

# FIELDNOTE

Behavioural nudges, an innovative approach to influencing people to save water



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Many South African municipalities are already reaching the point of water stress and find themselves having to carefully manage the demand on their water resources. This need is likely to become more acute as the economy and population continues to grow, pushing local areas and the country as a whole towards water scarcity. In order to ensure a sustainable and water secure future, behaviour change has become a necessity. But which approach works best?

As the residential share of national water usage is projected to reach around 35% by 2025 (Department of Water and Sanitation 2009), it is becoming increasingly important for local government to engage with residential consumers around their water usage.

Traditional strategies to promote water (and electricity) conservation have included demand-side management, punitive measures such as tariffs and taxes, water restrictions (and load shedding) and information/

education campaigns. However, the emerging field of behavioural economics shows that much greater, sustained success is achieved through positive behavioural nudges.

Behavioural nudges are interventions that preserve freedom of choice but that nonetheless influence people's decisions. These nudges are non-price based behavioural interventions that are inexpensive, scalable and don't feel punitive.

#### Why Behaviour change is necessary

Water is a finite resource

Scarcity can only be resolved through:

- Efficient use • Conserving • Behaviour change

HOWEVER

Behaviour change is difficult

Behaviour change is long term

Behaviour change is also about changing beliefs and some traditions... and so we need new approaches and innovative ways to bring about this change





## Case study in Cape Town proves value of behavioural nudges



A Water Research Commission project undertaken in partnership with the City of Cape Town (CoCT) and others has demonstrated that behavioural nudges can have a significant impact on water saving. For example, water-saving tips inserted in the billing communications sent to households resulted in an average saving of 2% to 3.5% compared to a control group.

The CoCT study targeted residential households over a period of six months. The trial involved over 400 000 households at different income levels and hence represents a significant sample. Behavioural interventions, such as the example above, were used to effect water savings. The study coincided with a period of severe national water scarcity and the implementation of a tariff increase two months after roll-out.

Using large-scale, randomised control trials the study

consisted of one control group and nine treatment groups (with each treatment group receiving a different message).

### Behavioural messages in the CoCT study included:

- **Information around water saving:** Households were provided with water conservation tips as an insert in their bills. The tips quantified, where possible, the water savings associated with a particular water-saving action.
- **Financial information:** Financial messages can provide a graphical breakdown of the information on the bill. The messages are intended to make both tariff rates and level of consumption more salient, i.e. more apparent.
- **Social comparisons:** The social norm message graphically compared the household's average

daily water consumption to that of the average for their neighbourhood.

- **Social recognition for conservation efforts:** These messages encouraged households to reduce their water consumption as part of a municipality-led initiative. Some households were further told that their water-saving achievements will be publicly recognised on the municipality’s website.
- **Appeals to the public good for voluntary reductions in the context of water scarcity:** The message highlighted the public-good context by encouraging households to voluntarily reduce their water consumption in order to reduce the stress on water resources and prevent future water restrictions.

### Findings

Overall, the behavioural messaging had a significant and positive effect on water savings – leading to an average reduction of water usage of between 0.57% and 1.86% across various treatments (messaging types).

All the treatments resulted in significantly greater reductions in consumption compared to the control group – even in the context of water scarcity, water restrictions and tariff increases.

In terms of comparing the effect of different treatments: the social recognition framing (households that succeeded in reducing their usage by 10% were publicly recognised on the City’s website), consistently outperformed the other messages over both the short and long(er) run. In other words, public recognition of water conservation efforts is the most effective motivator of pro-environmental behaviour.



Examining the results of the social preference treatments, this study finds no significant impact in the poorest households. Households in the middle income receiving the social norm treatment reduce consumption by an average 286 litres (1.27%) per month, and even greater reductions of 344 litres (1.3%) and 386 litres (1.04%) are achieved in the fourth and fifth quintiles, respectively.

The social recognition and public good treatments are particularly effective among the wealthiest homes, where treated households reduce consumption by an average of 996 litres (2.7%) and 534 litres (1.45%), respectively.

One of the main reasons why households were not as responsive to financial treatments may well be that the cost of water is still a negligible amount of the budgets of middle and high income households. Price elasticity of demand for water is generally found to be relatively unresponsive locally and internationally due to the relatively cheap cost of water.

This study has been one of the first to implement a large-scale behavioural intervention via a local municipality in a developing country.

Read more about the WRC study titled “Behavioural Nudges as a Water Savings Strategy” download Report No. 2091/1/13 from [www.wrc.org.za](http://www.wrc.org.za). To know more about water and sanitation behavioural change contact: Jay Bhagwan, Executive Manager, Water Use and Waste Management email: [jayb@wrc.org.za](mailto:jayb@wrc.org.za)



Water Information Network-South Africa (WIN-SA) aims to capture the innovative work of people tackling real service delivery challenges. It also aims to stimulate learning and sharing around these challenges to support creative solutions. Most importantly, WIN-SA strengthens peer-to-peer learning within the water sector.

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