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

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)
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
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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