



Supportive Environments for Healthy Communities

Issue 12 June 17, 2011 | Focus on Mobile Technologies

This *WASHplus Weekly* contains resources on the use of mobile technologies for indoor air quality (IAQ) and water, sanitation and hygiene (WASH). In this issue are IAQ articles on how mobile technologies are used to maintain stove sales and monitor indoor air quality. The WASH resources in this issue include a DFID sponsored review that concludes mobile technologies offer new, effective, low-cost and inclusive pathways to water security and poverty reduction. Other articles discuss innovative uses of mobile technologies in Haiti, India, Kenya and South Africa. If you know of other resources on these topics, please send them to WASHplus for future issues of the Weekly.

IAQ ARTICLES & REPORTS

- **Commercialization of Toyola Improved Cookstoves in Ghana**, *Presentation at the PCIA Forum, 2011*. S. Wahab, Toyola Energy. ([Link to presentation](#))
Investment capital and business development services are key missing ingredients for most African small businesses. This presentation includes information on Toyola's mobile sales via vehicles and floating shops.
- **Mobile Technology for Cookstove Carbon Finance**, IN: *PCIA Bulletin, April 2010 Issue 23*. M. Benedict, Winrock International. ([Link to full-text](#)) (NOTE: Article starts on page 18)
Complete, accurate sales records are the foundation for monitoring in cookstove carbon finance projects, but maintaining the records on paper can be a slow and error prone process, especially as projects scale up. Building on discussions started during the 2009 Forum in Kampala, Winrock has been working with PCIA Partner E+Co to develop a system for maintaining a database of stove sales using standard mobile phones.
- **Mobile Phones Increase Incomes of Poor Women**, BBC News, October 7, 2010. ([Link to video](#))

Samanthi, who runs a small business selling charcoal stoves in Sri Lanka, says she would be unable to do business if it was not for her mobile phone.

- **A System for Determining Indoor Air Quality from Images of an Air Sensor Captured on Cell Phones**, n.d. Kelsey Whitesell, UCLA. ([Link to full-text](#))

This system analyzes images of air sensors taken on cell phones and extracts indoor air pollution information by comparing the sensor to a calibrated color chart. This system will be deployed with Project Surya, a pilot project of the UN Environmental Program that aims to replace traditional cooking methods with clean cooking technology in several rural Indian villages.

WASH ARTICLES AND STUDIES

- **Smart Water Systems: Project Report to UK DFID**, 2011. R. Hope, Oxford University. ([Link to full-text](#))

Based on a global literature review and proof-of-concept fieldwork in Kenya and Zambia, evidence was found that the confluence of mobile network coverage expansion, wide-spread mobile phone ownership, innovative mobile banking applications and smart metering technologies offer new, effective, low-cost and inclusive pathways to water security and poverty reduction. Smart Water Systems (SWS) presents a new approach to promote water security with uncertain but significant future risks from population growth, hydrological variability and extreme events, and intensifying water allocation demands across water supply, agriculture, industry and ecosystems.

- **Aqua Plan: Could Cell Phones Help Aid Workers Ensure Haiti's Supply of Clean Drinking Water?** IN: *Scientific American*, February 2011. L. Greenemeier. ([Link to full-text](#))

One aid group working in Haiti is turning to SMS text messaging to ensure Haitians are keeping their drinking water free of cholera-causing bacteria.

- **Do It and Prove It—Information Technology Opens Up the Water Sector**, IN: *Circle of Blue*, January 2011. B. Walton. ([Link to full-text](#))

Pressed by the need to provide clean drinking water for nearly 900 million people, a new generation of innovators is creating technology tools and an information economy that will transform water supply accountability and empower customers to demand better service from their water providers. Among the most popular and effective new tools are mobile phones and mapping technologies that rely on rising access to wireless Internet connections and cloud computing to facilitate the flow of information.

- **GIS & Mapping Tools for Water and Sanitation Infrastructure**, 2011. Water and Sanitation for the Urban Poor. ([Link to full-text](#))

Continuing developments in GIS software are opening up a number of possibilities for capturing and processing geographical data, and then presenting it via the internet.

The ability to manage information on water and sanitation services has wide-ranging benefits for project planning and design, and for monitoring, advocacy and accountability. This document introduces three tools of this type – Google Fusion Tables as used by WSUP, WaterAid’s WaterPoint Mapper, and Water For People’s FLOW – and briefly discusses the advantages and disadvantages of each.

- **India, New Delhi: Using Facebook and SMS to Keep the City Clean**, IN: *WASH Technology*, May 1, 2011. J. Kaur. ([Link to full-text](#))

The Municipal Corporation of Delhi launched its Facebook page in January 2011 and an integrated SMS service in March 2011 to enable public monitoring of garbage collection sites and public urinals/toilets in areas under its jurisdiction.

- **Kenya: Cell Phones, Google Apps Help Bring Basic Sanitation and More Transparency**, IN: *WASH News Africa*, June 15, 2010. ([Link to full-text](#))

Nuru International, a US-based nonprofit focused on pioneering holistic, sustainable solutions to poverty, is using some Google platforms and Nokia phones to improve sanitation in Kuria, Kenya. Phones are used in data collection for sanitation and hygiene.

- **New Horizons for Health through Mobile Technologies**, 2011. World Health Organization. ([Link to full-text](#))

Though not specific to the WASH sector, this WHO survey provides useful information on how organizations utilize mobile technologies in the areas of managing emergencies and disasters, mobile telemedicine, community mobilization and health promotion, health surveys, and data collection.

- **WATER Alert!: Disseminating Drinking Water Quality Information to South Africans**, IN: Proceedings of the Conference on Human Factors in Computing Systems, 2011. D. Brown, Georgia Institute of Technology. ([Link to abstract](#))

WATER Alert! is a prototype mobile phone application designed to alert and report critical water quality information to consumers who subscribe to it. An evaluation of this design with users suggests that such an application would help to improve consumers' understanding of water quality information. The symbol-based messages make critical water quality information more accessible to illiterate or low-literate users, or non-native English or Afrikaans speakers. Additionally, the use of a tool and interface design most users are familiar with (the mobile phone) lowers the learning curve.

WEBSITES

- **Akvo: Really Simple Reporting** - ([Link to website](#))

WASH staff across the world can add project status updates including photos, text and video, using the internet or their mobile phone. Akvo is designed for professional NGOs and is built on the latest open computing standards.

- **Consumers International** - ([Link to website](#))

This website provides information on using the internet and mobiles to get consumers involved in the regulation of access to water and sanitation.

- **Grundfos LIFELINK**- ([Link to website](#))

Grundfos LIFELINK builds upon a combination of pump, mobile phone, and mobile banking technologies, and a business model that allows consumers to pay back into the original water system investment, simply by paying via their mobile for the water they use.

- **MobileActive: Water and Sanitation** -([Link to website](#))

This website has interesting links to WASH mobile technology initiatives.

- **h2.0 - Monitoring Services to Inform and Empower** - ([Link to website](#))

The vision guiding h2.0 is that access to reliable, specific and well-presented visual information on water and sanitation services can improve sector advocacy and accountability between service providers and consumers.

- **WaterAid: Water Point Mapper** - ([Link to website](#))

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

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, creates supportive environments for healthy households and communities by delivering high-impact interventions in water, sanitation, hygiene (WASH) and indoor air quality (IAQ). WASHplus uses proven, at-scale interventions 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 contact: washplus@aed.org.

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