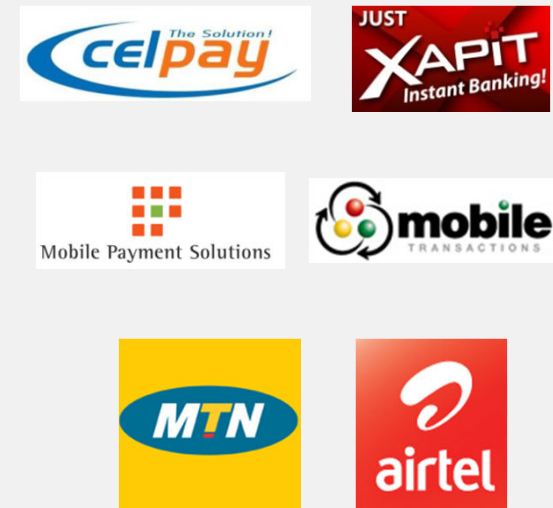


Mobile phones now more accessible than bank accounts

Mobile phone vs bank account ownership 2009



A range of players in the mobile money arena



Understanding the primary resource base is fundamental to sustainable water management

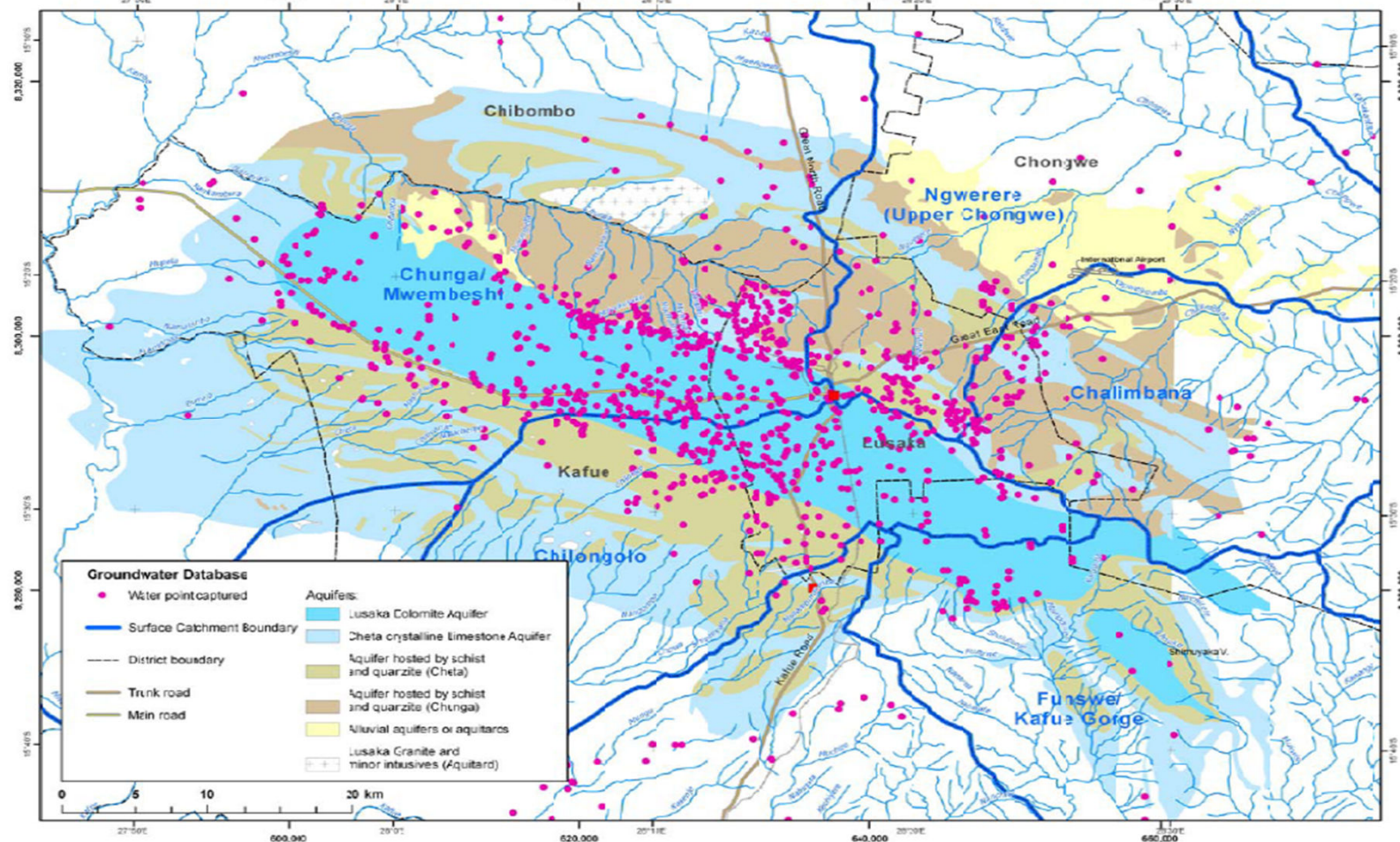
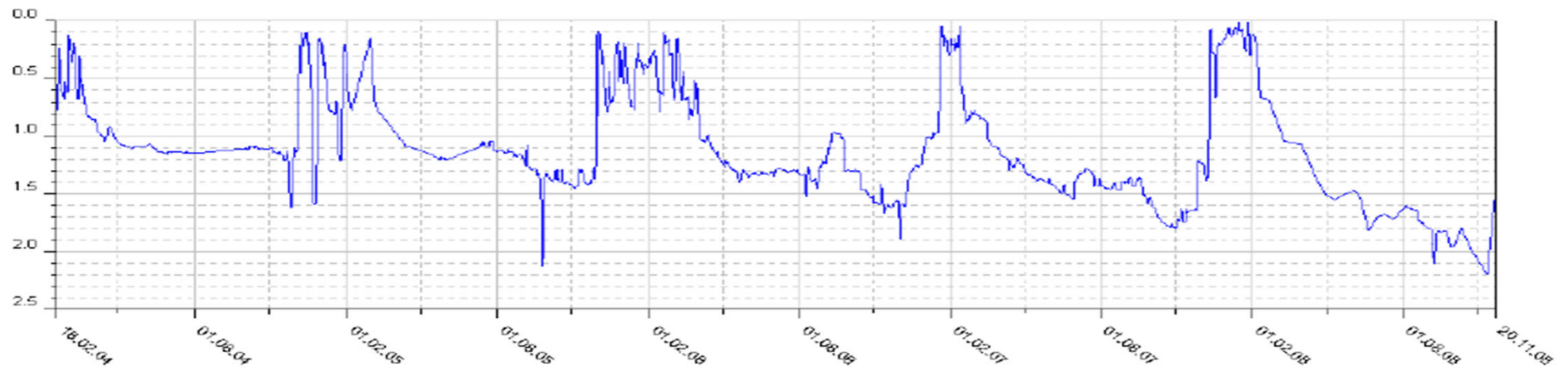
Few, if any, privately-operated boreholes are metered

Example: Lusaka groundwater use

- 74% of commercial farmers in Lusaka area abstract 25M m³ of groundwater a year
 - Daily dry season abstraction equivalent to 75% of LWSCs groundwater abstraction
- 68% of industries abstract 4.3M m³ of groundwater a year
 - Top three water users account for 85% of total industrial water volume abstracted

(Mayerhofer, Shamboko-Mbale & Mweene, 2010)

Observed Groundwater Levels [m b.g.s.]



Source: Mpamba et al 2008; Baume & Kang'omba 2009

Positive steps are being taken, but how can new technologies be harnessed for effective, equitable and sustainable water management in Zambia?

Tanzania: Dar Es Salaam



Lipa BILI YA MAJI na
Zap
Pesa mkononi

na upate punguzo la 5%

1 Mezu
Zap
Pata taarifa
Chagua ZAP kutoka Zain menyu.

2 Pesa
Benki
Chagua PESA.

3 Kwenda namba
Kwenda jina la Fumbo
Kuongeza salio
Chagua KWENDA JINA LA FUMBO.

4 Jina la Fumbo
DAWASCO
Andika DAWASCO kwenye klanduku cha maandishi.

5 Kiwango Tshs 3000
Andika kiwango unachotaka kuhitaji.

6 Unatuma 3000 Tshs kwenda Dawasco?
Bonyeza OK.

7 Neno la Siri XXXX
Andika neno la Siri.

8 Kumbukumbu Rejea
Andika namba ya akaunti na unamaliza. NI Rahisi!

Kwa maelezo zaidi tembelea duka lolote la Zain, wakala wa Zap nchi nzima au piga simu huduma kwa wateja 100. Kupata bili yako ya maji kupitia njia ya SMS tuma neno: Bal [namba] namba ya akaunti kwenda 15796. Kupata menyu ya Zap, tuma neno ZAP kwenda 15755.

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