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Looming water shortage sowing seeds of conflict

PROPERTY RIGHTS

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Many of the wars of the 20th century were about oil, but the wars of this century will be over water, according to a former vice president of the World Bank and others who have seen global conditions on the ground. The potential for violent conflict over water is obvious: nothing can live without water, water is scarce, and populations are increasing. Water pollution, waste, climate change, and new demands for water such as biofuel will only intensify the crisis.

In different regions of the world many nations get their fresh water from transboundary rivers. Any move to deprive downstream users of water will surely lead to regional conflict. In our own region, a water crisis occurred in 1992 when Mexico neglected to release waters of the lower Rio Grande pursuant to a 1944 treaty, driving some South Texas farmers out of business and Texas-Mexico relations to a low. Within the U.S., interstate conflict over water is intensifying. Georgia, Florida and Alabama are in a battle over water in Lake Lanier, Montana and Wyoming over water in the Tongue and Powder Rivers, and the Carolinas over water in the Catawba River. In South Texas counties, tensions are running high as big cities zero in on securing water rights in aquifers within those jurisdictions.

Landowners in the Edwards Aquifer region were among the first casualties of the water wars in Texas. The legislation creating the Edwards Aquifer Authority (EAA), a groundwater district, cut off a landowner's century old right to withdraw groundwater from his property. Now, a landowner must obtain a permit from the EAA to withdraw groundwater from his land.

Initially, permits were issued only to landowners who beneficially used aquifer water from 1972 through 1993. But those initial permit rights may now be bought, sold and transferred from one well to another. The legislation both established a cap and trade system that converted water into a commodity and created a market to reallocate the water. Municipalities are driving the market and many farmers are cashing their water rights and getting out of the farming business or making do with less water. The price for Edwards Aquifer water was about $1,000 an acre-foot in late 1998. Today, it sells for as much as $5,250 an acre-foot (an acre-foot is enough water to cover an acre with a foot of water or 325,851 gallons).

Regulating groundwater

Groundwater districts are the state's preferred method for regulating groundwater in Texas, and more than 91 districts have been created so far. Districts have broad discretion to regulate pumping from aquifers within their jurisdiction. Districts may adopt rules that give a preference to historical users of water (over new users), limit production, and prohibit the exportation of water for use outside the district. Currently, districts are busy deciding on the "desired future conditions" for aquifers within their jurisdiction. Based on what the districts want their aquifers to look like 50 years from now, groundwater availability models are run that indicate how much water can be withdrawn each year to accomplish the "desired future conditions." The number generated by the model may serve as a cap on the total amount of water that may be withdrawn each year under permits issued by the districts. Rules and "desired future conditions" vary from district to district, fragmenting the market and dampening the prospects for comprehensive management of the resource.

Groundwater regulation has changed the business of water utilities. Historically, the cost of providing water service was roughly equal to the cost of providing the infrastructure to deliver the water (the wells, pumps, pipelines, mains, labor etc.). Now, there is a cost associated with the water itself. The political choice is to minimize the price of water to the consumer and not raise water rates. The result is that the value of water is underpriced, there is no incentive for consumers to conserve, and utilities may not charge enough to cover the incremental cost of serving new customers. The underpricing of water also discourages private investment in the water sector, requires unwarranted subsidization, and perpetuates unreasonable expectations about what water should cost.

The key to dealing with water shortages is large scale demand management. But demand management is difficult to achieve if the water is undervalued and subject to different regulations within different geopolitical boundaries. The number of utilities engaged in the business of providing water service also sets up a barrier to comprehensive demand management. In Texas, as in most of the U.S., water service is dominated by municipalities and other governmental entities, which tend to resist privatization. Yet private sector involvement is important. Through public-private projects, public utilities are able to shift risks to the private sector and gain access to private capital, innovation and technological expertise. Public laws must be changed, however, to promote public-private water projects so participants are on a level playing field and efficiencies are maximized. Laws that require competitive bidding, limit the use of public funds and eminent domain, and provide the publicly owned utility with governmental immunity, make public-private projects unnecessarily complicated and risky for private companies and investors.

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