

## Global Experiences in Improving Sanitation and Hygiene – *What is working and where?*

### 1. Globally: Water, Sanitation and Hygiene (WASH) in Schools

*Investing in school sanitation and hygiene education is an investment in the future. It promotes effective learning, increases enrolment of girls, reduces incidence of disease, promotes environmental cleanliness and supports children's rights.*

Photo credit: UNICEF/HQ06-0428 /Giacomo Pirozzi



Water, Sanitation and Hygiene (WASH) in schools, focuses on providing children with an effective and healthy learning environment. It includes the provision of facilities that children need for sanitation, hand washing and water supply and the skills, attitudes and knowledge necessary for effective hygiene practice. At the same time, children can communicate their new behaviors and skills to their homes and communities and use it in the future when they have become parents themselves.

However, the mere provision of facilities does not necessarily guarantee sustainability and health. It is the use of latrines and the related appropriate hygiene behaviors that provide health benefits. In schools, hygiene education aims to promote those practices that will help to prevent water and sanitation-related diseases as well as encourage healthy behavior in the future generation of adults.

An effective WASH program will include the following key components: a healthy physical environment, active and organized children, trained and committed school personnel and links to home and community. UNICEF works globally on WASH programs; ninety-three countries reported WASH in school activities in 2006.

#### **Child Friendly Sanitation in Malawi**

A UNICEF initiative in Malawi is developing and instituting national standards for sanitation facilities and hygiene promotion in primary schools in collaboration with children and their families. Children have historically had little if any roles in school decision making, but approaches like child-to-child and student focus groups are beginning to honor their right to participate in their own development. The national review teams interviewed children on what they liked and disliked about their sanitation facilities. The children spoke candidly and perceptively of the changes needed and their insights are being used to modify the technical designs. The process was innovative and a good starting-point for evaluating technologies suitable for schools. The children proved keen advocates for better sanitation in both their schools and families. Their feedback is also guiding the work for child-friendly hygiene education. Comic books have already been designed for grades five to eight on the importance of school latrines. Over the longer term, this school sanitation and hygiene promotion project offers the opportunity to create a larger school-based health programme. The potential operational links include prevention of HIV/AIDS, improved nutrition from school gardens using compost from the latrines, de-worming activities, retention of adolescent girls in schools and improving the quality overall of educational services.

## 2. Global: Public Private Partnerships for Hand Washing with Soap

*A recent review in The Lancet Infectious Diseases Journal suggests that a surprising 42-47% of all diarrhea could be prevented if people washed their hands with soap. This makes hand washing more effective than water supply, fly control or sanitation improvement in preventing diarrheal diseases. Soap manufacturing companies know how to market 'the joys of cleanliness' and can make great partners in a global effort to push hand washing rates up above about 10-20%, where they are now.*

Human feces are the main source of diarrheal pathogens. They are also the source of shigellosis, typhoid, cholera, all other common diarrheal disease, and some respiratory infections. Just one gram of human feces can contain 10 million viruses and one million bacteria. While secondary measures (food handling, water purification, and fly control) may have an impact, far more important are the primary barriers – sanitation and hand washing – after fecal contact.

Hand washing interrupts the transmission of disease agents and so can significantly reduce diarrhea and respiratory infections, as well as skin infections and trachoma. A study by Luby et al. (Lancet, 2005) suggests that hand washing with soap can reduce respiratory infections in children under five by 50 percent. Another current study found that children under 15 years living in households that received hand washing promotion and soap had half the diarrheal rates of children living in control neighborhoods (Luby et al., JAMA 2004).

Because hand washing can prevent the transmission of a variety of pathogens, it may be more effective than any single vaccine. Promoted on a wide-enough scale, hand washing with soap could be thought of as a 'do-it-yourself' vaccine. However, changing the habits of a lifetime is not so easy and requires a huge and concerted effort.



Photo credit: UNICEF/HQ07-0404/Giacomo Pirozzi

### What Motivates Hygiene Behavior in Ghana?

UNICEF is partnering with the World Bank, USAID, the London School of Hygiene and Tropical Medicine (LSHTM) and other partners, including the private sector in a global hand washing initiative aimed at promoting hand washing with soap. Combining the expertise and resources of the soap industry with the facilities and resources of governments to promote hand washing with soap, the initiative is exploring a win-win partnership between the public and private sectors. While governments and development agencies want to combat disease and poverty, industry is interested in expanding its market. The initiative is currently active in sixteen countries.

A newly published study by LSHTM uses consumer research to investigate the factors motivating hand washing with soap in order to inform a national communications campaign for Ghana. It reveals that the strongest motivators for hand washing with soap are related to nurturance, social acceptance and disgust of feces and latrines, especially their smell. Protection from disease is mentioned as a driving force, but was not a key motivator of hand washing behavior. The authors of the study propose that much can be learnt from the world of consumer marketing. Rather than base communications programs for behavior change on increasing knowledge, programs should aim to respond to the inner desires and motivations of their target audiences. Citation: Scott, B., Curtis, V., Rabie, T., & Garbrah-Aidoo, N. 2007. *Health in our hands, but not in our heads: understanding hygiene motivation in Ghana*. Health Policy and Planning. (For more information, see: [www.globalhandwashing.org](http://www.globalhandwashing.org).)

**3. Africa and Asia: Community Led Total Sanitation (CLTS)/Total Sanitation Approach**  
*From teaching and educating to facilitating communities' own analysis; From 'we must subsidize the poor' to 'communities can do it'; From 'we persuade and motivate' to 'it's up to you, you decide'; From top-down standardization to bottom-up diversity ('they design'); From bigger budgets and disbursement targets to lower budgets to allow more to be achieved; From spending on hardware to spending on supporting people.*



The Total Sanitation Approach (TSA) or Community-Led Total Sanitation (CLTS) involves facilitating a process to inspire and empower rural communities to stop open defecation and to build and use latrines, without offering external subsidies to purchase hardware such as pans and pipes. CLTS has continued to spread within that country and many interesting innovations, as well as some important sustainability issues, have emerged. The approach has been introduced in at least six different countries in Asia and three in Africa.

Interest amongst different institutions is growing, particularly as it is realized that TSA/CLTS has a great potential for contributing towards meeting the MDGs, both directly on water and sanitation (goal 7) and indirectly through the knock-on impacts of improved sanitation on combating major diseases, particularly diarrhea (goal 6), improving maternal health (goal 5) and reducing child mortality (goal 4).

However, rapid institutional take-up of TSA/CLTS has raised some dilemmas and challenges, not least of which is the need for changes in attitudes and mindsets of donors who wish to support and promote sanitation. While some agencies are still using pilot projects to try to learn more about the approach before adopting it in their own sanitation programs, others have already institutionalized the no-subsidy TSA/CLTS approach and are observing the power and impact of local communities' collective action in rapidly ensuring open defecation free status. The innovations and local diversity in developing latrine models by using locally available, low-cost materials and models of implementation, monitoring, community reward and penalty schemes are constantly developing. (Source: IDS Working Papers- see Suggested Readings)

**Women Lead Total Sanitation Drive in Maharashtra, India**

Remotely located Sahara village has earned recognition through an award as the first 'open defecation free' village from the State Government of Maharashtra. This improved status and subsequent appreciation of the village is an outcome of ingenious efforts of four women's Self-Help Groups (SHGs) formed in 2001, when UNICEF began to work with the community. The intervention, based on empowering communities, energized the women to bring about a dramatic and positive change on a wide range of concerns in their lives from school attendance and alcohol consumption to improving the village approach road. The SHG women decided to take up the cause of clean and open-defecation free village in April 2005. Their plan began with each group contributing Rs. 500 - the total amount of Rs. 2000 was utilized as working capital to purchase basic materials to construct toilets. The group also provided speedy credit to its members willing to build toilets. Even poor households put up a makeshift toilet within their tiny budget. The expense for construction per toilet ranged from Rs. 300 to Rs. 1500. The SHG women understood that any behavioral change is even more difficult to sustain than to initiate. Therefore they evolved a system of community monitoring - the women frequently visited houses to ensure proper usage and maintenance of toilets and appointed a village senior for two months to watch and warn people against open defecation. ([http://www.unicef.org/india/wes\\_1364.htm](http://www.unicef.org/india/wes_1364.htm))

#### 4. Latin America and Asia: Condominial or Simplified Sewerage

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Simplified sewerage is an off-site sanitation technology that removes all wastewater from the household environment. Conceptually it is the same as conventional sewerage, but with conscious efforts made to eliminate unnecessarily conservative design features and to match design standards to the local situation, which may include high density urban, rural and peri-urban areas.

Simplified sewerage involves the collection of all household wastewaters in small-diameter pipes laid at fairly flat gradients. The sewers are often laid inside the housing block, or in the front garden or under the pavement (sidewalk), rather than in the centre of the road as with conventional sewerage. It is suitable for existing unplanned low-income areas and new housing developments with a more regular layout.

Photo credit: UNICEF/HQ07-0647 /Giacomo Pirozzi



Simplified sewerage is most widely used in Brazil and often referred to as ‘condominial sewerage’. CAESB, the water and sewerage company of Brasília and the Federal District started implementing simplified sewerage in poor areas in 1991 and now it considers simplified sewerage as its “standard solution” for rich and poor areas alike. CAESB has over 1,200 km of condominial sewers in operation – the largest example of simplified sewerage in the world. Many schemes have been successful, and some have been failures – mainly due to poor construction and/or poor institutional commitment, and especially due to poor maintenance. Good operation and maintenance is essential for the long-term sustainability of simplified sewerage. While the technology is widely known in Latin America, it is being evolved independently in other parts of the world to suit various contexts.

#### Effects of Urban Sanitation on Childhood Diarrhea

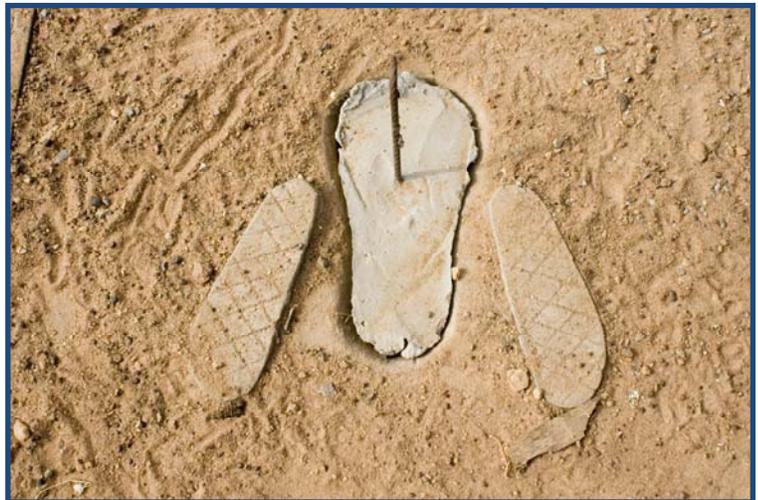
A recent study in Salvador Brazil was conducted in parallel with a city-wide sanitation intervention intended to raise sewerage coverage rates from 26% to 80%. The original objective of the sanitation project, called ‘Bahia Azul’ or Blue Bay, was the control of marine pollution, which was largely caused by the discharge of domestic waste water. Researchers from the Federal University of Bahia and London School of Hygiene and Tropical Medicine investigated the epidemiological effect of the sanitation program on diarrhea morbidity in children less than three years old in Salvador. The study was conducted over seven years, allowing for a pre-construction baseline in high and low risk areas of the city and then for a post-construction evaluation in the same neighborhoods. The results showed that overall prevalence of diarrhea fell by 22%. In areas where baseline prevalence of diarrhea was highest, i.e. poorer areas with low sanitation coverages rates to begin with, diarrheal rates fell by 43%. These results suggest that urban sanitation is a highly effective health measure that can no longer be ignored. (Barreto, M. et al., *Effect of city-wide sanitation program on reduction in rate of childhood diarrhea in northeast Brazil: assessment by two cohort studies*, The Lancet, Vol 370, November 10, 2007.)

## 5. Globally: Ecological Sanitation

*Environmental sanitation means keeping our surroundings clean and safe and preventing pollution and that includes wastewater treatment and disposal, vector control and other disease-prevention activities. Ecological sanitation, on the other hand, is a cycle, or closed-loop system, which treats human excreta as a resource.*

Ecological sanitation is based on the idea that urine, faeces and water are resources in an ecological loop. It is an approach that seeks to protect public health, prevent pollution and at the same time return valuable nutrients and humus to the soil. This recycling of nutrients helps to ensure food security. In these systems, excreta are processed on site until they are free of disease-causing organisms. Thereafter the sanitized excreta are recycled by using them for agricultural purposes.

Ecological sanitation covers a wide range of toilet designs as well as different techniques for the collection and treatment of urine and faeces. These include ecological low- and high-technology solutions for rural and urban settings. It allows for central and/or decentralized management and can be dry and/or waterborne. This range of options allows for appropriate sanitation solutions to be developed for a variety of different geographical, political and socio-economic contexts.



*Photo credit: UNICEF/HQ07-0321 /Christine Nesbitt*

### Ecological Sanitation in Uganda

Through the Ugandan Ministry of Health (MoH), ecological sanitation is cautiously promoted as one of the options for problematic environments such as collapsing soils, high rock or water tables. The current standpoint of the MoH is that - for health reasons and to prevent pathogen transfer - reuse of feces should not be promoted until proper handling systems are established and widely disseminated. The Ministry of Water, Lands and Environment, through the Ministry's Directorate of Water Development (DWD) plays a leading role in promoting urine diversion toilets as a means of protecting groundwater and has constructed a number of these toilets countrywide.

In May 2003, a total of 506 'EcoSan' toilets had been constructed in South Western Uganda. Of these, 437 are household, 36 are institutional and 33 are public facilities. Currently, the urine-diverting dehydration toilet (or Skyloo) is the most widely promoted, because it does not affect groundwater, can be built above ground and enables reuse of urine with minimal health risks.

Other reasons why ecological sanitation options are being included into national sanitation interventions are:

- A desire to sponsor sustainable sanitation solutions;
- The protection of water resources;
- Supporting agricultural production and sustaining biodiversity; and,
- Improving health and quality of life.

However, when asked to indicate their best-preferred sanitation facility, those who chose EcoSan cited permanence, potential for agricultural productivity and hygiene as the appealing factors. (*Source: A Review of EcoSan Experience in Eastern and Southern Africa, WSP, January 2005.*)

## 6. WASH in Emergencies

*Amidst the chaos of post-disaster situations, relief agencies agree on two basic points relating to sanitation: that excreta disposal is prerequisite to safeguarding public health; and that consultation with communities is a critical first step in being responsive to needs and safeguarding dignity and privacy in the design of hygiene and sanitation interventions.*

In emergency settlements such as refugee camps, sanitation is a first priority. Diarrheal diseases account for 17% of all deaths of children under five worldwide (WHO, 2006) and the risk of occurrence increase significantly in most emergency situations.

UNICEF currently leads a global ‘cluster’ of international agencies on Emergency Water Sanitation and Hygiene (WASH). The aim of the global clusters is to “improve the predictability, timeliness and effectiveness of a comprehensive response to humanitarian crises” through strengthened partnerships between NGOs, international organizations, the International Red Cross and Red Crescent Movement and UN agencies.



*Photo credit: UNICEF/HQ07/-1136/Shehzad Noorani*

One WASH cluster’s activity focuses on improved hygiene promotion during emergencies. The way in which hygiene promotion is implemented varies widely amongst agencies. There is a lack of clarity within the WASH sector in relation to the purpose of hygiene promotion, its expected outcomes and a lack of common understanding of methods and approaches in its implementation. The WASH Cluster Hygiene Promotion Project will attempt to address these deficits through a number of short, medium and long term outputs which have two proposed outcomes: increased capacity within the sector to deliver effective hygiene promotion activities as part of water and sanitation programs and increased capacity within the cluster to integrate hygiene promotion into coordination mechanisms. For more information, visit [www.humanitarianreform.org](http://www.humanitarianreform.org)

### Preventing open defecation

In Tanzania during the 1994 Rwandan refugee crisis one approach adopted in the immediate emergency phase was to employ sanitation workers whose primary task was to forcibly prevent people defecating in certain areas around the refugee camp- and to direct them to alternative areas or facilities. This was especially important on the lakeside of the camp to prevent fecal contamination entering the lake which was the main water source, and was accompanied by a clean-up operation and the provision of open defecation areas. Such an approach had to be managed carefully to avoid conflict within the affected population and was accompanied by appropriate hygiene promotion, highlighting the need to prevent water contamination at the earliest possible stage. (Harvey, P. *Excreta disposal in emergencies: A field manual*, 2007, WEDC.)