Resource Recovery Rates and Environmental Impact Analysis of Sustainable Waste Management Systems for Food Processing Waste in Lagos, Nigeria 2009

Felix Oguntoyinbo[1], Idahosa Iyanda[2], Oluwaseun Adeyemi[1,3], Bolaji Oguntade[4]

[1] University of Ibadan

[2] Department of Sustainable Systems, Babcock University

[3] Department of Electrical Engineering, Agricultural Research Council of Nigeria (ARCN)

[4] Babcock University

Author notes

Felix Oguntoyinbo is affiliated with University of Ibadan and focuses on Engineering research in Africa.
Idahosa Iyanda is affiliated with Department of Sustainable Systems, Babcock University and focuses on Engineering research in Africa.
Oluwaseun Adeyemi is affiliated with University of Ibadan and focuses on Engineering research in Africa.
Bolaji Oguntade is affiliated with Babcock University and focuses on Engineering research in Africa.

Abstract

This Data Descriptor examines waste management systems for food processing in Lagos, Nigeria, focusing on resource recovery rates and environmental impact. Waste composition analysis was conducted through a combination of bin audits and laboratory testing, with resource recovery rates calculated based on these analyses. Environmental impact assessment included calculation of carbon footprint per tonne of processed waste. Bin audit data indicated an average of 30% food waste diversion from landfill in Lagos, with higher rates observed in commercial kitchens (45%) compared to residential areas (20%). The sustainable waste management systems evaluated showed significant potential for resource recovery and reduced environmental impact. Further research should focus on implementing these systems at scale and exploring their scalability across different food processing sectors. The maintenance outcome was modelled as $Y\{\} = beta\,0 + beta\,1\,X\{\} + ui + varepsilon\{\}$, with robustness checked using heteroskedasticity-consistent errors.

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

✉ REQUEST FULL PAPER

Email: info@parj.africa

Request your copy of the full paper today!

SUBMIT YOUR RESEARCH

Are you a researcher in Africa? We welcome your submissions!

Join our community of African scholars and share your groundbreaking work.

Submit at: app.parj.africa

Scan to visit app.parj.africa

Open Access Scholarship from PARJ

Empowering African Research | Advancing Global Knowledge