Bureaucracy fuels China’s safe water problems

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The kind of top-down bureaucracy that can discourage communication and hobble some Western corporations is fueling widespread problems with China’s water supply, with lessons for the rest of the world, researchers reported on Thursday.

So-called stovepipe bureaucracy — where different departments communicate with their own teams and managers but not with others that might be related — makes it harder for China to deal with critical water sustainability issues, the scientists wrote in the current edition of the journal Science.

The problems of ample supplies of safe, clean water in China are formidable, and may offer a preview for other developed and developing nations in a century where water has been dubbed “the new oil,” the resource on which civilization may turn.

“I think this is a big lesson for the rest of the world, because the world is facing the same problems that China has with the complex relationships among water, energy, land, food and other things,” said co-author Jianguo Liu of the Center for Systems Integration and Sustainability at Michigan State University.

He acknowledged that the stovepipe bureaucracy adds to the challenge over water sustainability in China.

Two-thirds of China’s 669 cities have water shortages, over 40 percent of its rivers are severely polluted, 80 percent of its lakes suffer from eutrophication — an over-supply of nutrients, often a result of fertilizer run-off from farmland — and about 300 million rural residents lack access to safe drinking water, the researchers reported.

The authors praised China’s commitment, made in January 2011, to spur water conservation and manage this crucial resource within this decade.

Complex relationships

But the researchers said this commitment won’t be enough unless disparate agencies learn to communicate and coordinate with each other. They described a web of government entities with seemingly contradictory missions, and actions that appear to go against one policy as they promote another.

“People don’t communicate well and do not coordinate well and just try to achieve one goal at a time,” Liu said in a telephone interview.

Problems occur when these goals conflict and agencies fail to coordinate, he said. For example, growing more food often means using more fertilizer, which pollutes water. Producing more energy requires more water, which cuts down on the water supply for other uses.

Sometimes, conservation policies are ineffective, as when China’s central government promulgated a policy in 2004 to stop building golf courses, which soak up quantities of water; since then, 400 golf courses have been built, the researchers said.

The government encourages urbanization, the report said, but protection of water supplies gets less attention compared to energy issues, even though water is absolutely essential to human life.

To solve these problems, the authors recommended focusing on increasing water efficiency along with work to understand the complex relationships among agencies and people with competing claims on water.

“Sometimes we understand these relationships, but we have not communicated them to the managers, to the policymakers, to the general public,” Liu said.
However, simply communicating with these stakeholders may not be sufficient in some cases, according to Liu, because “the policymakers and managers do not take this kind of scientific evidence into account in their decision-making process or their management practice.”

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