

## Promoting water conservation in Colombia

Behind every intervention lies an assumption about human motivation and behavior. When a tunnel providing water to the city of Bogotá, Colombia, partially collapsed in 1997, triggering a water shortage, the city government declared a public emergency and initiated a communication program to warn inhabitants of the threat of a crisis: 70 percent of the city would be left without water if current water use was not reduced.

The city's strategy was based on the assumption that if individuals were informed of the situation, they would adjust their behavior and reduce usage—after all, no one wants to be without water. But the assumption was wrong. In fact, the city's strategy *increased* water consumption. Many people did not change their behavior because they did not think they could make a difference and did not know which steps were most important. Some people even started to stockpile water.

Recognizing the mistake in its assumptions, the city government changed its strategy (Acosta 2009; Guillot 2014). First, the government reminded people to take action by conserving water at times when they were most likely to overuse it. Stickers featuring a picture of a statue of San Rafael—which was the name of the emergency reservoir the city was relying on after the tunnel collapse—were distributed throughout the city. People were asked to place a sticker by the faucet that a particular household, office, or school used most frequently. The stickers made the need to conserve water at all times salient. Daily reports of the city's water consumption were prominently published in the country's major newspapers. The reports became a part of public discussions about the emergency.

Second, the city government launched engaging and entertaining campaigns to teach individuals the most effective techniques for household water conservation. The campaigns contained memorable slogans and organized 4,000 youth volunteers to go throughout the city to inform people about the emergency and teach them effective strategies to reduce consumption (*Formar Ciudad* [city development plan], 1995–97). The mayor himself appeared in a TV ad taking a shower with his wife, explaining how the tap could be turned off while soaping and suggesting taking showers in pairs. Catholic priests were explicitly asked to invite their communities to join the cooperative efforts, which, in a religious country, proved to be particularly effective.

**A change in strategy, building on conditional cooperation, helped create a new social norm to conserve.**

Third, the city government publicized information about who was cooperating and who was not. The chief executive officer of the water company personally awarded households with exceptional water savings a poster of San Rafael with the legend, "Here we follow a rational plan for using the precious liquid." These awards were made visible in the media. Three months later, when a second tunnel collapsed in the reservoir, the city imposed sanctions for *despilfarradores* (squanderers), those with the highest levels of overconsumption. While

**Figure S5.1 The story of Bogotá's 1997 water supply crisis**

In January 1997, a tunnel connecting Bogotá, the capital of Colombia, to its main supply of fresh water partially collapsed, leaving the city dependent on a small emergency reservoir.

An emergency was declared.

Water consumption at first increased as citizens stockpiled water. Eventually, the city's strategy led to a decrease in water consumption. Water consumption then stayed low for several years.



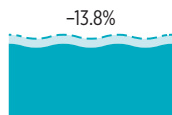
Mayor Antanas Mockus launched measures to change conservation norms among citizens.

Daily reports in newspapers became references for public discussion and featured personal experiences of citizens' conservation efforts. The mayor even showered with his wife in a TV ad to demonstrate a water-reduction strategy.

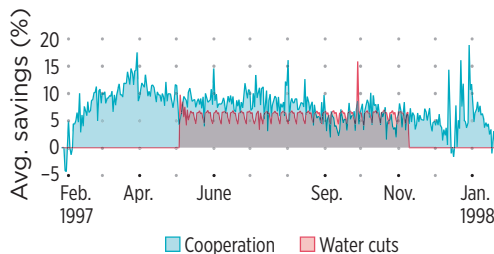


Source: *El Espectador* (Bogotá), February 28, 1997, A6.

Citywide water savings peaked at 13.8% after 8 weeks.



Per capita water usage remained lower than precrisis levels for more than a decade even when water cuts were implemented after a second tunnel collapsed. This suggests that the new social norms around conservation persisted over time.



Source (for all figures): Acosta 2009.

the sanctions were minor—squanderers had to participate in a water-saving workshop and were subject to an extra day of water cuts—they were nevertheless effective because they targeted highly visible actors. Car-washing businesses, although collectively not a major source of water waste, were the primary targets.

The assumption underlying the new strategy was that conservation would improve if the city created a greater scope for social rewards and punishments that helped to reassure people that achieving the public good—continued access to water—was likely (see chapter 2 for a fuller discussion of the dynamic of conditional cooperation, which may have undergirded the success of the city's revised strategy). This time, the assumption was correct. The change in strategy helped to create a social norm of water conservation. By the eighth week of the campaign, citywide water savings had significantly exceeded even the most optimistic technical predictions. Moreover, the reductions in water use persisted long after the tunnel was repaired and the emergency had been addressed (see figure S5.1).

This case study from Bogotá provides a real-world example of how interventions that take into account conditional cooperation may be useful for achieving policy goals.

**Reference**

Acosta, Omar. 2009. "Adaptive Urban Water Demand for an Uncertain World. A Case Study: Citizens' Cooperation during the Supply Crisis of Bogotá in 1997." MSc thesis, Albert-Ludwigs-Universität Freiburg, Freiburg, Germany.

Guillot, Javier. 2014. "Achieving Long-Term Citywide Cooperation in Water Consumption Reduction: The Story of Bogotá's 1997 Water Supply Crisis." Background note prepared for the *World Development Report 2015*.