Cooperating Towards MDG Success

Radical thinking is required if the world is to meet the United Nations Millennium Development Goals (MDGs) to halve those without access to water and sanitation by 2015. So says Prof Duncan Mara of Leeds University in the UK, who recently came to South Africa to present a specialist course on low-cost sanitation.

Prof Mara's research interests lie in public health and environmental engineering, specifically low-cost sanitation solution to developing countries, and the cost-effective treatment of wastewater for reuse. Apart from being a lecturer at Leeds University, he has served as an advisor to the United Nations Human Settlements Programme and the World Health Organisation, and published numerous books and papers on the subject.

"To meet the water and sanitation MDGs some 300 000 people have to be provided with improved water supplies and 440 000 with improved sanitation every day until 2015," he tells *the Water Wheel*. "This means we will have to redouble our present efforts. While most governments have the political will to meet these goals, the money and the know-how often remains lacking."

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Prof Mara suggests a change in the way basic water and sanitation services are supplied. Rather than providing services to individual households in urban and peri-urban areas, the focus should be on providing services to groups of households. The group or co-operative collectively decides on the level and type of service they can afford (i.e. standpipe, yard-tap or multiple taps, ventilated improved pit latrines (VIPs), pour-flush sanitation or shallow sewers).

The infrastructure is supplied by the relevant water and sanitation services authority and the cooperative as a unit is then billed monthly. There are no connection fees because the co-op's have paid for all the in-block pipe work and so forth. The services authority can also lend the co-op money to do this, and recover the loan through the water bill over an amount of time. This needn't be undertaken only in poorer neighbourhoods, but can also be a solution for richer households, says Prof Mara.

According to Prof Mara, cost is really the most important criterion for sanitation technology selection for poor households. He is a strong advocator for the use of shallow sewerage systems, also called simplified sewerage. The technology, which is reportedly significantly cheaper than conventional waterborne systems, involves relaxation of the design parameters of conventional sewerage, allowing for shallower pipe-laying depths, smaller diameter pipes and flatter gradients.

While in countries such as Brazil simplified sewerage is now regarded as an acceptable sanitation technology, the national design codes in many countries do not permit the use pipes with diameters smaller than 100 mm. Prof Mara believes that such codes need to be altered to take into account present practice in simplified sewerage, otherwise local design engineers will be forced to continue to develop extremely conservative and hence expensive solutions for the poor.

Of course, providing the physical infrastructure is not enough. Hygiene education is as important and should be undertaken continuously to provide people with information to enable them to improve their health by using improved water supplies and sanitation facilities correctly. "Coca Cola did not become such a worldwide phenomenon by advertising only once," notes Prof Mara. "In the same way good hygiene practices should be advertised constantly." Also important to note is that hygiene education should not be coercive, but rather motivational, i.e. not telling people what to do, but rather explaining to them what to do, why they need to do it and how to do it to improve their health and well-being. "It is only with consistent effort that we decrease the number of people that die each year as a result of poor access to safe sanitation," Prof Mara concludes.