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Africa's Waste Management Crisis



Waste generation in Africa to triple by 2050: From 174M → 500M+ tons/year

Only 55% of waste is collected; with 90% collected waste dumped or burned

Forms 57% organic, 13% plastic – high potential for composting & recycling

The circular economy (reuse, recycling, upcycling, repair, resource efficiency) driven by urbanization, population growth, and climate goals)

However, the workforce lacks many of the specialized skills needed to build sustainable waste and resource systems

Why the Gap Exists?

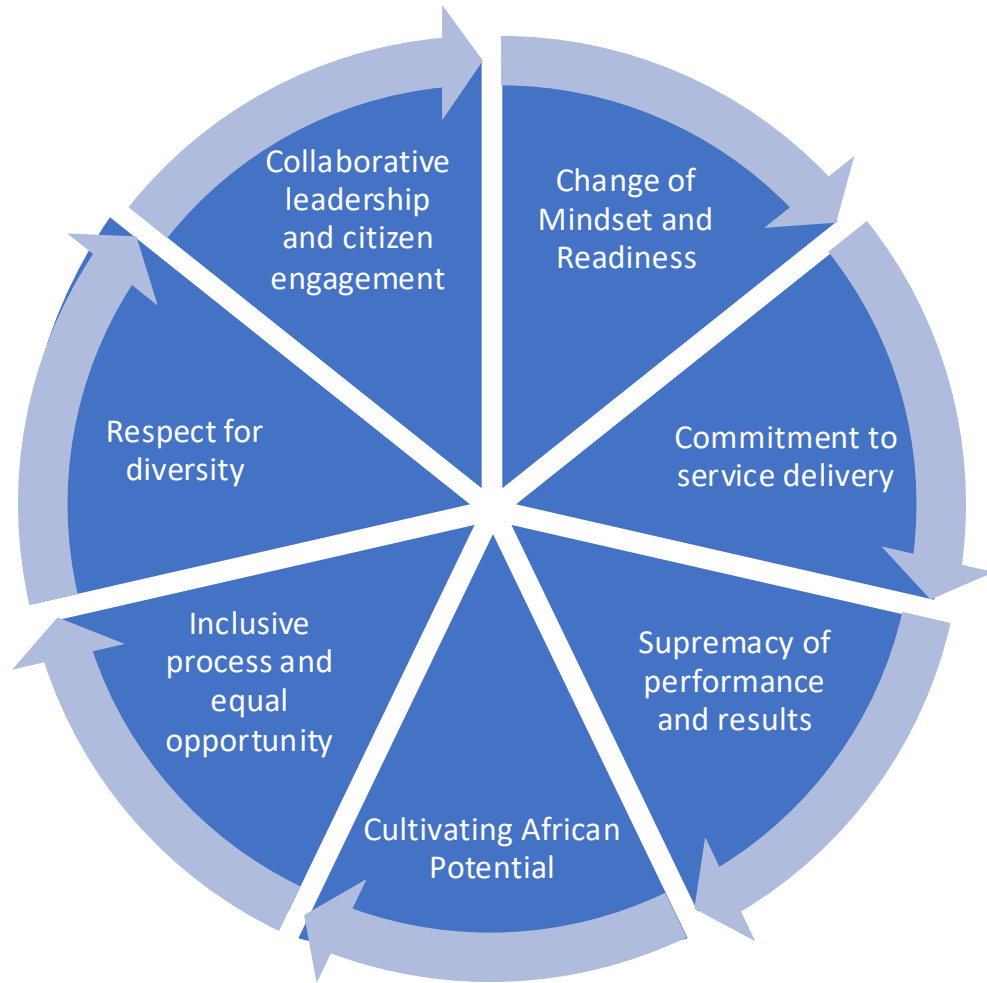
- **Education Systems:** Limited environmental engineering and circular economy curricula.
- **Informal Dominance:** Up to 90% of recycling in Africa is handled by informal workers with little formal training.
- **Technology Transfer Issues:** Imported waste processing machines require specialized skills to operate and maintain.
- **Low R&D Investment:** Few labs and institutions dedicated to material science or waste innovation.



Key Skills Gaps in Waste Management & Circular Economy

- a) **Technical & Engineering Skills** (Recycling & materials processing, waste-to-energy, product design for circularity, hazardous waste management, etc.)
- b) **Digital & Innovation Skills** (Smart waste systems, circular business models. EG, GIS mapping for waste collection and tracking, design and maintenance)
- c) **Entrepreneurship & Business Skills** (small-scale recycling business, financial literacy, up-scaling)
- d) **Community & Soft Skills** (Public awareness campaigns and social entrepreneurship)
- e) **Policy & Regulatory Skills** (design and enforcement, EPR frameworks, strategy development at municipal and national levels)

Policy Intervention –AUDA-NEPAD (CDSF)



Figure

Outcome

A self-sustaining, innovation-driven circular economy ecosystem that generates jobs, reduces waste, and attracts green investment.

- **Short-term** → Awareness, pilots, and foundations.
- **Medium-term** → Scale systems, workforce, and infrastructure.
- **Long-term** → Transform markets, integrate innovation, and mainstream CE into economic policy.

Policy Matrix Action

Short term

- CE Steering Committees
 - Draft EPR laws
- Pilot separation-at-source
 - TVET short courses
- Register waste pickers
- Green procurement (10%)
- National awareness campaign

Medium Term

- National CE roadmap
- Enforce EPR via PROs
- Citywide segregation
 - TVET diplomas
- Contracts w/ cooperatives
- Eco-industrial parks
- Subsidies & VAT relief
- Deposit-return pilots

Long Term

- Integrate CE in NDP
- Expand EPR to textiles/batteries
 - Zero-waste districts
- Advanced CE degrees
- Full social protection
- Regional recycling hubs
- Green bonds & PAYT
- Blockchain traceability
- Nationwide DRS & reuse culture

Thank You
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