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Assessing the Public Perceptions of Treated Wastewater Reuse: Opportunities and Implications for Urban Communities in Developing Countries

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Description / Abstract

Wastewater reuse has become an integral part of Integrated Water Resources Management and thus plays a role in securing the water needs for future generations. This study aimed at determining the perceptions of Canaanland, an emerging urban community in Ogun State, Nigeria, on treated wastewater reuse for several purposes. Data were collected through questionnaires administered to the city residents ($n = 244$). Findings revealed that the city was aware of the economic and environmental benefits of wastewater reuse but would prefer reuse schemes that involved less human contact such as flushing toilets, electricity generation, building construction, and car wash. The least preferred option was for potable purposes. The community also revealed that they would be willing to accept wastewater reuse as long as it is endorsed by medical doctors, university professors, and experts. However, 45.5% of the respondents were from the Covenant University academic environment. Also, an assessment was carried out to ascertain the implications and opportunities for wastewater reuse in the city. Findings indicated that wastewater reuse involves several complexities and interlinkages, which revolve around political and decisional factors, economic and social factors, environmental factors, and technological factors. From the study, policy and decisional suggestions and a wastewater process flow were developed for more efficient wastewater management within developing cities. A study was carried out on eight cities from developing nations that have created a framework for wastewater management using several approaches. Also, a summary of findings reveals that if adequately researched, cheap and alternative means of wastewater treatment and reuse could be developed for electricity generation, carwash, and firefighting for developing nations. The result of this research can be used to address public anxieties regarding wastewater-reuse practices. Additionally, this study hopes to aid successful wastewater management schemes in the foreseeable future.

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