

Smart solutions to a worsening water crisis

April 11 2013, by Stephen Dale

Innovative policies and new technologies that reduce water waste are helping countries across the Middle East and North Africa deal with chronic water shortages.

Those advances spring from the simple idea that preventing [water loss](#) is effectively the same as giving parched countries new sources of water. This view gained widespread credibility in the wake of an IDRC-supported research program designed to assess how the so-called "water demand management" approach could ease the region's water crisis.

"The idea of using water more efficiently is now on the top of the policy agenda in the Middle East," says former IDRC program officer Lamia El-Fattal. "Our work provided the intellectual backbone that made it possible for people to move with confidence in that direction."

Scaled-down approach

Earlier, governments had seen big, costly projects such as dams, canals, and salt-water desalination plants as the solution to [water scarcity](#). By the mid-1990s, the megaproject approach was widely viewed as a poor response to a [water crisis](#) worsened by [population growth](#) and [climate change](#). However, the "demand management" alternative to developing new supplies of water—for example, reducing the amount of water used, wasted, or even needed—remained unproven.

Enter WaDImena. Between 2004 and 2009, the IDRC-supported program brought together researchers, policymakers, farmers, and

community groups to share successes and assess new ideas.

The research was wide-ranging. For example, WaDImena contributors refined the treatment of wastewater to ensure that "greywater"—non-sewage waste—could safely be used for certain types of agriculture. They also examined how watering crops at night (to minimize evaporation) and using technologies such as drip-irrigation could reduce agricultural water demand.

Efficiency plus equity

Many of WaDImena's inquiries focused on the dual concerns of enhancing efficiency and distributing water more equitably. A delegation of Syrians to Tunisia, for instance, considered how to replicate the successes of that country's water users associations. These groups empower small farmers to enforce their own methods of fairer and less wasteful water distribution. They are based on the idea that "the best way to manage water is to give power to the people who are using it," says El-Fattal.

Researchers also pondered how fees for water delivery could provide incentives to save water without penalizing the poor. Cultural taboos against charging for water had meant that "the paradox of this region was that water was very scarce but also cheap," explains IDRC program officer and former WaDImena project manager Hammou Laamrani.

The solution since adopted in several countries is to have meters on wells that allow some water to be drawn for free, ensuring fair access for poor farmers. At the same time, distribution fees are imposed for greater use, providing an incentive to conserve water.

Influencing policy

New ideas have led to policy changes at many levels. In Jordan, for example, building codes have been changed to require waste-water recycling to be incorporated into new construction.

In Morocco, government subsidies for efficient drip-irrigation technologies are also used as a lever to encourage farmers to grow value-added crops that make better use of scarce water.

Water demand management, concludes El-Fattal, "has gone from an idea to practical solutions that people are committed to."

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