

The use and disposal of greywater in the non-sewered areas of South Africa: Part 1 – Quantifying the greywater generated and assessing its quality

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Abstract

The potentially negative impacts from greywater disposal are felt most strongly in those areas where water supply services and on-site sanitation have been implemented, but little or no consideration has been given to the planning for and management of greywater. The main aim of this research was to quantify the greywater problem in these areas and develop options for the management thereof, both in terms of reducing health and environmental risks by eliminating inappropriate disposal of greywater, as well as providing benefits to some through controlled reuse. The determination of typical volumes of greywater generated in the non-sewered areas of South Africa and the likely impacts of changes in service levels with respect to water supply has been calculated by using average water consumption data determined from on-site surveys and settlement data from Census 2001 and its updates. The results of greywater quality sampling from site surveys indicate high levels of pollution emanating particularly from the more densely populated informal settlements, and suggest that greywater from non-sewered areas is generally unfit for use except under controlled conditions.

Keywords: greywater quantities, greywater generation, greywater quality, non-sewered areas