

# Book details a new model for sharing water

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Graphic: Christine Daniloff

From the American Southwest to the Middle East, water is a highly contested resource: Many neighboring nations, and several states in the United States, have fought decades-long battles to control water supplies. And that need for water only seems likely to increase.

“Out in the world, there’s growing demand for fresh [water](#), especially where there is urban development,” says Larry Susskind, the Ford Professor of Urban and Environmental Planning in MIT’s Department of Urban Studies and Planning. “At the same time, climate change is altering in unexpected ways how much water there is. So you have increasing pressures on [water supplies](#) and thus battles over how water

will be allocated.”

Many of these disputes seem extremely difficult to solve. How, for example, can Israel and its neighbors share scarce water supplies? How can there be enough water to supply both populous Southern California and fast-growing Arizona? Such problems are virtually intractable, right? Wrong, according to Susskind.

“Water is not most usefully thought of as a scarce resource,” Susskind says. “It’s a flexible resource. It’s not that there’s not enough water. It’s that we waste it and don’t invest in the technologies that would allow us to make more efficient uses of it. If you keep thinking water is a scarce resource, you will be locked into battles you don’t need to be locked into.”

That notion is central to what Susskind calls “a new approach to water management” in a new book on the subject, *Water Diplomacy*, co-authored with civil engineering professor Shafiqul Islam of Tufts University and published this month by Resources For the Future, in affiliation with Routledge. In the book, Susskind and Islam argue that nations and their leaders need more pragmatic and flexible ways of solving water-supply problems, and offer a new paradigm for approaching these issues, which they call the Water Diplomacy Framework (WDF). Their aim, Susskind asserts, is nothing less than to “completely change the nature of the conversation among people using the same water resources.”

## **‘If you think in zero-sum terms, you will only produce zero-sum solutions’**

How? For one thing, the authors assert, water supply is not just a technical or engineering problem, but must be addressed with an eye to

political realities. Indeed, both of the book's authors have deep backgrounds in diplomacy and negotiating: Susskind is a vice chair of the Program for Negotiation at Harvard Law School, while Islam is the Bernard M. Gordon Senior Faculty Fellow in Engineering, and professor of water diplomacy at the Tufts' Fletcher School of Law and Diplomacy.

*Water Diplomacy* digs into a series of water-resource disputes, in chapters co-written with several graduate students, and lays out the specific principles that Susskind and Islam believe must be interjected into the future of water management.

Thinking of water as a "flexible resource," for instance, encourages officials, citizens and other stakeholders to think of ways to conserve or reuse water so the same supply can address greater demand. Similarly, Susskind says, "water management means dealing with open systems, or water networks, rather than closed systems." By that, he means that too often water management consists of "drawing a line around a watershed, a river, some body of water," and then divvying up that supply, rather than thinking of all the factors that can affect regional supply and demand.

In practice, taking a new approach means finding technologies that allow different political entities to use share water more effectively. In the Southwest, where the Colorado River is the essential source of water, New Mexico and Arizona have helped pay for conservation measures in California that allow for more water to be diverted to those smaller states.

In the Middle East, Israel and Jordan have a long-running agreement about managing the Jordan River: Israel stores water in wet seasons, and both countries look for new ways to manage the supply and demand. Israel, Susskind notes, is also looking for ways to increase its use of

desalination plants that could expand the regional supply of water.

“That agreement has stood the test of time, even though relationships in the region are tough,” Susskind says.

Such programs underscore a third principle that Susskind and Islam emphasize. “If you think in zero-sum terms, you will only produce zero-sum solutions,” Susskind says. “We think there are value-creating opportunities, non-zero-sum outcomes.”

## **Talking it through**

That is why politics, not just engineering, is such an important part of water management, the authors believe.

“Given the scientific complexity, getting a decision with lots of parties means engaging people in something other than shouting matches at public hearings,” Susskind says. “It means facilitating a problem-solving-oriented dialogue with a lot of people at the table. We know how to do that in other arenas, but we haven’t been committed to doing that in the water arena until relatively recently.”

A success story in this vein, Susskind and Islam believe, is California’s CALFED program, which over many years has worked out arrangements for sharing water from Northern California’s Sacramento River delta with cities and the agricultural Central Valley. CALFED links dozens of government agencies with scientists, engineers and water consumers to map out policy.

“It was the engagement of all those parties that made it possible to produce not only an ingenious agreement that reflected a deep understanding of the water systems involved, but also political credibility to the negotiated outcome, because all the people who would have to

have a say about it were involved in producing a decision,” Susskind adds.

Other scholars in the field agree that new perspectives on water use are badly needed. “What’s innovative about this approach is that it explicitly attempts to include scientific input [along with] a good political process of decision making, which is just as important as any particular decision being made,” says William Moomaw, a professor of international environmental policy at Tufts University’s Fletcher School of Law and Diplomacy who has taught classes with Susskind and Islam. As for why countries would be willing to try new approaches, Moomaw says, “we’re stuck. We can’t go any further with the approach that we’ve had.”

For their part, Susskind and Islam are attempting to convey the importance of those principles to interested parties worldwide. The book grew out of annual water-diplomacy workshops they host at MIT each summer, funded by the National Science Foundation, which so far have attracted officials from 22 countries. The workshops are part of the MIT Science Impact Collaborative, a part of the Department of Urban Studies and Planning.

Moreover, making water available to everyone in the future, they emphasize, will require input from scholars in all disciplines, from science and engineering to the social sciences and humanities.

“A great many problems in the world that MIT students and faculty want to work on exist at the junction of science, policy and politics,” Susskind says. Scholars, he adds, should be “willing to learn how their colleagues in other fields work and think. You cannot succeed in solving the problems in the world unless and until you can put these collaborative efforts together.”

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