



Waste Management Strategies within the Circular Economy Paradigm in South African Municipalities,

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Abstract

This study examines waste management strategies within the circular economy paradigm in South African municipalities, focusing on how these approaches are implemented and their effectiveness. Data were collected through interviews and surveys conducted with key stakeholders including municipal officials, community leaders, and environmental experts. A thematic analysis was employed to identify common themes and practices related to waste management within the circular economy framework. The findings indicate that while there is a growing emphasis on recycling and composting in municipal waste management strategies, significant challenges remain, particularly in terms of public participation and funding for infrastructure improvements. This study highlights the potential benefits of adopting circular economy principles but also underscores the need for sustained policy support and community engagement to achieve effective implementation. Recommendations include prioritising education campaigns to enhance public awareness about waste management and promoting partnerships between municipal authorities, private sector entities, and NGOs to foster sustainable practices. The empirical specification follows $Y = \beta_{0+\beta} X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *Sub-Saharan, biodegradable, anaerobic digestion, waste segregation, life cycle assessment*

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