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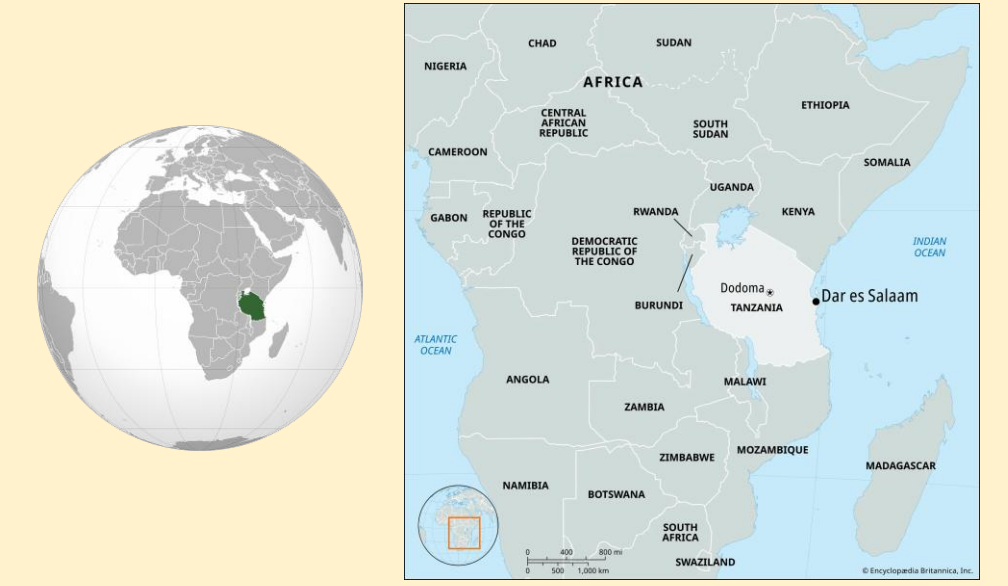
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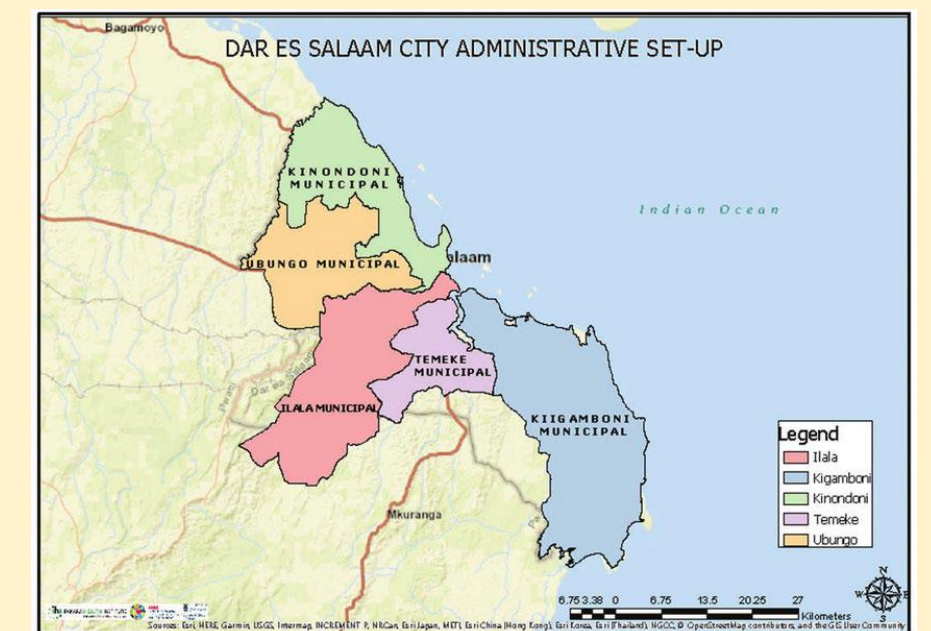
Issue

Dar es Salaam, as the primary gateway for tourists in Tanzania, faces critical wastewater management challenges that directly threaten the integrity of the tourism industry. The majority of the city's wastewater is discharged into the Indian Ocean without prior treatment. From a sustainable tourism perspective, this leads to beach pollution, health risks for visitors, and a loss of the area's aesthetic appeal. Sustainable tourism requires a safe and hygienic environment; however, odors and visible pollution in tourist areas are in direct conflict with the concept of 'ecotourism'.



Aim

The aim of this study is to identify key practices, successes, and failures, and to explore future prospects for wastewater management in relation to recreational tourism in Dar es Salaam. A systematic search and review of peer-reviewed and grey literature were conducted using databases such as ScienceDirect, Jstor, Scopus, PubMed, and Web of Science.



Dar es Salaam, Administrative Structure
Source: (Todd et al., 2019)

Results

The current level of sanitation in Dar es Salaam severely undermines Tanzania's ambitions to position itself as a safe and sustainable tourist destination. A widespread deficit in wastewater treatment directly damages the country's reputation and is reflected in a noticeable decline in guest occupancy at popular coastal resorts. Extreme pollution in key river estuaries, accompanied by the risk of infectious diseases, not only poses an immediate threat to visitor health but also devastates precious coral reefs. These ecosystems are, moreover, a fundamental pillar of local ecotourism. The long-term prosperity of the sector is contingent upon a transition to decentralized treatment technologies. Their implementation is the only way to halt revenue loss, protect natural assets, and restore the city's status as a competitive and attractive gateway to East Africa.



25 % – Only so much wastewater is adequately treated in the city.



22 % – Decrease in hotel occupancy at Kigamboni Beach.



+ 800 % – Exceedance of microbial standards in the Msimbazi River.



+ \$7.1 million – Potential annual revenue increase thanks to DEWATS technology.



Discussion

AD as a Sustainable Infrastructure Solution Current research identifies anaerobic digestion (AD) as a transformative solution for urban centers and resorts. Beyond effective sludge stabilization and pathogen removal, AD protects water resources from contaminants like pharmaceuticals. Within a circular economy, it shifts the perception of waste from an environmental burden to a valuable asset for renewable energy and nutrient recovery.



Recommendations

To achieve energy independence and decarbonization, resorts should integrate AD systems directly into their infrastructure. Utilizing biogas for facility energy and recovered nutrients for local agriculture significantly enhances a destination's ecological credit. This approach is essential for operators aiming to meet global sustainability goals and gain a competitive edge in green tourism.

Themes Studied	Citations
Current wastewater treatment status in in Dar es salaam	Singh et al., 2014; Hreiz et al., 2015; Wilson, 2015; Worrall et al., 2017 Sweya et al., 2018; Todd et al., 2019; EWURA, 2020; Wawa, 2020; The Nature Conservancy, 2021; UN-Habitat, 2021; Catherine, Augustina, 2022; Yao et al., 2023; Nayeri et al., 2024
Technologies applied in wastewater treatment	Chaggu et al., 2002; NEMC, 2007; BioInnovate Africa, 2014; Kasala et al., 2016; Sinharoy et al., 2019; Wawa, 2020; Catherine, Augustina, 2022; Datola, 2023
Socioeconomic Impact and Tourism	Lau et al., 2020; Mohammed, 2020; Said, Msuya, 2020; World Bank, 2024; Mollel, Mwendapole, 2025
Environmental Degradation	Waycott et al., 2005; Yao et al., 2023; Bakari et al., 2025
Infrastructure and Demographics	Sinharoy et al., 2019; EWURA, 2020; Selemani Msuya, 2025
Public Health	WHO, 2018; Kitole et al., 2024
Technological Solutions (DEWATS)	McFarlane et al., 2014; UNEP / BORDA, UN-Habitat, 2018