

Water services, inequality and infrastructure: looking beyond 2010

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Infrastructure Dialogues 7 October 2010



Key Points

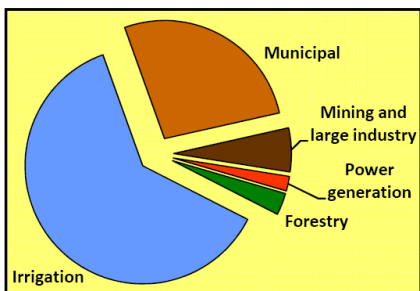
- South Africa is an increasingly water scarce country
- We have under-estimated what it takes to provide decent water services to all
- Deteriorating municipal water services raise grave challenges for
 - People's quality of life, health and well-being
 - National water security
 - Growth and Development prospects
- We need to revise our assumptions about what effective and sustainable water services entail
- We need wide coalitions to make best use of the resources we have – with people, not delivery, as the focus of water services



1. SA is an increasingly water scarce country with fairly small rivers. Good water management is vital

South Africa needs better management of water services

- SA is an increasingly water scarce country –
- Water is not a stock, a static supply that is stored, used and discarded, but a flux that flows across the country, being used, and re-used repeatedly
- Increasingly, our water security – and growth and development – depends on how well we manage our **infrastructure assets** and the **quality of return flows**

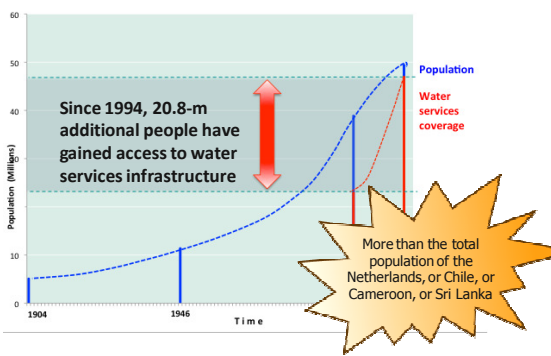


2. Allocation of water by sector

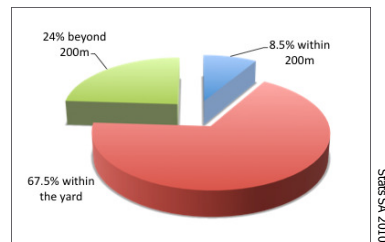


3. How well is SA delivering water services to all?

Huge focus on eradicating infrastructure backlogs



Access to water services infrastructure



Massive expansion in service infrastructure since 1994

- Over 90% coverage for water now (to 20-m more people)
- About 76% sanitation coverage now (to 13-m more people)
 - Mostly flush toilets, through fully serviced housing delivery

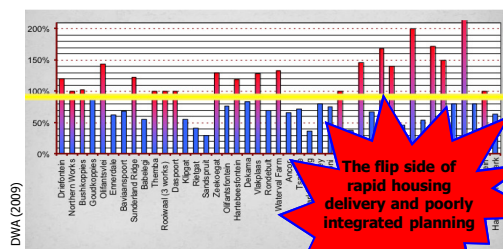


The emphasis has been on extending coverage

- Maintenance has been neglected
- Old systems need extensive refurbishment
- New systems need preventative maintenance



Bulk infrastructure requirements overlooked

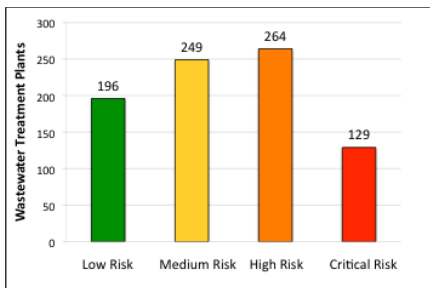


Gauteng – 2008: Average Wastewater Flow as a percent of Works Design Capacity

One illustration: Free State after the bucket eradication programme

- About 130 000 bucket toilets replaced over three years, mostly with flush
- Water supply shortages
 - Used drought relief funds to drill boreholes in six municipalities
 - Needed to expand drinking water treatment to treat increased flows
 - Existing wastewater treatment works already old and struggling – required upgrading
 - Severe shortage of skills for O&M
 - These challenges remain
 - 76% of water treatment systems scored below 50% in Blue Drop Assessment
 - 15% average across the province for Green Drop assessment
 - 8 municipalities participated: 6 scored below 10%, and 3 scored 0%

DWA has classified 47% of wastewater treatment works nationally as being at High or Critical Risk



This is about more than regulatory monitoring

Sewage crisis kills building projects

*Oct 03 2010 15:10 Antonette Stebbert
 Pretoria - More than 5 000 construction workers in Kimberley are without work because the Sol Plaatje municipality's purification works cannot handle any more raw sewage.
 The same fate will affect the remaining few hundred workers in the city's once flourishing building industry over the next couple of months, when the two large building projects still in progress are completed.*

Fin24.com

Poor WS planning and management -

- Kills jobs - construction, fruit exports, etc
- Holds back housing programmes
- Threatens business confidence
- Kills people

Mpheko Village, Near Mthatha, winter 2009

- Improved water supplies drew new settlement, beyond the design capacity of the reservoir
- Poor maintenance led to supply failures
- Summer 2008/9: Drought
- Springs dried up
- Supplies of safe water ran out for some
- People reverted to unprotected streams and rivers
- Faecal contamination



- May-June 2009
- Eight people died after drinking contaminated water

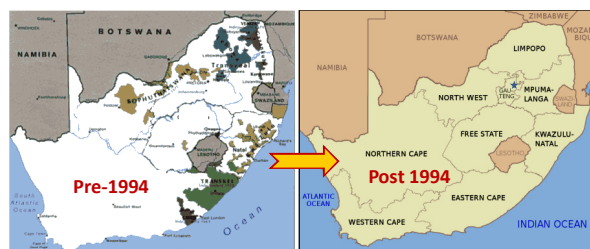


- Reversion to untreated water supplies following services failures
- Worsened the outbreak considerably

What's going on?

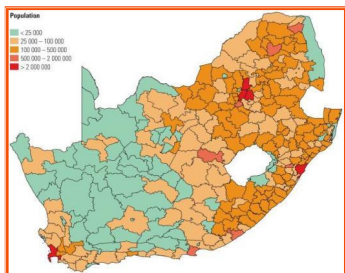
We under-estimated what it would take to deliver on commitments

1994: from 11 fragmented 'states' to 1 country with 9 provinces



Complex re-integration and re-structuring

Fundamental restructuring of local government



- New boundaries
- New functions
- New policies
- New systems
- New staff
- Huge complexities
- Huge pressures
- High expectations

Atlantic Ocean / Indian Ocean

Bold policy framework

RAND WATER

Joburg

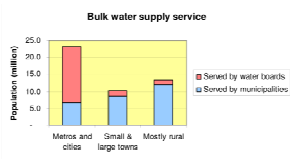
Johannesburg Water

You

WS is not quite as orderly as this in many municipalities

Bulk supply: Water Boards provide bulk water to about half the country

Retail supply: A clear distinction between Water Services Authority and Water Services Provider is the exception, not the rule



biggest water users water themselves - big challenges

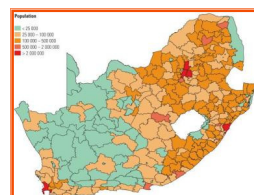
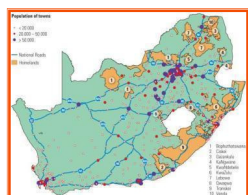
- Most Providers are the over-stretched, under-resourced technical departments of municipalities, and poorly equipped for the job
- Makes local regulation very difficult, if the Authority is both ref and player
- Councillors are the de facto local regulator

Development of WS infrastructure has outpaced institutional development

- Local government is where the real work of undoing apartheid must focus
 - Immense complexity, enormous challenges
- Fundamental restructuring
- Concurrently required to deliver against hugely ambitious goals
- Poor alignment between
 - Skills and experience required for WS
 - Employment Equity targets
 - Loss of knowledge of local systems, institutional memory and experience
- Emphasis on extending coverage
 - Neglect of existing networks and systems
 - Neglect of bulk infrastructure requirement
- We've had to learn the hard way how much we under-estimated the work

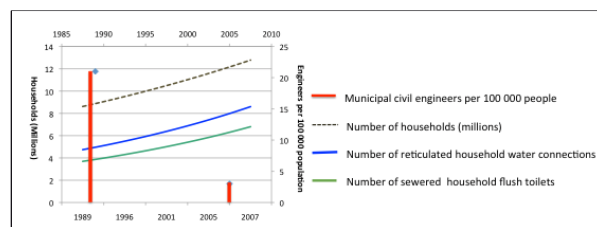
Available resources spread perilously thin

- Population served ~ 14 million
- Civil engineering professionals ~ 2500
- More than 21 civil staff per hundred thousand population
- Population served ~ 48 million
- Civil engineering professionals ~ 1300 +
- About 2.8 civil staff per hundred thousand population - and falling



Allyson Lawless / SAICE

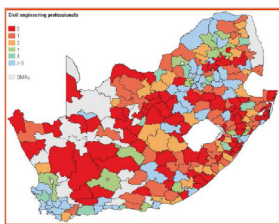
Key trends in networked water and sanitation services over the past 20 years



Derived from Lawless (2007), DWAF (2007, 2008) and StatsSA (2006, 2007)

Surge in infrastructure development and service coverage - alongside severe fall in engineering professionals

Severe shortage of technical professionals



Engineering technical capacity in municipalities in 2005:

Red-shaded municipalities had no civil engineers at all.

Further deterioration since 2005.

- Extensive capacity development and skills support initiatives underway
- But it will take time to align institutional arrangements with infrastructure requirements

Building the infrastructure is relatively straightforward, compared to the challenges of keeping it working.

Equity needs affordable, inclusive access
And systems that *continue* working

What matters most is

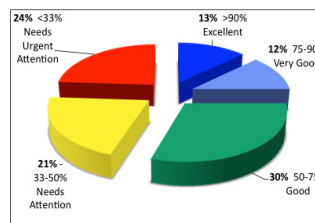
Continuity – how often are the taps dry?
Quality – is the water safe to drink?

Continuity: Beyond the cities, water outages are increasingly common

- Municipal water services in Bonxa, near Ntabankulu in the Eastern Cape, are usually 'open' on Fridays
- On Fridays people fill their buckets and drums
- This water is free
- If the municipal water is not open, independent service providers bring in water by tractor from neighbouring settlements
- They sell it for **R150 for 250 litres**
 - R600 kls vs the norm of R5 - R10 / kl
- Their customers can buy on credit and settle at the end of the month



Drinking Water Quality: Bigger towns are fine, smaller settlements are struggling

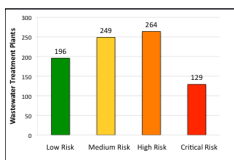


2010 Blue Drop Results

- Assesses management systems – not just quality compliance
- National average 70.75%
- 347 systems assessed
- Excludes small village systems

Quality of treated wastewater – big problems

- 32 works achieved Green Drop certificates out of 449 assessed (out of 852 municipal works)
- Over half (55%) scored less than 50%
- 47% of works nationally have been rated at High or Critical risk
- At least R23-bn required to rehabilitate and upgrade works
- But do we have the skills and systems to make them work?



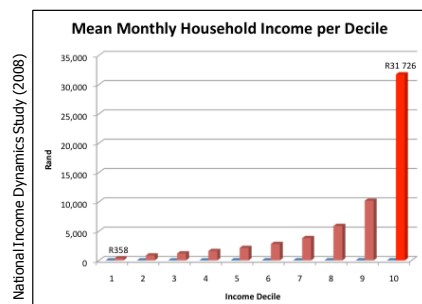
Some bottom lines

- Finding more money for infrastructure development and refurbishment is necessary, but not sufficient
- We need a change of paradigm in municipal water services
 - Acknowledgement of the skills and experience required to deliver effective service provision
 - Acknowledgement that ongoing failures have rising -
 - Social, political and health costs
 - Economic costs
 - Natural resource costs
 - Acknowledgement that the developmental state can't do it on its own: we need partnerships and coalitions that serve our common interests



4. The centrality of inequality

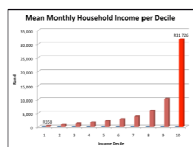
Income Inequality in South Africa



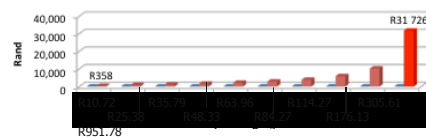
About 80% of households earn below R5 000 per month

Some implications

- The living standards of an affluent minority set the benchmark for "decent services"
- Modest service technologies used widely in other developing countries are not politically acceptable in many parts of South Africa
 - Flush toilets, not dry toilets
 - Alternative technologies unlikely to be accepted until high income households adopt them
- Consequently the cost of meeting service coverage targets is far higher than infrastructure investment projections assumed in the 1990s
- We are unlikely to meet 2014 service coverage targets because the available capital funds are insufficient
- Large and growing need for operating subsidies to support sustainable water services



Taking affordability seriously means taking WS management seriously too



- Widely accepted that household should not pay more than 3% on water services
- Immediately shows that many households with reticulated services are being billed far more than they can afford
- Reducing service levels is not an option at this stage
- Sustainable delivery of acceptable services requires
 - Ongoing operating subsidies through the fiscus – like Equitable Share
 - More accountable use of subsidies
 - More professional management of water services

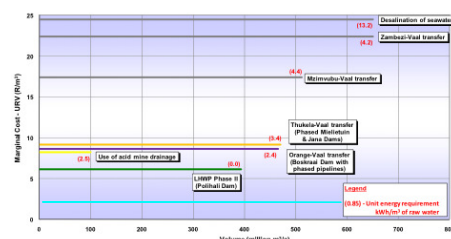
Particularly relevant given rising demand, and growing costs of supply

- Additional water can be made available anywhere – but the issue is cost
- Need to look more carefully at reducing losses
 - E.g. At least a third of Gauteng's drinking water is lost through leaks before it reaches
 - 400-million cubic meters per year = 2 x Hartbeespoort Dams
 - Needs huge investment in network repair and upgrading
- Treating and re-using wastewater – especially in coastal cities
- Managing demand – which requires user education
- The cost of relying solely on augmenting supply will become increasingly prohibitive

Gauteng is **not** about to run out of water – but additional water will cost much more

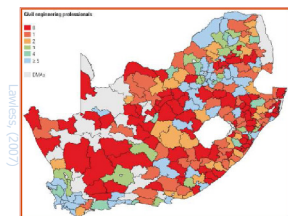
Rising to R22 for raw water from the Zambezi, and nearly R25 for desalinated water

Upwards of R6 /kl raw water cost – against current R2.23, Rand Water bulk price of R3.97 and retail tariff of R5 – R15



Processed Acid Mine Drainage water is the next additional source – non-potable – as it can be delivered soonest

SA needs the broader possible coalition to turn around municipal water services



- Given the nature of SA's water resources – increasingly scarce and at risk
- Given the complexity of our development challenges – severe and worsening inequality
- **Managing water services is not a job for amateurs**
- Few municipalities know what it costs them to provide water services, or what they should be charging
- Municipalities need to source the skills they need – wherever they can be found

PPPs in the water sector

- Privatisation is not on the agenda in the water sector
 - low returns, high risks
- The private sector is already working extensively in the water sector, and will continue to
 - Meter reading, billing support, O&M support
 - Running treatment works and monitoring water quality
 - eThekweni wastewater recycling
 - Maluti a Phophung Water management contract
 - Emalahleni - mine water reclamation by AmCoal and sale to the municipality
- Increasingly PPP means Public-Public Partnerships, between municipalities and water boards
- ALL need good contract management, ALL must deliver good value for money
- At issue is how best to serve the needs of all, effectively and affordably

There is excellent work to build on

- Siyenza Manje
- Wide range of other support and mentoring initiatives, including water boards
- Blue Drop and Green Drop
- Prosecution of flagrantly negligent municipalities under the National Water Act
- Local Government Turnaround Strategy
- We do Not need Big Bang institutional restructuring as the default
 - Disruptive and risky – so use very selectively
- We need to work with what we have already, and make it work better



Perhaps the greatest priority is for dialogue – and the need to have people, even more than delivery, at the focus of water services

Closing comments

- South Africa is fortunate to have sufficient national income to invest extensively in water services infrastructure
- Allocates a further R12-bn through Equitable Share to subsidise recurrent water and sanitation costs for poor households
- More WS infrastructure means higher recurrent costs for municipalities – in a context where the cost of providing safe drinking water will rise steeply
- Extreme poverty and acute inequality raises demand for ongoing subsidies
- We need a stronger emphasis on accountability in how public funds are used, to ensure that funds intended to support poor households actually reach poor households
- A good place to start is to re-engage ordinary people in monitoring municipalities' performance – and sharing responsibility for making services work