

Wastewater reuse, the primary solution to sustainable development: A review on evaluating opportunities and challenges ahead

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Abstract

Climate change, rapid population growth, urbanization and industrialization are recognized as being the main root of a large amount of wastewater that has the most significant potential to become one of the main water sources. The applications of water reuse has increasingly become one of the concepts that attracts the world's attention. However, water reclamation depends on the following factors: implementation of wastewater reuse in urban area, Creation framework for integrated water resources management and Guidelines for wastewater reuse quality. The absence of limiting regulation, the limited commercial development of reclaimed water, lack of community awareness about the importance of reuse and wastewater disposal without considering environmental degradation into water bodies are the most noticeable obstacles for the implementation of this plan. Irrigation for agriculture, non-potable and potable application are the main categories of wastewater reuse. This paper aims to provide an overview of wastewater reuse, opportunities and challenges ahead, and to summarize some of the experiences of leading countries in this field.

Key words: Wastewater Reuse, Wastewater Reclaim, Sustainable Development, Wastewater Reuse for agriculture, Wastewater Reuse for Potable and Non-potable.