Policing water crime in Australia: Compliance, enforcement and technology

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Overview

- Background
- Methods
- Key findings
- Implications
- Way forward

Non-urban water use is a complex regulatory problem

30-50% of the global water supply is illegally obtained, with water theft expected to rise due to drought and climate change (INTERPOL 2016; WC 2017; Brown 2017)

Developments in the regulatory pyramid, networks, and technology (Ayers & Briathwaite; Gunningham and Sinclair; Drahos)

An ongoing study

- The research focuses on the adoption of new metering technology in New South Wales (NSW) and how this has contributed to policing water crime
- Aspects of Green criminology will be relied on to understand the policing of water use through technology
- Large water using state in Murray Darling Basin (MDB)
- Complex, novel and controversial history in water regulation
- Federal investment in improvements
- New regulator: NRAR

Methods

Early surveys 2012-2015 – 4000, 22% response

100-200 interviews – regulators, farmers, third-parties (government agencies, regulatory officers, collaborative planning bodies, agricultural water users, bore drillers, industry associations and local governments).

Monitoring and metering

NSW

Patchy, old or unreliable and vulnerable

Lacked capacity for remote/real time monitoring

Meter data is inherently retrospective

Improvements – but slow, multiple roll outs and difficult buy in…2020 telemetry (not groundwater) and 2020-2023 new meters

Key findings

While novel monitoring and information technologies have been celebrated for policing water crime, they have however given rise to new concerns around data privacy, data security, and regulatory reach. Such concerns can produce anxiety and apprehension amongst regulated actors.

Although regulated actors can benefit from new technologies, through better management in the long term, or reduced delays caused by inspector visits, there may be increased costs in the short term (e.g. purchasing new technologies).

The advent of new technology, and its capacity to ignore geographic boundaries and remoteness means that agricultural communities are now increasingly subject to new levels of regulation using real-time monitoring and information diffusion.

There are divergent views of compliance and resistance. The resulting resistance from regulated individuals and firms can accordingly weaken the effectiveness of regulation.

Implications

New monitoring and information technologies have made regulators' core business cheaper and faster. The technology can drive compliance through transparency and accountability.

The availability of such reliable, credible and robust information is crucial for good water regulation and reducing water crime. It is important for regulators to work towards encouraging water users to embrace the benefits of metering technology.

If all meters have a minimum baseline it may assist in conforming to a specific government standard.

Regulators would benefit from considering the possibility for some flexibility in meter choice among meters that allow for high standards of telemetry.

Compliance Norms

- ~50%, but uncertainty in level of compliance
- Risk of detection is low (due to limited resources)

Topic: Levels of compliance	n	Strongly disagree	Disagree	Unsure	Agree	Strongly agree
I am confident water users in my region comply with their licence conditions	604	3%	3%	45%	39%	10%
Illegal water extraction is a big problem in my region	583	10%	24%	60%	4%	2%
Illegal water extraction has increased over the past ten years	587	9%	18%	67%	4%	2%

A way forward?

Technology does not have to be sophisticated – e.g. meters and telemetry. Technology can provide the basis of an intelligent compliance network.

Building networks of compliance – need a coordinated range of actors supporting compliance through responsive regulation – regulators as coordinators, peers, supply chains, drillers etc.

Smart to intelligent – need to embrace and exploit technology to overcome political, logistical, cultural, resource and institutional barriers.