



washplus Weekly
Supportive Environments for Healthy Communities

Issue 109 July 26, 2013 | Focus on Rural Water Supply and Sanitation

This issue contains a selected few of the 2013 studies and reports on rural water and sanitation and is not a comprehensive listing. Resources highlighted in this issue include a USAID and Rotary International review of sustainability, some of the latest WASH health impacts studies, an interesting paper on learning from sanitation failures, and country studies from Indonesia, Malawi, Rwanda, and other countries.

GLOBAL/LESSONS LEARNED

- **Sustainability Index of WASH Interventions: Global Findings and Lessons Learned**, 2013. USAID; Rotary International. ([Full text](#))

The Sustainability Index Tool focuses on four critical areas that are known to be important to the long-term sustainability of WASH interventions: institutional, management, financial, and technical factors.

HEALTH IMPACTS

- **Effects of Hygiene and Defecation Behavior on Helminths and Intestinal Protozoa Infections in Taabo, Côte d'Ivoire**. *PLoS ONE*, June 2013. T Schmidlin. ([Full text](#))

This study found that inadequate sanitation and hygiene behavior are associated with soil-transmitted helminths and intestinal protozoa infections in the Taabo area of south-central Côte d'Ivoire. The data will serve as a benchmark to monitor the effect of community-led total sanitation and hygiene education to reduce the transmission of helminthiases and intestinal protozoa infections.

- **Making Connections: Women, Sanitation and Health**, 2013. **SHARE Project**. ([Link](#))

This event took place on April 29, 2013, attracting around 200 attendees from the WASH, gender, and health sectors. Diverse representatives from each sector presented and debated critical issues linking gender, sanitation, and health including violence against women and girls, maternal health, and menstrual hygiene.

- **Water Source Quality in Northern and Central Tanzania: Implications for Rural Communities**. *Journal of Environmental Protection*, May 2013. D Aller. ([Full text, pdf](#))

This article examines drinking water sources in two climatologically distinct regions in

Tanzania. Water quality and socio-economic conditions within villages were linked to incidences of waterborne diseases. The maximum risk of exposure to diarrhea-causing pathogens, for example, was strongly related to household income level. Nonetheless, incidences of diarrhea were reduced by more than 40 percent when the average monthly household expenses increased from US \$10 to \$20. Finally, to the best of the authors' knowledge, this is the first study known to derive an empirical relationship between water-related diseases and poverty.

- **Water Sanitation, Access, Use and Self-Reported Diarrheal Disease in Rural Honduras.** *Rural and Remote Health*, May 2013. G Halder. ([Full text, pdf](#))
Only 79 percent of individuals living in rural Honduras use improved water sources. Inadequate drinking water quality is related to diarrheal illness, which in Honduras contributes to 18.6 episodes of diarrhea per child year in children under 5 years of age. The purpose of this study was to examine and compare access to drinking water and sanitation, as well as self-reported diarrheal disease incidence among three proximal communities in the Department of Yoro area of Honduras.

SANITATION

- **Characteristics of Latrines in Central Tanzania and Their Relation to Fly Catches.** *PLoS One*, July 2013. S Irish. ([Full text](#))
The disposal of human excreta in latrines is an important step in reducing the transmission of diarrheal diseases. Furthermore, the latrine contents can be used as a breeding site for flies, which may further contribute to disease transmission. Latrines do not all produce flies, and there are some which produce only a few, while others can produce thousands. In order to understand the role of the latrine in determining this productivity, a pilot study was conducted in which 50 latrines were observed in and around Ifakara, Tanzania.
- **Learning from Failure: Lessons for the Sanitation Sector**, 2013. S Jones. ([Full text, pdf](#))
This paper explores the idea of learning from failure in the sanitation sector. The recent trend of "admitting failure" in aid and development forces sanitation practitioners, researchers, and policymakers to ask if they can and should address failure more openly to improve their work. The ideas in this paper developed from discussions at a workshop on learning from failure convened by the UK Sanitation Community of Practice (SanCoP) designed to kick-start this debate.
- **Impact Evaluation of a Large-Scale Rural Sanitation Project in Indonesia**, 2013. Water and Sanitation Program. |([Research Brief](#))|[Working Paper](#)|
The authors found that the project increased toilet construction by approximately 3 percentage points. The changes were primarily among non-poor households that did not have access to sanitation at baseline. Open defecation among these households decreased by 6 percentage points (or 17 percent). Diarrhea prevalence was 30 percent lower in treatment communities than in control communities at the endline (3.3 percent versus 4.6 percent).
- **Paving the Way to Scaling-Up: Factors Contributing to the Adoption of Eco-San Toilets in Malawi**, 2013. SHARE Project. ([Full text, pdf](#))
The present report is mainly centered on the findings of recent research carried out by Bunda Agricultural College, in partnership WaterAid and SHARE. The research was

carried out from August 2011 to March 2012, and aimed to set some building blocks toward scaling up ecological sanitation in urban and rural Malawi. The basic idea was to draw lessons from households' experiences of eco-san toilet promotion so as to understand what factors were appealing or deterred them from adopting these technologies.

WATER SUPPLY

- **3 Innovative Ways to Manage Rural Water Supply.** *The Water Blog, June 2013.*

M. Naughton. ([Blog post](#))

When compared to urban areas, rural water supply presents a different set of challenges. Often the cost per capita of constructing water systems is higher in rural than in urban areas due to a smaller population that is scattered over a large area. This, in turn, leads to high operating costs to be recovered by fewer users. Most importantly, there may not always be an obvious institution to take the responsibility of managing and operating the system after construction. This institutional vacuum leads to poor collection of water fees and ultimately to poor operation and maintenance of the rural water systems.

- **Existing Water Access Points in the Districts of Bo, Koinadugu, and Tonkolili in Sierra Leone,** 2013. F Bourgois. ([Full text](#))

An independent study conducted by a French NGO in Sierra Leone at the end of 2010 surveyed all existing water access points across three districts, documenting in detail the quality of the 2,859 structures identified. Only 30 percent of the structures in place were found to be capable of delivering access to safe water throughout the year.

- **Financing Capital Maintenance of Rural Water Supply Systems: Current Practices and Future Options,** 2013. C Fonseca. ([Full text, pdf](#))

This working paper provides case-study evidence on current practices around funding capital maintenance, including the levels of funding provided and the resulting impact on services. In addition, it seeks to quantify the range of capital maintenance expenditure required to provide a basic level of service.

- **How Three Handpumps Revolutionised Rural Water Supplies: A Brief History of the India Mark II/III, Afridev and the Zimbabwe Bush Pump,** 2013. E Baumann. ([Full text](#))

The India Mark II/III, the Afridev, and the Zimbabwe Bush Pump are three of the most successful and widespread hand pump designs in the world. Over the last quarter of a century, hundreds of thousands, if not millions, have been built and installed in wells and boreholes around the world.

- **How to Make a Hand-Pump,** 2013. T Simb. ([Full text](#))

This guide presents a hand pump that is made from materials available locally. Made from PVC pipes, old tires, and wood, the hand pump operates with a plunger that is submerged in the water.

- **IRC Symposium 2013: Monitoring Sustainable WASH Service Delivery,** 2013. IRC. ([Link](#))

From April 9–11, 2013, IRC International Water and Sanitation Centre organized the Monitoring Sustainable WASH Service Delivery symposium in Addis Ababa, Ethiopia. The symposium was hosted by Ethiopia's Ministry of Water and Energy and Ministry of

Health and was organized in partnership with the African Ministers' Council on Water, WaterAid, Water and Sanitation for Africa, Rural Water Supply Network, Water Supply and Sanitation Collaborative Council, and Water For People.

- **A New Approach to Water Point Mapping: A Case Study from Rwanda**, 2013. WaterAid. ([Video](#))

The Water Point Mapper, developed by WaterAid, is a free tool for producing maps showing the status of water supply services. It is aimed at water, sanitation, hygiene practitioners as well as local governments working at the district and subdistrict levels in sub-Saharan Africa.

- **Regulation in Rural Areas: Briefing Note No. 7**, 2013. S Tremolet. ([Full text](#))

In the context of small towns and rural areas, it may seem difficult to introduce regulatory mechanisms that apply to national rules while also balancing potentially conflicting interests at the local level. For this reason, it is often necessary to adopt a mix of approaches to regulate water and sanitation services, relying on a mix of contracts, national-level regulatory bodies, and in some cases, regulatory relays at the local level.

- **Tapping Treasure: Cost-Effective Boreholes in Sierra Leone**, 2013. K Danert. ([Full text](#))

The National Water and Sanitation Policy (2010), objective 3.1.4, is to "have systematic and sustainable development and use of groundwater resources." This includes the development and dissemination of procedures and guidelines governing groundwater development and management. Summarizing findings from an initial visit, this study concludes that Sierra Leone has considerable untapped potential for borehole drilling.

WASHplus Weeklies will highlight topics such as Urban WASH, Indoor Air Quality, Innovation, Household Water Treatment and Storage, Handwashing, Integration, and more. If you would like to feature your organization's materials in upcoming issues, please send them to Dan Campbell, WASHplus Knowledge Resources Specialist, at dacampbell@aed.org.



About WASHplus - WASHplus, a five-year project funded through USAID's Bureau for Global Health, supports healthy households and communities by creating and delivering interventions that lead to improvements in access, practice and health outcomes related to water, sanitation, hygiene (WASH) and indoor air pollution (IAP). WASHplus uses at-scale, targeted as well as integrated approaches to reduce diarrheal diseases and acute respiratory infections, the two top killers of children under five years of age globally. For information, visit www.washplus.org or email: contact@washplus.org.