UNICEF Sanitation Factsheet for World Toilet Day 2013

The Situation[1]

- Since 1990, almost 1.9 billion people have gained access to an improved sanitation facility (a safe clean toilet). However, we are **not on track** to meet the MDG sanitation target by 2015.
- Globally, **2.5 billion people** (36% of the global population) do not use improved sanitation facilities (safe, clean toilets) and **1 billion people** still defecate in the open (15% of the global population) - the majority of these (934 million) live in rural areas.
- The number of people practising open defecation is decreasing in all regions except sub-Saharan Africa – but not quickly enough. Open defecation is still most widely practised in Southern Asia and Sub-Saharan Africa.
- Southern Asia has made progress – from 24% of the population using improved sanitation in 1990, to 41% in 2011 – however significant gains still need to be made in this region. Two-thirds (66%) of those practicing open defecation live in India.
- Oceania has made little progress: only 36% of the population uses improved sanitation.
- Sub-Saharan Africa has made the least progress: only 30% of the population uses improved sanitation facilities. The richest 20 per cent in sub-Saharan Africa are five times more likely to use improved facilities than the poorest 20 per cent.
- In several countries (including Benin, Burkina Faso, India and Nepal), 95% or more of the poorest people practise open defecation, and progress for the poorest 40 per cent has been minimal since 1995.

The Consequences

- Most pathogens that cause diarrhoea share a similar mode of transmission – from the faeces of one person to the mouth of another[2]. 88% of all under-five deaths from diarrhoeal diseases are due to a lack of clean water, safe sanitation and good hygiene[3].
- From 2000 to 2012, the total annual number of deaths from diarrhoea among children under 5 decreased by more than 50%, from almost 1.3 million in 2000 to about 0.6 million in 2012. However, globally, diarrhoea still remains the second largest cause of under-five mortality and is responsible for 9% of all under-five deaths. Almost 600,000 children under five die each year – more than 1600 a day – as a result of diarrhoea[4].
- Globally there are 1.5 billion infections with intestinal nematode infections (worms), affecting one quarter of the world's population[5]. School age children have the highest intestinal worm infection prevalence of any group[6]. An estimated 47% of children ages 5-9 in the developing world suffer from a worm infection[7]. It is common for a child living in a less developed country to be chronically infected with all three worms (hookworm, whipworm, roundworm). Such children have malnutrition, growth stunting, intellectual retardation, and cognitive and educational deficits[8].
- Both childhood diarrhoea and intestinal worms were independently associated with profound and lasting growth shortfalls. These associations remained significant when controlling for a number of possible physical and socioeconomic confounders. The study found that the average 9 diarrhoeal episodes before the age of 2

[1] WHO & UNICEF 2013. Joint Monitoring Programme - Progress on sanitation and drinking-water - 2013 update.
[2] UNICEF/WHO 2009. Diarrhoea: Why children are still dying and what can be done.
[3] WHO Global Burden of Disease Study http://www.who.int/healthinfo/global_burden_disease/publications/en/
[4] UNICEF 2013. Committing to Child Survival: A Promise Renewed – Progress Report 2013.
[5] WHO 2008. By Prüss-Üstün A, Bos R, Gore F, Bartram J. Safer water, better health: costs, benefits and sustainability of interventions to protect and promote health.
[6] Baird, Hicks, Kremer, Miguel (2011). "Worms at Work: Long-run Impacts of Child Health Gains" http://www.economics.harvard.edu/faculty/kremer/files/KLPS-Labor_2011-05-13-Circulate-B-No-IRR.pdf
[7] Hall, A., Hewitt, G., Tuffrey, V., de Siva, N, "A review and meta-analysis of the impact of intestinal worms on child growth and nutrition," Maternal Child Nutrition, Apr 4 Suppl. 1:118-236, 2008.
[8] Bethony, Jeffrey, Simon Brooker, Marco Albonico, Stefan M Geiger, Alex Loukas, David Diemert, and Peter J Hotez. 2006. "Soil-transmitted helminth infections: ascariasis, trichuriasis, and hookworm." Lancet 367 (9521) (May 6): 1521-1532. doi:10.1016/S0140-6736(06)68653-4.

years was associated with a 3.6 cm growth shortfall at age 7. In addition, early childhood helminthiasis (worms) was associated with a linear growth faltering and a further 4.6 cm shortfall[9].

- Another review also found that a high burden of diarrhoea in the first 2 years of life is associated with a much higher risk of stunting. In a pooled analysis of data from nine studies in five countries, 25% of stunting at 24 months of age was attributed to having five or more episodes of diarrhoea in the first 2 years[10].
- Verbal abuse, humiliation, sexual harassment and rape are a risk for many women and girls who do not have access to a safe clean, toilet and have to wait until nightfall and seek the privacy of darkness to relieve themselves. Women who don't have access to toilets are often referred to as *Prisoners of daylight*. Women and girls also need privacy and dignity when menstruating. Menstruation, pregnancy and the post-natal period become more problematic if women have nowhere to adequately take care of themselves.[11]
- Separate toilets at school mean more girls are likely to attend in the first place and more girls are likely to stay on after puberty to complete their education[12].

The Solution

- A 2007 survey in the British Medical Journal showed that their readers believed sanitation to be the most important medical milestone since 1840[13].
- Improved sanitation reduces the incidence of diarrhoea in children under 5 by 36%[14].
- Transmission of intestinal worms occurs through soil contaminated with faeces. This is entirely preventable by adequate sanitation and good hygiene practices.
- Improvements in sanitation were associated with increases in height ranging from 0.8cm to 1.9cm (decrease in stunting by 4–37% (rural) and 20–46% (urban))[15].
- A study[16] analysing 40,000 randomly selected households from poor urban and rural areas concluded that:

  Compared to having an improved latrine

  Among rural families, lack of an improved latrine increased under 5 **mortality** by 29%

  Among urban families, lack of an improved latrine increased under 5 **mortality** by 22%

  Compared to having an improved latrine

  Among rural families, open defecation increased child mortality by 43%

  Among urban families, open defecation increased child mortality by 30%

[9] Moore, S R, A A Lima, M R Conaway, J B Schorling, A M Soares, and R L Guerrant. 2001. Early childhood diarrhoea and helminthiases associate with long-term linear growth faltering. International Journal of Epidemiology 30 (6) (December): 1457-1464.

[10] Checkley, William, Gillian Buckley, Robert H Gilman, Ana Mo Assis, Richard L Guerrant, Saul S Morris, Kåre Mølbak, Palle Valentiner-Branth, Claudio F Lanata, and Robert E Black. 2008. "Multi-country analysis of the effects of diarrhoea on childhood stunting." International Journal of Epidemiology 37 (4) (August): 816-830. doi:10.1093/ije/dyn099.

[11] UN Sanitation Drive to 2015: Planners' Guide http://sanitationdrive2015.org/wp-content/uploads/2013/05/PlannersGuide-V4b.pdf

[12] WASH in Schools 2012. Raising Even More Clean Hands: Joint Call to Action.

[13] Ferriman, A. 2007. "BMJ readers choose the 'sanitary revolution' as greatest medical advance since 1840." BMJ 334 (January 20): 111-111. doi:10.1136/bmj.39097.611806.DB.

[14] CHERG 2010. Sandy Cairncross, Caroline Hunt, Sophie Boisson, Kristof Bostoen, Val Curtis, Isaac CH Fung, and Wolf-Peter Schmidt Water, sanitation and hygiene for the prevention of diarrhoea.Int. J. Epidemiol. 2010 39: i193-i205.

[15] Esrey, SA (1996). Water, Waste, and Well-Being: A Multicountry Study American Journal of Epidemiology Vol. 143, No. 6: 608-623.

[16] Semba, Richard D., Klaus Kraemer, Kai Sun, Saskia de Pee, Nasima Akhter, Regina Moench-Pfanner, Jee Hyun Rah, Ashley A. Campbell, Jane Badham, and Martin W. Bloem. 2011. "Relationship of the Presence of a Household Improved Latrine with Diarrhoea and Under-Five Child Mortality in Indonesia." The American Journal of Tropical Medicine and Hygiene 84 (3) (March 4): 443 -450. doi:10.4269/ajtmh.2011.10-0244.