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GREYWATER TREATMENT: REVIEW OF METHODS AND ESTIMATION OF USE SPECIFICATIONS FROM SOUTH AFRICA AND THE WORLD

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Abstract

South Africa is a semiarid country, which suffers from lack of maintenance of water infrastructure, financial shortages in the collection of municipal revenues from citizens/residents as consumers and from the risk-enhancing effects of electricity interruptions. Water treatment and management of liquid sanitation wastes are affected by these factors. A solution might be decentralization and the building of small-scale systems for management of wastewater and for its treatment. Greywater, which is domestic wastewater that is generated from bathing, laundry and the kitchen, can play a significant role in this form of recycling for toilet flushing and garden irrigation. In this way, the potable water use at the household level can be reduced. In this article, the authors seek to provide a mini-review with a specific focus on the existing wastewater/greywater treatment systems and their potential applications in South Africa. These are evaluated for potential use in decentralized settings and under local conditions in a semi-arid area with limited precipitation. The authors seek to provide an interpretative perspective on the existing knowledge and its potential application in the greywater treatment for recycling in toilet flushing, small-scale crop irrigation and additional uses. . Based on the discussed greywater treatment technologies, specific recommendations are made for the use and deployment of the filtration treatment systems due to their simplicity, efficiency and possibility of implementation and operation by the communities.

Key words: biological treatment, greywater, physico-chemical properties, reuse

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