Selection of sustainable sanitation technologies for urban slums: A case of Bwaise III in Kampala, Uganda

A.Y. Katukiza [a], M. Ronteltap [b], A. Oleja [b,e], C.B. Niwagaba [c], F. Kansiime [d], P.N.L. Lens [a]A.Y.

[a] *Department of Environmental Resources, UNESCO-IHE Institute for Water Education P.O. BOX 3015, 2601 DA Delft, The Netherlands*
[b] *Department of Urban Water and Sanitation, UNESCO-IHE Institute for Water Education P.O. BOX 3015, 2601 DA Delft, The Netherlands*
[c] *Department of Civil Engineering, Makerere University, P.O. BOX 7062, Kampala, Uganda*
[d] *Makerere University Institute of Environment and Natural Resources, P.O. BOX 7062, Kampala, Uganda*
[e] *District Water and Sanitation Sector, P.O. BOX 1, Katakwi, Uganda*

Abstract

Provision of sanitation solutions in the world's urban slums is extremely challenging due to lack of money, space, access and sense of ownership. This paper presents a technology selection method that was used for the selection of appropriate sanitation solutions for urban slums. The method used in this paper takes into account sustainability criteria, including social acceptance, technological and physical applicability, economical and institutional aspects, and the need to protect and promote human health and the environment. The study was carried out in Bwaise III; a slum area in Kampala (Uganda). This was through administering of questionnaires and focus group discussions to obtain baseline data, developing a database to compare different sanitation options using technology selection criteria and then performing a multi-criteria analysis of the technology options. It was found that 15% of the population uses a public pit latrine; 75% uses a shared toilet; and 10% has private, non-shared sanitation facilities. Using the selection method, technologies such as Urine Diversion Dry Toilet (UDDT) and biogas latrines were identified to be potentially feasible sanitation solutions for Bwaise III. Sanitation challenges for further research are also presented.

© 2010 Elsevier B.V. All rights reserved.