

How grey water reuse in buildings can enhance sustainable water resources management?

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Abstract

One of the key parameters in urban sustainable water resources management and green construction is water treatment and reuse. Efforts have been taken to enhance water efficiency in residential and commercial buildings by reusing greywater. In this study, we investigated the novel concept of greywater reuse in buildings to find out about the benefits and also to understand challenges and opportunities of installing greywater reuse equipment. The key role impact of greywater reuse in buildings in achieving LEED credits is explained and acceptable water quality standards or parameters for the reused water, which varies in different countries, are discussed. Furthermore, examples of greywater reuse in construction projects in developed and developing countries around the globe are presented and their level of success and limitations are briefly discussed. At the end, potential benefits of employing greywater reuse technologies in buildings of Iran, as a country with possible water crisis in the next decades, are pointed out, and recommendations for authorities and decision-makers are provided.

Keywords: *greywater; water reuse; green building; sustainability; LEED*

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