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COMMENTARY

Shared sanitation: to include or to exclude?

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Just over 600 million people used shared sanitation in 2015, but this form of sanitation is not considered 'improved sanitation' or, in the current terminology, 'basic sanitation' by WHO/UNICEF, principally because they are typically unhygienic. Recent research has shown that neighbour-shared toilets perform much better than large communal toilets. The successful development of community-designed, built and managed sanitation-and-water blocks in very poor urban areas in India should be adapted and adopted throughout urban slums in developing countries, with a caretaker employed to keep the facilities clean. Such shared sanitation should be classified as 'basic', sometimes as 'safely-managed', sanitation, so contributing to the achievement of the sanitation target of the Sustainable Development Goals.

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In 2015 603 million people used 'shared' sanitation—shared, that is, between two or more households—up from 249 million in 1990.[1] However, shared sanitation has long been excluded from 'improved' sanitation and now, in the current parlance of the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP), from 'basic' sanitation.[2] Basic sanitation is identical to improved sanitation; however, this name change was not explained—perhaps it was because the improved-sanitation target of the Millennium Development Goals was not met, and perhaps also because it was therefore felt that a new term was needed for the Sustainable Development Goals (SDGs).

The sanitation target of the SDGs is to 'By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations'.[3] JMP has interpreted this as 'safely-managed sanitation for all':[2] this is basic sanitation with safe on-site containment of human excreta or with transport and subsequent off-site treatment of faecal sludges and domestic wastewaters; shared sanitation is specifically excluded.

The exclusion of shared sanitation from improved/basic/safely-managed sanitation is usually justified on grounds of problems with operation and maintenance, particularly a lack of cleanliness, which facilitates the faeco-oral transmission of excreted diseases, especially viral diarrhoeas. However, in a striking volte-face in 2013 the WHO/UNICEF JMP did accept shared sanitation, but only if 'the facility is shared among no more than 5 families or 30 persons, whichever is fewer, and if the users know each other'.[4] This position was reaffirmed word-for-word in the 2014 JMP document.[5] But this acceptance of shared sanitation was short-lived, and shared sanitation was excluded just one year later in the 2015 JMP document with no explanation given.[2]

The recent paper in *Transactions of the Royal Society of Tropical Medicine & Hygiene* by Heijnen et al.[6] makes the useful distinction between 'neighbour-shared' and 'communal' sanitation facilities. Both are shared, but the former is a private arrangement between neighbouring households, and the latter is a public facility often operated by the local council or a local NGO for the benefit of whosoever wishes to use it. These authors found in terms of the presence of faecal matter, number of flies and smell, neighbour-shared sanitation facilities were significantly cleaner than communal facilities; the 7-day period prevalence of diarrhoea was significantly higher in users of communal sanitation than in users of neighbour-shared sanitation users; and neighbour-shared facilities were better than communal facilities in terms of 24-hour opening, availability of water within or close to the facility, and walking time to the facility.

Recent research advocates that, under certain conditions, shared sanitation be counted as basic sanitation. For example, Exley et al.[7] reported that their study on sanitation in urban and rural Tanzania found no evidence that shared facilities were more contaminated with *E. coli* (on hand-contact points within the facility) than privately accessed facilities. In fact, the regression model provides weak evidence that increasing the number of households is actually protective. This result suggests that, potentially, the underlying assumption that there is little commitment or incentive for users to keep a shared facility clean, does not hold. On the basis of this result, there is no evidence to

support the exclusion of shared sanitation even if the threshold was to be raised to more than five households.' Hawkins et al.[8] noted that 'shared toilets reserved for the use of small, self-selected groups may be preferable to communal facilities, and the sense of ownership created may encourage users to keep the facilities clean.' However, Schouten and Mathenge[9] state that their analysis of sanitation facilities in Kibera slum in Nairobi 'strengthens the notion that communal sanitation facilities may even be the only technically and economically feasible sanitation option available for low-income, high-density slums.'

Rheinländer et al.[10] argued that 'the focus for future sanitation programmes should be on improving the hygienic standards of shared facilities to a level that satisfies and protects sanitation users—irrespective of the toilet design. If well-managed, household-shared sanitation can be a feasible, economical, practical and socially acceptable choice for millions of sanitation users.' This is a key statement as it essentially says that shared sanitation should be considered as basic sanitation if it is properly managed. The community-designed, built and managed sanitation blocks (actually sanitation-and-water blocks as they have a piped water supply) of the type developed in India by the Society for the Promotion of Area Resource Centers (SPARC, a national NGO)[11] are a prime candidate for widespread implementation in the World's slums, which housed 881 million people (30% of the urban population in developing countries, up to 56% in sub-Saharan Africa) in 2014.[12] Most blocks have children's toilets and special facilities for the elderly and the disabled. In 2003 these community sanitation-and-water blocks charged 20 Indian Rupees (£0.27, US$0.41) per family per month. Enough money is raised to pay a block caretaker who lives on-site in free accomodation (in India sanitation caretakers are usually from the scheduled castes). The blocks are kept scrupulously clean as the caretaker knows he will be dismissed if they are not.

These SPARC community sanitation-and-water blocks have been successfully replicated in, for example, Kibera slum in Nairobi.[13] I visited several SPARC-style sanitation-and-water blocks in Kibera in April 2011: a female attendant was present in every block; all were very clean; all had a sink with soap for handwashing and most had a shower; the charge to use the toilet (including toilet paper) was 3 Kenyan Shilling (KES) (£0.023, US$0.036) and to take a shower 5 KES; water was sold at 3 KES for 20 L, 2 KES for 10 L, and 1 KES for 5 L. The wages of the block attendant and the costs of toilet paper and soap were covered by the user charges. The blocks are currently open from 6 am to midnight (if necessary at night, the slum residents defecate into a plastic bag which is then taken to a block in the early morning). All the blocks in the part of Kibera I visited were under the general management of Maji na Ufanisi ('Water and Development'), a local NGO. The capital cost of a two-storey block (the upper floor had a kitchen and a community meeting room; the lower floor had separate toilets for men and women, showers and a laundry area) was 2 million KES (£15 000, US $24 000) in 2011; it served ~3000 people, so the cost per person served was only 667 KES (£5, US$8). I could see no reason at all why not to classify these well-managed and very low-cost facilities as 'basic' sanitation. In Kibera these blocks have a piped water supply and they discharge to a sewer which passes through the slum, so they are actually 'safely-managed shared' sanitation. Such a situation does not, of course, occur in most slums, but careful negotiation with the local water and sewerage agency can lead to communal sanitation blocks being connected to the local water and sewerage reticulation systems.[14] One problem which even safely-managed communal sanitation cannot address is violence against women and girls as they go to and from a communal sanitation block (this has included murder, rape, stabbing, and stoning).[15,16] However, this problem can be minimized or even eliminated by good practice which involves the whole community, including men and boys.[17]

The very high population densities in urban slums means that household-level toilets will be almost always infeasible due to a lack of physical space and also due to unaffordability by poor/very poor slum residents. SPARC-style community-designed, built and managed sanitation-and-water blocks should be the main means of providing slum residents with high-quality low-cost sanitation. The blocks may serve just a few households or even a few hundred. Block caretakers are essential for good block cleanliness. Ideally each block should be open 24 hours per day, but this is best decided upon by the residents who use the block, especially if user fees would increase. If well-managed sanitation blocks in urban slums are not classified as 'improved/basic' sanitation, then Basic Sanitation for All by 2030 will be unachievable. If they are so classified and they discharge into a sewer and thence to a wastewater treatment plant (as in parts of India and in Kibera), then they are 'safely-managed' sanitation and they will make a substantial contribution to the SDG target of Safely-managed Sanitation for All by 2030, and deservedly so.

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References

1 WHO/UNICEF. Progress on sanitation and drinking water – 2015 update and MDG assessment. Geneva: World Health Organization; 2015. http://www.wssinfo.org/fileadmin/user_upload/resources/JMP-Update-report-2015_English.pdf [accessed 26 March 2016].

2 WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation. WASH post-2015: Proposed indicators for drinking water, sanitation and hygiene. Geneva: World Health Organization; 2015. http://www.wssinfo.org/fileadmin/user_upload/resources/JMP-WASH-Post-2015-Brochure.pdf [accessed 26 March 2016].

3 United Nations General Assembly. Transforming our world: the 2030 Agenda for sustainable development (Resolution adopted by the General Assembly on 25 September 2015) (A/RES/70/1). New York, NY: United Nations; 2015. http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E [accessed 26 March 2016].

4 WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation. Post-2015 WASH targets and indicators. Geneva: World Health Organization; 2013. http://www.wssinfo.org/fileadmin/user_upload/resources/Fact_Sheets_4_eng.pdf [accessed 26 March 2016].

5 WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation. WASH post-2015: Proposed targets and indicators for drinking-water, sanitation and hygiene. Geneva: World Health Organization; 2014. http://www.wssinfo.org/fileadmin/user_upload/resources/post-2015-WASH-targets-factsheet-12pp.pdf [accessed 26 March 2016].

6 Heijnen M, Routray P, Torondel B, Clasen T. Neighbour-shared versus communal latrines in urban slums: a cross-sectional study in Orissa, India, exploring household demographics, accessibility, privacy, use and cleanliness. Trans R Soc Trop Med Hyg 2015;109:690–9.

7 Exley JLR, Liseka B, Cumming O, Ensink JHJ. The sanitation ladder, what constitutes an improved form of sanitation? Environ Sci Technol 2015;49:1086–94.

8 Hawkins P, Blackett I, Heymans C. Poor-inclusive urban sanitation: an overview. Washington, DC: Water and Sanitation Program, World Bank; 2013. https://www.wsp.org/sites/wsp.org/files/publications/WSP-Poor-Inclusive-Urban-Sanitation-Overview.pdf [accessed 26 March 2016].

9 Schouten MAC, Mathenge RW. Communal sanitation alternatives for slums: a case study of Kibera, Kenya. Phys Chem Earth 2010;35:815–22.

10 Rheinländer T, Konradsen F, Keraita B et al. Redefining shared sanitation. Bull Wld Hlth Org 2015;93:509–10.

11 Burra S, Patel S, Kerr S. Community-designed, built and managed toilet blocks in Indian cities. Environ Urban 2003;15:11–32.

12 UN-Habitat. Slum almanac 2015–2016: Tracking improvement in the lives of slum dwellers. Nairobi: United Nations Human Settlements Programme; 2015. http://unhabitat.org/slum-almanac-2015-2016 [accessed 26 March 2016].

13 Meredith T, MacDonald M, Alabaster G. Kibera integrated water sanitation and waste management project – Progress and promise: Innovations in slum upgrading. Nairobi: United Nations Human Settlements Programme; 2014. http://unhabitat.org/books/kibera-integrated-water-sanitation-and-waste-management-project/# [accessed 26 March 2016].

14 Peal AJ, Evans B. Breaking barriers in water and sanitation service delivery to informal settlements: case study of the Mukuru model. Nairobi: Practical Action – Eastern Africa; 2010. https://practicalaction.org/docs/Breaking-barriers-in-water-and-sanitation-service-delivery-to-informal-settlements-Mukuru-Model-Summary.pdf [accessed 26 March 2016].

15 Amnesty International. Insecurity and indignity: women's experiences in the slums of Nairobi, Kenya. London: Amnesty International Publications; 2010. https://www.amnesty.org/en/documents/AFR32/002/2010/en [accessed 26 March 2016].

16 Odoro GY, Swartz S, Arnot M. Gender-based violence: Young women's experiences in the slums and streets of three sub-Saharan African cities. Theory and Research in Education 2012;10:275–94.

17 House S, Ferron S, Sommer M, Cavill S. 2014 Violence, gender and WASH: A practitioner's toolkit. London: WaterAid; 2014. http://violence-wash.lboro.ac.uk [accessed 26 March 2016].