Droughtbusters

By ANITA HAMILTON  Monday, Oct. 3, 2011

Record droughts have parched the earth's crust from Somalia to Texas this year. The effects on the world's drinking-water supply have been enormous. The level of China's Yangtze River, the third largest in the world, sank so low this spring that about 400,000 people along its shores were stuck without a local drinking-water source until the government opened the gates of its massive Three Gorges dam to help counteract the crisis. In East Africa, some 10 million people have been punished by the region's worst drought in 60 years. And in Texas, where wildfires scorched 4 million acres (1.6 million hectares) this summer, the financial losses from starving cattle and blighted crops have reached $5 billion.

Things will likely get worse. According to a new report from McKinsey, by 2030, global water supplies will meet just 60% of the total demand. Meanwhile, we'll spend an estimated $50 billion to $60 billion per year trying to bridge that gap. But while water scarcity is real, it's not happening because we have any less than we did a century ago. "We have the same amount of water," says James Famiglietti, a professor of earth-system science and civil engineering at the University of California at Irvine. But we have
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and Their Kin

250% more people drinking it. What's more, climate change means that water is "moving around to different places, even as populations are growing," notes Famiglietti. The result is not only a shortage but also a mismatch between where water is and where it's needed.

In the past, we beat water shortages by drilling for groundwater, building dams and erecting massive pipelines. But the enormosity of the problem today demands radical solutions that promote conservation as well as boost supply. "One of the reasons we have been so wasteful in the past is because it has been so easy to find another source of water," says Peter Gleick of the Pacific Institute. "But those days are over."

Novel ideas abound. In the Punjab region of India, for example, 6,500 rice and wheat farmers are testing out a $7 device called a tensiometer that analyzes ground moisture in order to prevent overwatering crops. In 2010, farmers using the tensiometer cut their water use by 22%. The trial, sponsored by PepsiCo and Columbia Water Center, will expand to some 50,000 farmers by 2012. Since agriculture accounts for 70% of global water consumption, a large-scale rollout of such devices could create massive savings.

While no single solution makes sense everywhere because of differences in climate, geography and local politics, a few are gaining traction. The best strategy often involves combining several tactics. Here are five smart ways that communities around the globe are fighting back against water scarcity:

1 Tackling the toilet-to-tap taboo

Windhoek, Namibia

The idea of drinking water that was once in your toilet bowl may seem like a bad joke, but it's not. Stripped of its impurities and rigorously tested to ensure its safety, reclaimed water is one of the most inexpensive and reliable supplies of water on earth. "This is where we have to use our rational brains to overcome our natural aversion," says Alex Prud'homme, author of The Ripple Effect. In Namibia, the driest country south of the Sahara, such recycled water accounts for 35% of the drinking supply in the country's capital city of Windhoek.