

**Ben Fawcett**

Shit in Developing Cities:  
A World of Ill Health, Indignity,  
Violence, and Death

**M**ost readers of this article will be able to “flush and forget” their bodily waste, conveniently and hygienically, at any time, almost wherever they are. However, this is far from the case for a huge proportion of the global population. About one in every three of us do not have access to an effective toilet—one that satisfactorily separates us and everybody else from our potentially disease-carrying feces—within or near our home, our workplace, or our school. This lack of access has dire impacts on lives and livelihoods.

Data from the United Nations Children’s Fund and the World Health Organization (2015), which have been monitoring worldwide water supplies and sanitation, show that, in 2015, 32 percent of the global population—2.34 billion people—did not have access to an “improved” toilet. The data also indicate that 950 million women, men, and children do not even have use of a dirty, unsafe latrine; they are obliged to resort to open defecation, on beaches, on riverbanks, on railway lines, in the fields or forests, or using plastic bags, which are then disposed of at random. Of the world’s open defecators, 560 million live in India.

The proportion of people with access to an adequate toilet is reported to be much greater in towns and cities of the world than in rural villages. However, the forty-eight countries classified as “least developed” by the United Nations had only an average of 47 percent toilet coverage in their towns and cities in 2015. Urban population growth is currently very rapid and likely to remain so, particularly compared with slowing growth in rural

areas. In consequence of this growth, while more than 1.4 billion people have gained access to improved sanitation in towns and cities across the developing world since 1990, the absolute number without access increased by 230 million, 50 percent more than in 1990. In particular, slums and informal settlements in poorer countries are growing rapidly. The United Nations Human Settlements Programme (UN-Habitat 2013) has estimated that slums may be home to 2 billion people by 2030, up from 863 million in 2012. It is possible that a third of the world's people will be slum dwellers by the middle of the twenty-first century.

Slums around the world have several common features: inadequate infrastructure and services for water supply, sanitation, drainage, and electricity; often makeshift shelter, lacking durability; insecure tenure, resulting in lives under the threat of eviction by authorities or private landlords; overcrowding, exacerbating poor health conditions, increasing social tensions, and giving rise to congested lanes that make access to goods and services difficult; and lack of legal recognition, resulting in the term *informal* settlements. Because of lack of official recognition, slum dwellers are often not included in censuses; it is therefore likely that the number of people without sanitation is underestimated (Satterthwaite, Mitlin, and Bartlett 2015).

The impacts of not having access to a toilet are often devastating, both in terms of physical health, particularly for young children, and in social terms, especially for women and girls.

### **Health Impacts: Disease, Disability, and Death**

Although the past twenty-five years have seen a considerable reduction in both reported morbidity and mortality resulting from unsafe water, sanitation, and hygiene (WASH), millions of people still die every year from preventable, WASH-related causes, and hundreds of millions suffer the long-term disabling and debilitating effects of nonfatal diseases. About one-quarter of the global disease burden, more than one-third of that among children, and 23 percent of all deaths can be attributed to modifiable environmental factors, including WASH (Prüss-Üstün and Corvalán 2006). Such diseases include diarrhea, roundworm, whipworm, hookworm, schistosomiasis, and trachoma (see table 1). Feces are implicated in the transmission of all of these, and it is reported that, at any one time, around half of all people in the developing world are suffering from one of these six diseases.

Table 1. Fecally Transmitted Infections: Transmission, Morbidity, Mortality, and Prevention

Diarrhea: 1.7 billion episodes every year, causing 760,000 deaths in children under five years old. Transmitted by all fecal-oral routes. Treatable by oral rehydration and largely preventable by effective WASH.

Roundworm, whipworm, and hookworm: Infections with these soil-based worms cause asthma, anemia, undernutrition, and impaired physical and intellectual development; transmitted from eggs in human feces to another person, by mouth (roundworm and whipworm) or through the skin (hookworm). At least 800 million children are infected with roundworm, 600 million with whipworm, and 575 million with hookworm.

Trachoma: The leading cause of preventable blindness; 1.8 million with severe visual impairment; transmitted in eye discharge by person-to-person contact and by *Musca sorbens* flies that breed on human feces.

Schistosomiasis: Transmitted through human excreta to snails living in water bodies, which pass it back to another person by skin penetration or consumption of infected water. Over 200 million people are affected, most of them children; 20 million suffer severe, debilitating consequences.

Source: World Health Organization 2016

Incidence of diarrhea has been considered as the primary health-related indicator of inadequate WASH for many years. In 2012 361,000 deaths from diarrhea attributable to inadequate WASH were reported among children under five years old, representing 5.5 percent of all deaths in that age group (Prüss-Üstün et al. 2014). The authors of that study also estimate that a total of 72 million disability-adjusted life years (DALYs) due to diarrhea are attributable to inadequate WASH in all developing countries.<sup>1</sup> Fecal-oral transmission of diarrhea is most effectively stopped by disposal of feces in an appropriate toilet, combined with adequate hand washing.

Robert Chambers and Gregor von Medeazza (2014: 576) suggest, however, that “diarrheas are only the visible tip of the fecally-transmitted infection (FTI) iceberg” and that concentration on diarrhea no longer adequately serves the WASH sector and those we are seeking to protect. They recommend that equal consideration be given to a much broader range of FTIs, including all six diseases identified in table 1, plus several other intestinal parasites; conditions such as hepatitis A, B, and E; typhoid; and poliomyelitis and other enteroviruses.

A recent, groundbreaking article (Humphrey 2009) introduced a newcomer to the WASH sector and the FTIs: environmental enteropathy. The hypothesis is that in living in an environment surrounded by feces from many sources, both human and animal, infants ingest contamination that

damages their small intestines, such that they can absorb less nutrients. At the same time, their immune response in fighting these infections consumes both energy and protein. The result is malnutrition and, in many cases, stunting. Research in India (Spears 2012), where so many of the world's open defecators live, and in Cambodia (Water and Sanitation Program 2013) has indicated a clear correlation between environmental enteropathy, open defecation, permanent stunting, and poor educational performance. Being brought up in an environment where open defecation is the norm, as is common in Cambodia, especially during the critical first two years of an infant's life, results, almost inevitably, in permanent stunting and devastating physical and intellectual impacts. Researchers have also highlighted that the effect of open defecation on stunting is much more pronounced in densely populated urban areas, that is, the slums, than in rural areas.

Thanks, in large part, to overcrowding, health conditions tend to be worse in slums than in villages and significantly worse than in other areas of towns and cities. Siddharth Agarwal (2011) shows that the poorest quartile of urban populations in six Indian states suffered under-five mortality rates 79 percent higher than the rest of the urban population. Madhya Pradesh had a staggering differential of 300 percent. Diarrheal diseases are reported as the leading cause of these child deaths.

Poor health has numerous indirect effects, including those on educational performance and productivity. Likewise, good health relates not just to freedom from diseases; it is a state of complete physical, social, and mental well-being, determined by numerous factors, many of which are directly affected by inadequate sanitation.

### **Social Impacts: Indignity and Violence**

When the global press carried the story of two teenage girls allegedly gang-raped and murdered as they sought a secluded place to defecate in Uttar Pradesh, India, in 2014, everybody was shocked and horrified. But, as we've seen, nearly one in seven of the world's people are obliged to defecate in the open, with no access to a toilet of any kind, opening themselves to gross indignity and the possibility of violence. The first United Nations special rapporteur on the human right to safe water and sanitation wrote:

Sanitation, more than many other human rights issues, evokes the concept of human dignity; consider the vulnerability and shame that so many people experience every day when, again, they are forced to defecate in the open. . . . Dignity closely relates to self-respect, which is difficult to maintain when

being forced to squat down in the open, with no respect for privacy, not having the opportunity to clean oneself after defecating and facing the constant threat of assault in such a vulnerable moment. (Albuquerque 2009: 18)

Marni Sommer et al. (2015) usefully summarize the four most common categories of violence related to WASH: sexual violence; psychological violence, including harassment and bullying; physical violence; and socio-cultural violence, including ostracism, discrimination, and marginalization. The authors give numerous examples of the feelings of fear, shame, and helplessness that women around the developing world experience in open defecation and the use of distant, unsafe, unlit, and often unhygienic toilet facilities. Likewise, women in both Uganda and India expressed feelings of anger and disgust at the daily struggle to manage their sanitation needs with dignity and in safety. Although women are massively constrained by socio-cultural mores against being seen to defecate, particularly in India, such that they are obliged to do so only at night, the dangers of attack are multiplied when they move around in the dark. Public toilets are common sites of sexual violence. Railway tracks are commonly used for defecation in India, but at great risk to women and girls doing so under cover of darkness.

Anupama Nallari (2015) movingly describes the experiences of adolescent girls in four poor settlements in Bengaluru, India. Radha, the oldest of five children living with their parents in a small home in an “unrecognized” slum of about two hundred other such homes, is perhaps the most challenged. She is obliged to use the vacant land beside the settlement for her toilet needs. She feels exposed as she passes through the gap in the wall surrounding the slum, has difficulty achieving privacy, and is frightened by snakes. “It is particularly hard for the girls when they are menstruating, as they have the additional challenge of disposing of their sanitary napkins or rags discreetly in garbage piles out in the open. Radha complained that she had been teased and verbally harassed by boys when caught in the act” (79). As Nallari reports, mothers are afraid for their daughters: “If something happens, these girls’ lives will be ruined forever.’ . . . Lack of sanitation is not just an inconvenience for adolescent girls, it shapes their very identity and how they experience the world around them” (85–86).

Sanitation is not just about managing excreta; bathing and washing clothes is equally important and problematic for many people. Deepa Joshi, Ben Fawcett, and Fouzia Mannan (2011) found how important it is, even for the poorest in Bangladesh and India, to be able to wash regularly; being, and being seen to be, unclean is a huge stigma. Girls in Beguntila, a slum in Dhaka, explained that they have to get up early in the morning, before the

men are around: “We bathe in the dirty pond, with our clothes on. Then we go home, change our clothes and then come back [to the pond] to wash the ‘changed’ clothes. This is so difficult when we are bleeding (menstruating). We also need to wash the rags we use during this period, but there is no space [private enough] to dry them” (104).

A male-dominated WASH sector and male control over infrastructure investments have resulted in the needs and rights of women and girls being ignored. But more recent concerns with human rights and with privacy and dignity have led to recognition of the importance of menstrual hygiene management. Work in this area needs to start from an understanding of traditional beliefs, knowledge, and practices (Sommer, Kjellén, and Pensulo 2013). Beliefs include many taboos and cultural attitudes, most significantly concerning secrecy and shame. Knowledge about menstrual onset and management and about reproductive health may also be limited. Menstrual hygiene practices define the requirements for privacy and safety, including space and facilities for bathing, changing, and the disposing or washing and drying of used materials. All too often, personal needs are severely constrained and result in indignity and shame, every month, for hundreds of millions of girls and women. Lack of adequate, gender-segregated toilets in schools results in huge numbers of girls dropping out of education or regularly missing classes and therefore not achieving their potential.

Alongside those living in slums, towns and cities in low-income countries include numerous—at least 100 million (CARDIO, n.d.)—homeless people and pavement dwellers, whose sanitation and hygiene needs are even more inadequately met. Facilities and services for such people—individuals and families alike—are sorely lacking, and life is hard. For Safia, a young married girl living on the streets of Hyderabad in India, “‘Everything is a problem on the pavement. There is no privacy. People are watching all the time. . . . People are waiting to take advantage. There’s no safety.’ . . . [Safia’s] first baby . . . died [after] a few months. . . . Her second child is three years old. On the day the [research] team met Safia, she had just suffered the miscarriage of her third child—on the street” (Joshi, Fawcett, and Mannan 2011: 96–97). One can only imagine the difficulties for pavement dwellers to meet their sanitation and hygiene needs.

### **The Next Fifteen Years**

As Catarina de Albuquerque (2009: 25) stresses, access to sanitation should be “safe, hygienic, secure, affordable, socially and culturally acceptable, pro-

viding privacy and ensuring dignity in a non-discriminatory manner.” Above all, meeting these conditions requires political commitment and a thorough understanding of the needs of those most affected by inadequate sanitation.

The aim of the new Sustainable Development Goals, targeting the period to 2030, is that “no one will be left behind” (United Nations 2015: 3) in our efforts to eliminate open defecation and to achieve “universal access to basic WASH for households, schools and health facilities” (Water Supply and Sanitation Collaborative Council 2014). These are ambitious targets but ones that, as illustrated in this article, deserve every effort. Defecation is a taboo subject, cloaked in secrecy. We need the four-letter expletive—*shit*—to highlight the urgent need for greater efforts to improve sanitation, particularly in the rapidly growing slums, and hopefully to shock those with influence into increased action. Shit is implicated in far too much illness, suffering, indignity, and death to continue to be ignored as a result of taboos and shame.

#### Note

- 1 DALYs = years of life lost through premature mortality (YLLs) + years of life lived with a disability, weighted by severity (YDLs).

#### References

- Agarwal, Siddharth. 2011. “The State of Urban Health in India: Comparing the Poorest Quartile to the Rest of the Urban Population in Selected States and Cities.” *Environment and Urbanization* 23, no. 1: 13–28.
- Albuquerque, Catarina de. 2009. *Report of the Independent Expert on the Human Right to Safe Water and Sanitation*. Report to the United Nations Human Rights Council A/HRC/12/24. New York: United Nations.
- CARDO (Centre for Architectural Research and Development Overseas). n.d. *The Nature and Extent of Homelessness in Developing Countries*. Newcastle-upon-Tyne: CARDO, University of Newcastle-upon-Tyne.
- Chambers, Robert, and Gregor von Medeazza. 2014. “Undernutrition’s Blind Spot: A Review of Fecally Transmitted Infections in India.” *Journal of Water, Sanitation and Hygiene for Development* 4, no. 4: 576–89.
- Fischer-Walker, Christa, et al. 2013. “Global Burden of Childhood Pneumonia and Diarrhoea.” *Lancet* 381, no. 9875: 1405–16.
- Humphrey, Jean. 2009. “Child Undernutrition, Tropical Enteropathy, Toilets, and Handwashing.” *Lancet* 374, no. 9694: 1032–35.
- Joshi, Deepa, Ben Fawcett, and Fouzia Mannan. 2011. “Health, Hygiene, and Appropriate Sanitation: Experiences and Perceptions of the Urban Poor.” *Environment and Urbanization* 23, no. 1: 91–111.
- Nallari, Anupama. 2015. “‘All We Want Are Toilets inside Our Homes!’ The Critical Role of Sanitation in the Lives of Urban Poor Adolescent Girls in Bengaluru, India.” *Environment and Urbanization* 27, no. 1: 73–88.

- Prüss-Üstün, Annette, and Carlos Corvalán. 2006. *Preventing Disease through Healthy Environments: Towards an Estimate of the Environmental Burden of Disease*. Geneva: World Health Organization.
- Prüss-Üstün, Annette, et al. 2014. "Burden of Disease from Inadequate Water, Sanitation, and Hygiene in Low- and Middle-Income Settings: A Retrospective Analysis of Data from 145 Countries." *Tropical Medicine and International Health* 19, no. 8: 894–905.
- Satterthwaite, David, Diana Mitlin, and Sheridan Bartlett. 2015. "Editorial: Is It Possible to Reach Low-Income Urban Dwellers with Good-Quality Sanitation?" *Environment and Urbanization* 27, no. 1: 3–18.
- Sommer, Marni, Marianne Kjellén, and Chibesa Pensulo. 2013. "Girls' and Women's Unmet Needs for Menstrual Hygiene Management (MHM): The Interactions between MHM and Sanitation Systems in Low-Income Countries." *Journal of Water, Sanitation and Hygiene for Development* 3, no. 3: 283–97.
- Sommer, Marni, et al. 2015. "Violence, Gender, and WASH: Spurring Action on a Complex, Under-Documented and Sensitive Topic." *Environment and Urbanization* 27, no. 1: 105–16.
- Spears, Dean. 2012. "Height and Cognitive Achievement among Indian Children." *Economics and Human Biology* 10, no. 2: 210–19.
- UN-Habitat (United Nations Human Settlements Programme). 2013. *State of the World's Cities 2012/2013: Prosperity of Cities*. Nairobi: UN-Habitat.
- United Nations Children's Fund and World Health Organization. 2015. *Progress on Sanitation and Drinking Water—2015 Update and MDG Assessment*. Geneva: United Nations Children's Fund and World Health Organization.
- United Nations. 2015. *Transforming Our World: The 2030 Agenda for Sustainable Development. A/Res/70/1*. New York: United Nations.
- Water and Sanitation Program. 2013. *Investing in the Next Generation: Growing Tall and Smart with Toilets*. Washington, DC: World Bank.
- Water Supply and Sanitation Collaborative Council. 2014. *WASH Post-2015: Proposed Targets and Indicators for Drinking-water, Sanitation and Hygiene*. Geneva: Water Supply and Sanitation Collaborative Council.
- World Health Organization. 2016. WHO fact sheets for "diarrhoeal disease," "soil-transmitted helminth infections," "trachoma," and "schistosomiasis." <http://www.who.int/media/centre/factsheets/fs330/en/>, <http://www.who.int/mediacentre/factsheets/fs366/en/>, <http://www.who.int/mediacentre/factsheets/fs382/en/>, <http://www.who.int/media/centre/factsheets/fs115/en/> (accessed April 27, 2016).