When worlds collide: Business meets bureaucracy in the water sector

David Zetland

Leiden University College & Aguanomics

SELE

Groningen ∼ 21 May 2015

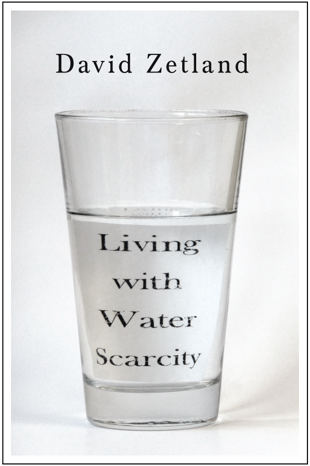
Overview

1. This paper addresses the structure of failure
2. It arises from mismatched business/bureaucratic incentives
3. Institutions unprepared for scarcity in water quality/quantity
4. Wrong (right) incentives lead to poor (good) outcomes
5. Question & Answer

Context. . . My book!

This paper informed the Part I (economic water)/Part II (social water) split

Download the *free* PDF at
`www.livingwithwaterscarcity.com`



The basics

It is important to align incentives to goals

Examples:

- Pay workers by the piece when quantity matters
- Pay workers by the hour when quality matters

The boss has an incentive to change the pay regime. Bureaucrats (as agents) may not notice poor results or care for change.

Thus:

	Economic uses	Social uses
Markets	Incentive compatible	Excessive externalities
Bureaucrats	Excessive opportunity cost	Judgment compatible

Application to the water sector

Thesis: Some policies focus on (measurable) quantity, others on (unobserved) quality. Others focus on quality when quantity will do

Driver: The end of abundance challenges institutional effectiveness

Problem: Evolving behavior produce unforeseen, socially detrimental outcomes. Examples:

- Irrigation uses or pollutes (unmonitored) groundwater — reducing environmental quality
- Contracts focus on KPIs (Key Performance Indicators) — ignoring critical "non-KPIs"
- Regulations divert use and increase costs — vs prices for water or risk

Bureaucratic vs business incentives

Bureaucracies have...

- Monopoly power
- "Relations" based on many stakeholder priorities
- Weak feedback on performance (discretion)
- Weak incentives to cut corners (payoff = slack)

NB: slack will be limited by future need for repairs

Businesses have...

- Competition
- "Transactions" based on few customer priorities
- Strong feedback on performance (direction)
- Strong incentives to cut corners (payoff = cash)

NB: profits will NOT be limited if exit is planned/possible

Businessmen in bureaucratic space

Businessmen seek profits from superior execution (good) but also exploitation of regulatory loopholes (bad).

Examples:

- Investor-owned utility operators who raise prices, ignore maintenance, and dodge social issues (poverty, environment)
- Land developers who use "exempt" wells to mine groundwater for subdivisions
- Industrial farmers who use unmeasured water for irrigation or sell surface rights and take groundwater
- Water bottlers who pay for water but not for pollution
- Frackers who take or discharge "legally"

NB: Regulators (no "skin in the game") have weaker incentive to chase.

Bureaucrats in business space

Bureaucrats (no "upside") have weak incentive to maximize benefits.

Examples are bureaucrats who:

- mandate social tariffs that are too low to run network or extend service
- ignore groundwater impacts of surface use
- require farmers to grow certain crops or prevent water trade
- ban bottled water where tap water is dirty
- guarantee risky crops (drought) or houses (floods)

NB: May emphasize inputs or outputs over outcomes, e.g., "access to improved water source" over clean water.

Solutions: match the tool to the task

1. Reserve social water (for environment)
2. Regulate externalities (pollution, pumping, deviations)
3. Regulate market power through open access
4. Benchmark for performance; insure against risk
5. Update institutions for scarcity, quality, risk

Example: Ofwat (UK) "doesn't care" about tariff structure at IOUs, as long as total revenue stays within "allowed costs." This shift is welcome on the customer-facing side, but it doesn't necessarily improve cost efficiency. Ofwat has set 100+ KPIs, which is a recipe for confusion. I'd prefer a combination of constraints on quality and environment, benchmarks on leakage and price, and insurance for risk.

In sum...

Bureaucratic tools – such as water footprinting and conservation technologies – do not change water consumption like business tools that rely on prices and markets

Regulations on bottled water, hydraulic fracturing, and food exports may be ignored for profits

Insurance for floods or drought are more appropriate than bureaucratic guarantees

Bottom Line: Use high-powered business incentives for economic uses and low-powered bureaucratic incentives for social uses. (Oh, and then there's co-operatives)

Now. . . question time

Is this worth publishing? Where?

Blog: aguanomics.com

Book: livingwithwaterscarcity.com ← It's free!!

Email: dzetland@gmail.com