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Scientist at Work

Notes From the Field

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Surveying Rwanda's Water Supply

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When I tell people I am going to Rwanda, I usually get the “are you kidding me?” look. Most people in the West have come to know Rwanda through its bloody civil war; more than 800,000 people were killed there in 1994, marking one of the most infamous genocides of modern history. Apart from this sad event, however, very little is known about contemporary Rwanda and the people who live within its borders.

Since the 1994 genocide, the government of Rwanda has made tremendous efforts toward human development. Among the areas where efforts are greatly invested are water and environmental sanitation management. However, with regard to water resources Rwanda is not alone. It is estimated that over a billion people worldwide — most heavily concentrated in Africa and Asia — lack access to safe drinking water, and almost double that lack access to basic sanitation.

Global climate change is likely to make the situation worse. More frequent and more intense floods and droughts, as well as the rapid melting of glaciers and ice caps are all predicted. The flooding in Pakistan and mudslides in China may be a foretaste of even worse to come.

Africa and South Asia are particularly vulnerable to the effects of climate change. A substantial portion of the world's population lives on these continents. Much of the population will be displaced by rising sea levels, droughts, mudslides and other events related to climate change. Drinking water supplies and sanitation services are increasingly stressed in these areas.

Threats to food security at the local scale from climate uncertainty has also started to emerge as a major social and ecological concern. In India, for example, 60 percent of the population is involved in farming, and future agricultural losses due to climate change — future food insecurity — are predicted to be as high as 30 percent by 2080.

Crop yields have steadily been decreasing in the region, in part because of changes in the timing of monsoons. The Red Cross estimates that from 2007 through 2009, tens of thousands of families in India, Pakistan, Nepal, China and Bangladesh were displaced by severe flooding. While the causes of global warming may be global, the impact of rapidly changing climate are most acutely felt on a local scale in Africa and South Asia.

So once my friends and family get over the shock that I am heading for Rwanda, they generally ask, "So why would a sociologist be working in Rwanda on water and sanitation issues under climate uncertainty?"

In other words, what exactly are you doing over there?

I try to explain by saying that at the heart of the discipline of sociology is the concept of inequality, and that access to safe drinking water and sanitation is basically a problem of inequality.

I point out that recent scholarship has highlighted that changes in watershed and other ecosystem services are particularly discriminatory toward the poor, minority communities and women. In fact, a recent United Nations Human Development Report (<http://hdr.undp.org/en/reports/global/hdr2006/>) suggested that power, poverty and inequality are at the heart of today's global water crisis.