



Supportive Environments for Healthy Communities

### Issue 55 May 11, 2012 | An Update on Sludge Management

This issue updates the [WASHplus Weekly](#) on sludge management to include links to an upcoming conference, recently published reports and country studies from Bangladesh, Kenya, Nepal, Rwanda, Senegal and Uganda.

We would also like to use the Weekly to share information about current and proposed research of subscribers to the Weekly. The London School of Hygiene and Tropical Medicine (LSHTM) recently notified us of systematic reviews that are underway on WASH and people living with HIV and shared sanitation. Please check this [link](#) for contacts and additional information and to share your organization's relevant studies or reports for the reviews.

*Please let WASHplus know at any time if you have resources to share for future issues of WASHplus Weekly or if you have suggestions for future topics. An [archive](#) of past Weekly issues is available on the WASHplus website.*

#### EVENTS/ANNOUNCEMENTS

- **2nd International Faecal Sludge Management Conference, South Africa, 29 – 31 October 2012.** ([Link](#))

The call is now open for papers or workshops dealing with innovations and experiences with all aspects relating to the accumulation, treatment, removal, beneficial usage, transport, pit emptying, new sanitation technologies, management arrangements, economics and disposal of faecal sludge derived from on-site sanitation systems.

- **Device for Harvesting Energy and Water from Human Waste Gets Green Light,** March 14, 2012. ([Link](#))

A project from a team of researchers from Imperial College London, the University of Manchester and Durham University beat more than 2,000 other proposals to receive funding from the Bill and Melinda Gates Foundation to develop a prototype system for recovering drinkable water and harvesting hydrogen energy from human faecal waste.

#### GENERAL/OVERVIEW SOURCES

- **Combined Efforts to Improve Sanitation**, *Eawag News*, 70/June 2011. Christian Zurbrügg, Sandec. ([Full-text](#))

Although the disposal of faecal sludge is common practice worldwide, surprisingly little wastewater research is devoted to this topic. Activated sludge treatment plants, which have been extensively studied, and waste stabilization ponds adapted to local conditions in developing countries are rapidly overloaded if they have to deal with large quantities of highly concentrated faecal sludge, and they are not suitable for further treatment of this product. For over a decade, Eawag has been collaborating with universities and research institutes in developing and transition countries in efforts to develop appropriate faecal sludge treatment technologies.

- **Efficiency Indicators for Waste-Based Business Models: Fostering Private-Sector Participation in Wastewater and Faecal Sludge Management**, *Water International*, 36(4) 2011. A Murray, International Water Management Institute-Ghana. ([Full-text](#))

Opportunities for public-private partnerships based on cost recovery from the reuse of human waste remain unexplored. In this paper the authors present four potential business models involving aquaculture, biogas recovery, compost production and the use of faecal sludge as an industrial fuel, and describe their associated financial flows. The business models are based on efficiency indicators that can provide decision support to local authorities and entrepreneurs in choosing options that are best suited to local conditions and needs.

- **Integrating Faecal Sludge Management (FSM) into Urban Sanitation Planning**, 2011. IWA; WSUP. ([Full-text](#))

The management of faecal sludge from onsite toilets (pit latrines and septic tanks) is a notoriously difficult problem in dense low-income urban communities. This paper argues that urban sanitation planning needs to consider sewerage and FSM in an integrated way. Even when—as in many African cities—the long-term aim is to achieve sewerage of all densely populated districts, this aim is unlikely to be achieved for several decades, and in the meantime appropriate solutions are required for FSM.

- **Sanitation as a Business Factsheet**, 2012. K Gröber, Sustainable Sanitation Alliance (SuSanA). ([Full-text](#))

This fact sheet discusses the role of different players in the sanitation sector, such as private businesses, governmental institutions and the non-profit sector with a focus on developing countries. Several project examples illustrate activities that can create revenues for investors and local entrepreneurs but also highlight some of the challenges in delivering sustainable sanitation services to the poor.

## COUNTRY REPORTS

- **Capital and Operating Costs of Full-Scale Fecal Sludge Management and Wastewater Treatment Systems in Dakar, Senegal**, *Environ Sci Technol*, Apr

2012. P Dodane, Toiletttes du Monde. ([Full-text](#))

A financial comparison of a parallel sewer-based (SB) system with activated sludge, and a fecal sludge management (FSM) system with onsite septic tanks, collection and transport trucks, and drying beds was conducted. In addition to costing less overall, FSM operates with a different business model, with costs spread among households, private companies, and the utility. Hence, SB was 40 times more expensive to implement for the utility than FSM. The results of the study illustrate that in low-income countries, vast improvements in sanitation can be affordable when employing FSM, whereas SB systems are prohibitively expensive.

- **Faecal Sludge Management in Bangladesh: An Issue That Needs Urgent Attention**, 2012. Paper prepared for the South Asia Sanitation and Hygiene Workshop, 31 January - 2 February 2012, Rajendrapur, Bangladesh. A Opel. ([Link](#)) This study in three cities of Bangladesh shows that in the absence of any safe emptying, transportation, dumping and treatment mechanism most of the sludge generated is going into surface water, ultimately shattering the gains achieved through increased sanitation coverage. With the predominant on-site technologies, most septic tanks and pits in the cities require emptying, which is largely done by manual sweepers.
- **Market Study on Demand for Use of Wastewater, Excreta and Faecal Sludge and Other Related By-Products**, 2011. NETWAS Uganda. ([Full-text](#)) The study was aimed at determining the available market and the extent of re-use of wastewater sludge and other related by products in and around urban centers in Uganda. Specific objectives of the assignment were to: generate knowledge on the market demand for wastewater sludge and its related by-products in Uganda; investigate potential market for wastewater sludge and document and analyze the legal framework for wastewater sludge use and disposal in Uganda.
- **Ned Breslin: Navigating Public Toilets in the City, Begging for Change in the WASH Sector**, *Circle of Blue*, Apr 25, 2012. ([Link](#)) Ned Breslin (from Water For People) meets with Valentin, a sanitation entrepreneur who is developing a pay-for-use public latrine network in the Kigali. Valentin is transforming the negative perceptions of public latrines: his latrines are clean, well lit, and offer a range of services, from laundry and shoe shining to showers and cell phone services.
- **Status and Strategy for Faecal Sludge Management in The Kathmandu Valley**, 2011. UN HABITAT. ([Full-text](#)) Even though there are service providers for faecal sludge collection, due to the absence of a proper faecal sludge management (FSM) system almost all the collected sludge is discharged into rivers. Thus, there is an urgent need for a proper FSM system in the Kathmandu Valley. Such a system could be operated through a public private

partnership approach under a responsible institution/authority.

- **Tackling the Challenges of Urban Sanitation: A Social Enterprise Model**, *The Guardian*, Apr 10, 2012. ([Link](#))

An article about [Community Cleaning Services](#), a micro franchise initiative founded by SC Johnson in Nairobi aims to improve levels of sanitation in low-income communities.

## WEBSITES/VIDEOS

- **SuSanA Faecal Sludge Management Forum**. ([Link](#))

Some recent posts on this forum about sludge management.

- **Will They Manage? A Case for Sanitation as a Business**, 2012. ([Video](#))

This short film documents some of the work that business advisers Captiva Communications in Kampala, Uganda has been doing with entrepreneurs in sanitation. This part focuses on the Rwene sisters, who have been running a profitable solid waste management business and are now looking to diversify into pit emptying.

- **WSUP Gulper Pump Prototype**, 2011. ([Video](#))

This video highlights the Gulper pump, which was based on the successful design conceived by Steve Sugden of LSHTM and modified by Dave Wilson from Ethekewini Municipality, South Africa. Water and Sanitation for the Urban Poor are working with Makiga Engineering Services Ltd to produce Gulper pumps in Nairobi.

Each WASHplus Weekly highlights topics such as Urban WASH, Indoor Air Pollution, Innovation, Household Water Treatment and Storage, Hand Washing, 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@fhi360.org](mailto:dacampbell@fhi360.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 pollution (IAP). 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](http://www.washplus.org) or email: [contact@washplus.org](mailto:contact@washplus.org).

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