

Title: Navigating the contemporary landscape of food waste management in developing countries: A comprehensive overview and prospective analysis

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Abstract: This study employs a comparative analysis method to examine variations in food waste (FW) generation between developed and developing nations, focusing on income levels, population growth rates, and community engagement in waste management. Quantitative data from Taiwan, Malaysia, and Bangladesh are comprehensively analyzed using regression analysis and descriptive statistics. Results indicate that Taiwan, with its stringent regulatory frameworks and advanced recycling technologies, generates significantly less FW per capita compared to Malaysia and Bangladesh. Malaysia shows moderate levels of FW reduction efforts, supported by varying degrees of community participation, whereas Bangladesh faces challenges with both regulatory enforcement and technological adoption. The study proposes an integrative waste management model emphasizing regulatory compliance rates, community participation metrics, and technology diffusion indices to effectively address FW challenges. These findings underscore the importance of tailored waste management strategies aligned with economic and demographic contexts of developing nations. Policymakers and waste management practitioners can leverage these insights to establish targeted FW reduction goals and enhance recycling initiatives. The research highlights the urgency of integrated waste management approaches to mitigate environmental and public health risks associated with FW mismanagement, advocating for evidence-based policies supported by robust quantitative analysis.

Keywords: Processing and recycling, Food waste, Policy and regulation, Sustainable development, Management system

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