

Characteristics & Management of Municipal Solid Waste (MSW) in Uyo, Akwa-Ibom State, Nigeria

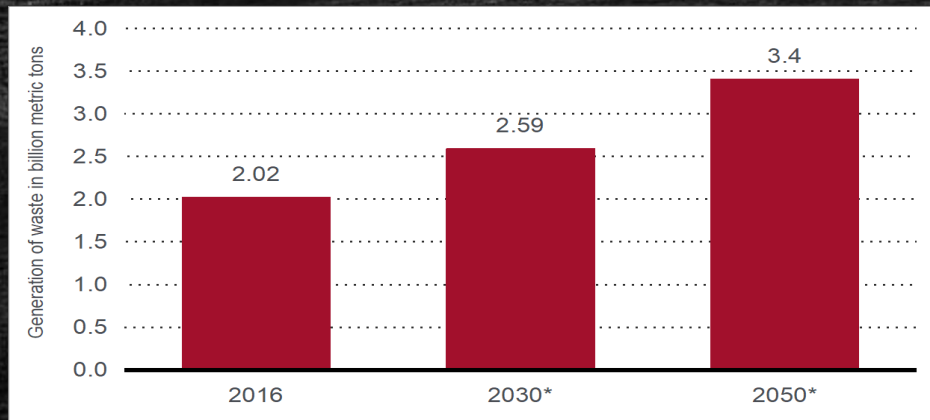
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Outline

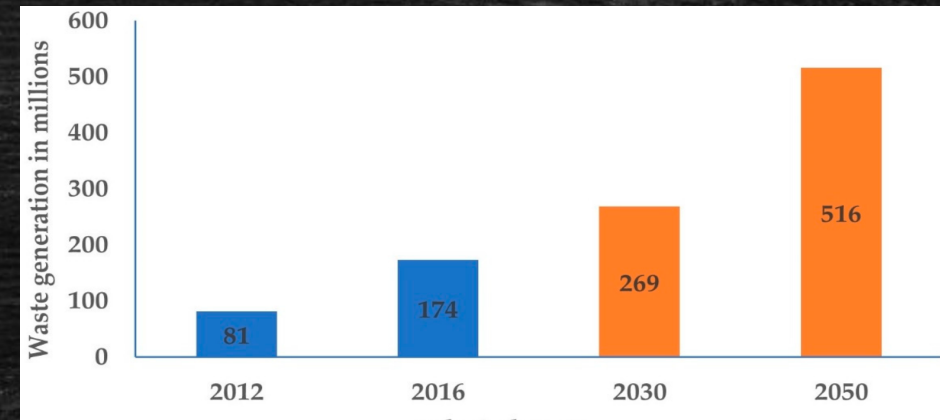
- ❑ Introduction
- ❑ Study Area
- ❑ Existing MSW Management Practices (Collection, Treatment)
- ❑ Methodology
- ❑ Results & Discussion
- ❑ Challenges in MSW in Uyo
- ❑ Opportunities for Innovation in MSW Management in Uyo
- ❑ Conclusion & Recommendation

Introduction

Global Waste production
profile



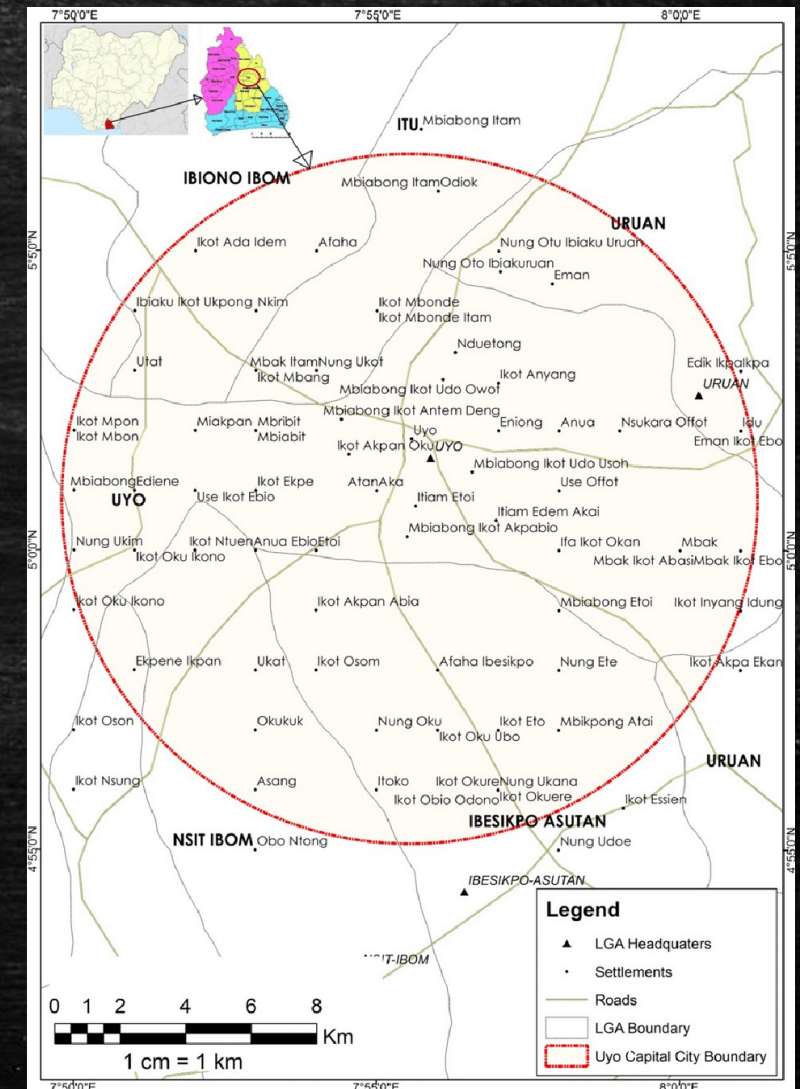
Projected generation of municipal solid waste worldwide from 2016 to 2050 (in billion metric tons) [Graph]. (Data source: Statista 2023)



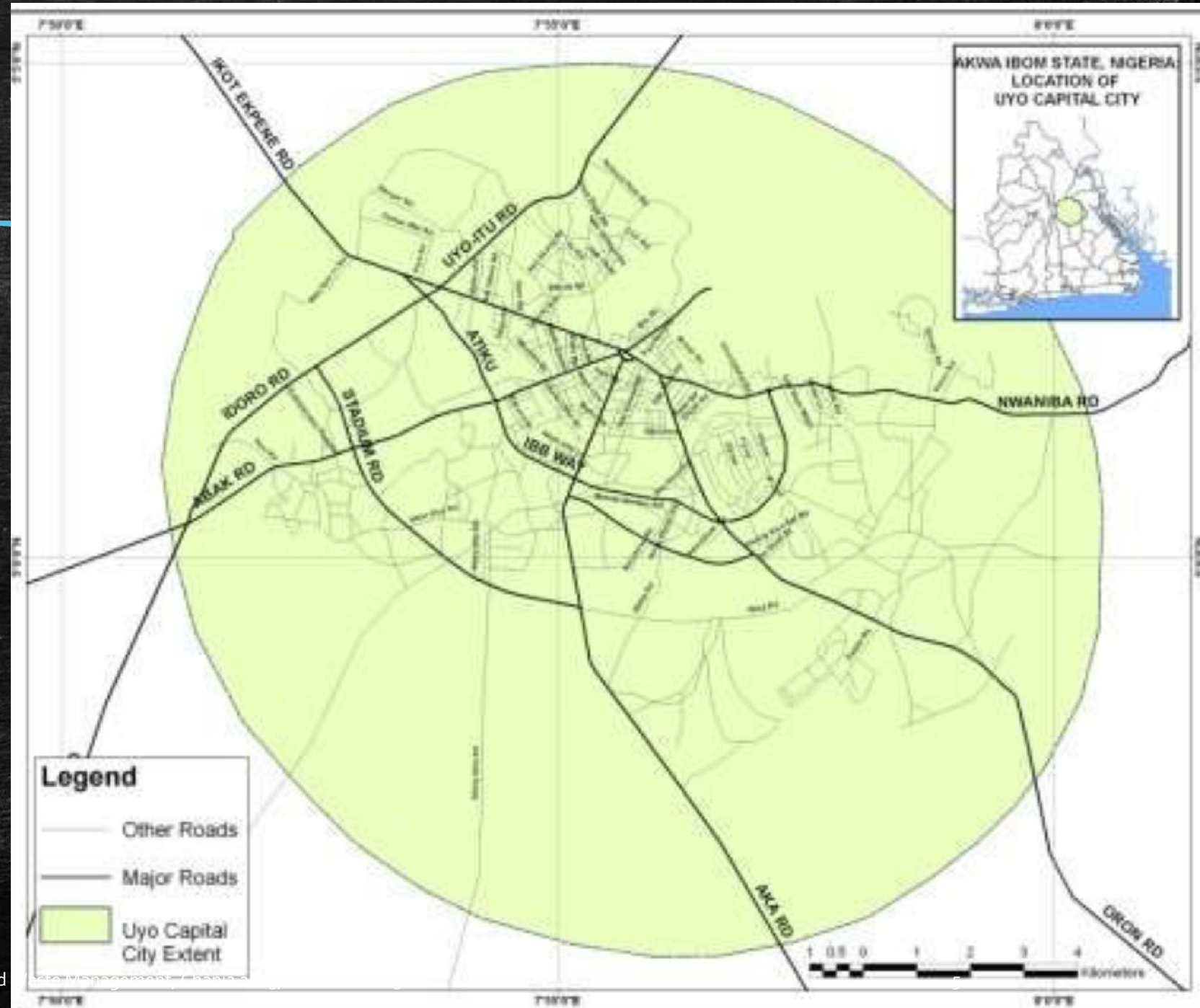
Projected generation of municipal solid waste in Sub-Saharan Africa from 2016 to 2050 (in million metric tons) [Graph]. (Data source: mdpi.com Waste 2023)

Sub-Saharan Africa
Waste production profile

Study Area



- Population
- AKS 5.5 million (2016)
- Population Uyo capital city development area – 2 million



Existing MSW Management Practice

Collection

- No segregation at source
- Informal waste aggregation
- Collection by designated vehicles to landfill

Landfilling

- Deposition
- Compaction
- No leachate protection

Recycling

- Informal system, unquantifiable
- Resale of plastic and other recyclable waste forms



Challenges in MSW Management in Uyo

- Lack of adequate landfills and dumpsites
- Low participation in waste separation and sorting at the source
- Lack of adequate funding and resources for waste management
- Illegal dumping of waste in unauthorized areas
- Low awareness of the health and environmental consequences of improper waste management
- Limited government enforcement of laws regarding waste management



- Holistic Approach to Waste Management
- Waste-to-Resource:
From Linear Flow to Closed-loop of Resource Circulation

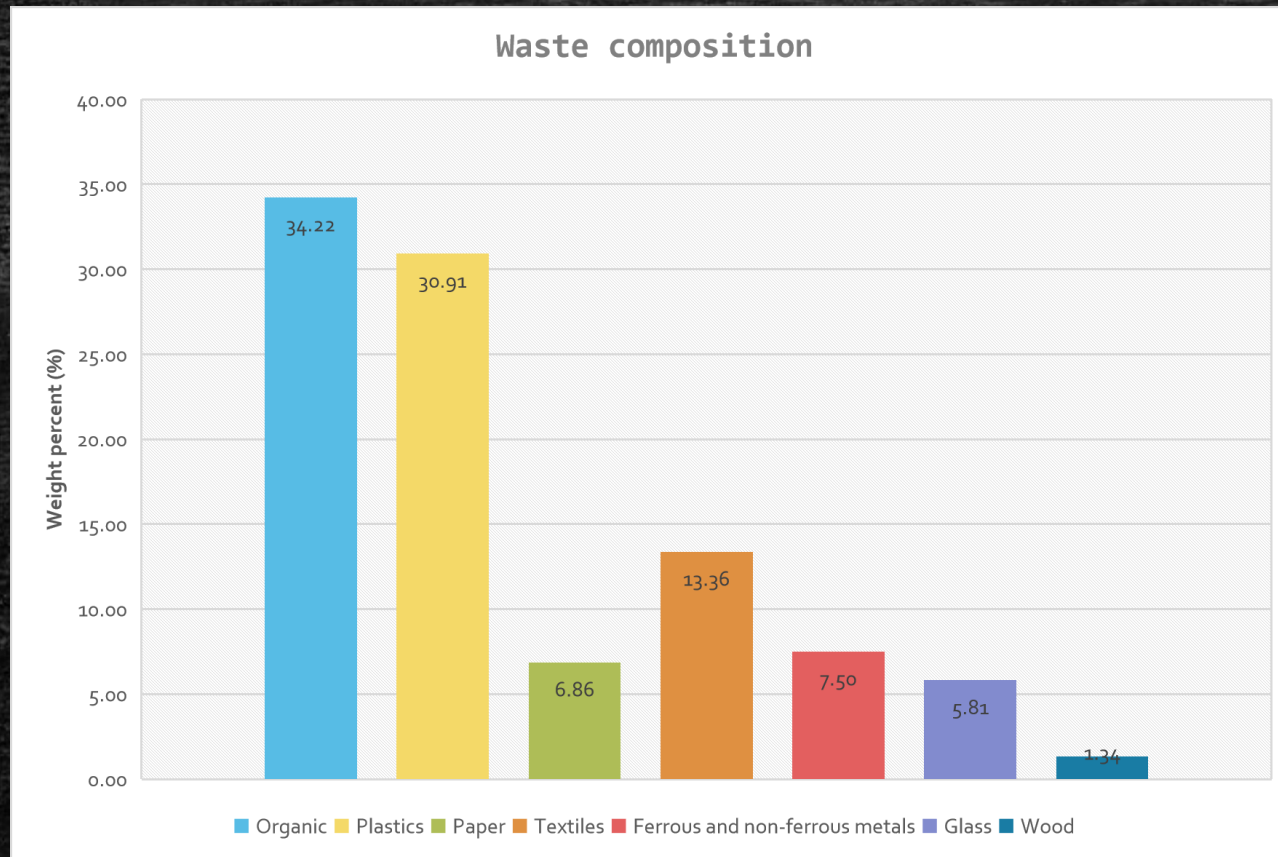
- Citizen awareness and participation
- Waste segregation at source
- Integrated approach

10th International Conference on Sustainable Solid Waste Management, Chania 2023, 21st June 2023

Sustainability



Results & Discussions



- ❑ Largest waste component: Organic
- ❑ Recyclable waste: >45%: waste-to-energy options
- ❑ Estimated annual waste production for Uyo: 1.2 million tons -->

Opportunities in MSW Management in Uyo



- Public-Private Partnerships
- Community-based waste management
- Waste-to-energy technologies (pelletisation, pyrolysis, biogas, gasification, fertilisation)

THANK YOU!

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