

## Letter to editor

### Rural water and the Millennium Development Goals: Uganda

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The majority of people in the world's developing nations rely on untreated surface and shallow groundwater sources that are highly prone to fecal and other contamination [1-3]. The communities relying on such water sources for drinking and other domestic purposes tend to be poor and live in polluted environments with associated high health risks [4, 5]. Rural Uganda faces challenges caused by poor sanitation facilities, pollution of water sources, high levels of waterborne diseases and limited budgets. To address the inadequate level of sanitation, the Government of Uganda established laws, guidelines and a management framework. The framework used to mobilize water and sanitation issues is the Participatory Hygiene and Sanitation Transformation Programme (PHAST), introduced in 1994. Then, in 1999, the National Water Policy was introduced [6]. However, most of these programs target urban populations.

In East Africa, 69 percent of the people living in rural areas rely on surface water. One study suggests that this number is increasing [7]. Still, most studies focus on urban water systems as locations for intervention [4, 6]. If scientists and public health practitioners are to be serious about meeting the Millennium Development Goals (MDGs), namely Target #10, which aims to halve by 2015 the proportion of people without sustainable access to safe drinking water, we must amplify efforts that focus on providing improved water in remote, rural areas.

In the period since the establishment of the MDGs in 1990 to the year 2002, Uganda has increased access to improved water in urban areas by 8 percent (from 79 percent to 87 percent) and in rural areas by 12 percent (from 40 percent to 52 percent) [8]. Still, about half of the people in rural Uganda lack access to improved water. Some of these groups are the most marginalized and poor in the country.

Meeting the MDGs is not only a marker of improvement in facilities and infrastructures that provide services, but a marker of serious decreases in child mortality from diarrheal diseases. Increasing availability of water not only improves

access to adequate drinking water, but also adequate water for washing clothes, dishes and bodies. If current trends continue, much of sub-Saharan Africa will not meet the goals.

Addressing water issues in rural and sometimes remote areas is difficult because of the distances between homes, nomadic livelihoods, water shortages during dry seasons, the complex and individualized water uses and needs of small communities. This calls for small-scale, customized water system design and management.

There is still a great amount of work to be done to address water availability and quality in rural Uganda and sub-Saharan Africa, in general. As global researchers and African health scientists, we must speak and write more about the importance of concentrating efforts in rural areas. It is vital for us to connect across continents. In addition to international collaboration, we must collaborate across disciplines. To more sufficiently address water access and quality, engineers, geographers, health scientists, public health workers, anthropologists and microbiologists must work in tandem in contending with accomplishment of MDGs in rural and remote areas in Africa. For example, water adequacy needs can be handled by ecological engineers through sustainable water system design. These efforts are complimented by understanding the intricacies of water use among different groups, through anthropological study. Geographers bring insight about spaces of health and disease transmission, framed by political and economic context. Microbiologists can help set targets for water quality, based on current levels of contamination. Health scientists and public health workers ensure that water system interventions reduce negative health impacts and monitor their successes. Academics must also team up with community leaders and policy makers to develop appropriate strategies to address water in rural and remote areas. It is this type of interdisciplinary work and community participation that must be incorporated to truly take aim at the MDGs.

The future of safe water provision lies with us. As a global community, we must act now to begin the

long journey of ensuring adequate, clean water in rural sub-Saharan African communities.

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