Editorial

In this issue of Waterlines we explore some aspects of sustainable sanitation. What does it mean to describe a sanitation system or service as '*sustainable*'? I often refer back to Len Abrams' concise phrase, 'continues to work over time', in relation to all sanitation and water supply services, and hygiene practices. For me the key point is that a sanitation system, once established, provides a permanent service to its users (and to those who access it in future). Time-limited definitions of sustainability are simply not good enough.

There is no such thing as a sustainable technology, since any particular hardware inevitably has a limited lifetime. The technology is simply one component of the system. The other parts are the users, any user-organizations established to manage the service, and the external organizations which support the users. Management means the deployment of people, money, technology and technical skills to keep the system working over time.

In sanitation the system comprises the technology (a pit latrine, a network of sewers, or a range of other options between these two), any organization to which the users belong (e.g. a school), and those who support the users in their management of the service (e.g. private sector pit de-sludgers, or the public or private utility which manages the sewers and sewage treatment). Sustainability is about the management and replacement of technology, and about the performance of those individuals and organizations who manage it.

In the case of on-site sanitation, the management is largely in the hands of the users. Sustainability depends on user motivation (are users persuaded of the desirability of using safe excreta disposal?) as well as user access to the resources needed to manage the service (can a household readily find a pit emptying service, or find the land on which to relocate a latrine?). Use of safe sanitation must result in real benefits, and those benefits should not fade over time, for example if smell and fly problems increase as conventional pit latrines fill up.

In the case of sewered systems, a further dimension is introduced in the form of the public or private utility which is responsible for the system. If its revenues are insufficient, or its management is ineffective (perhaps for reasons beyond the utility's control), the service will inevitably deteriorate.

An important aspect of sustainability is the ability of the system to cope with growing demands, as a result of population increase or migration. This is a particular problem in peri-urban areas, but rural populations and population densities are growing too.

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The environmental dimension of sustainable sanitation focuses on avoidance of land and water pollution due to unsafe excreta disposal, and more positively on seeing human excreta as a potential resource, rather than merely a waste product.

Two of the papers in this issue discuss aspects of school sanitation. Annie Shangwa and Peter Morgan appeal to the logic of including improved sanitation in the school curriculum, and they show that in the right circumstances it can be effective. Kochurani Mathew and colleagues, however, question the sustainability of school sanitation and hygiene interventions, showing that behaviours promoted in school are often not put into practice. We certainly need to understand more about the pre-conditions for effectiveness and sustainability of school sanitation and hygiene programmes.

Pilot projects, however technically successful, will not achieve scale and bring lasting sanitation coverage if there is not institutional 'buy-in' at the national level. Nilanjana Mukherjee points to the need to move beyond pilot projects and identifies key elements of the 'enabling environment' for sanitation that are being measured as the Total Sanitation and Sanitation Marketing project is being implemented in Tanzania, India and Indonesia.

Ben Cole and colleagues show that challenges still remain in changing public perceptions to ecological sanitation. Improvements in technology could make the benefits clearer to prospective users, but public attitudes are deep-seated and may be resistant to change.

Guy Norman and Jonathan Chenoweth explore the appropriateness of various forms of sewerage for African cities. The issues of cost and long-term maintenance remain challenging.

What these papers make clear is that there is a long way to go both in terms of public attitudes and practices and in terms of designing and positioning systems in such a way that those attitudes and practices can change for the better, and remain changed.

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