



Solid Waste Management Practice in the Greater Accra Metropolitan Area, Ghana

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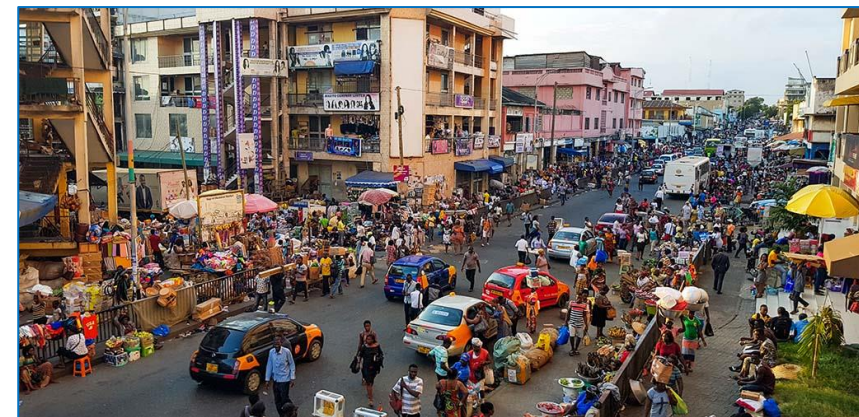
Background

- The Greater Accra Region has the **smallest area** of Ghana's **16 administrative regions**
- located on the **southern coast at the Gulf of Guinea**, which is part of the Atlantic Ocean
- Total land surface of **3,245 km²** (**1.4%** the total land area of Ghana)
- It is the second most populated region, with a **population of 5,455,692** in 2021, accounting for 17.7 per cent of Ghana's total population.
- The Greater Accra region is **the most urbanized region** in the country with **87.4%** of its total population living in **urban centers**.
- The **capital city of Greater Accra Region is Accra** which is at the same time the capital city of Ghana.



Background

- The **capital** and **largest city** of Ghana is Accra
- covers an area of **225.67 km²** (87.13 sq mi)
- has an urban **population of 2.557 million**.
- 12 local government districts – **11 municipal districts** and the **Accra Metropolitan District**
- The Accra Metropolitan District is one of the 10 districts that make up the **Accra Metropolitan Area**
- "**Accra**" usually refers to the **Accra Metropolitan Area**, which serves as the capital of Ghana, while the district under the jurisdiction of the Accra Metropolitan Assembly.
- Accra is the **administrative, economic, and educational center of Ghana**,



Solid Waste Management in Accra

Waste Generation

- Accra generates more than **1,000,000 metric tons of solid waste per year**, which account **21%** of the national solid waste generation.
- Approximately **67%** of which is **organic matter**.
- The rate of waste generation is varies from **0.5 kg/person/day at low-income areas to 0.9 kg/person/day at high-income areas**.



Solid Waste Management in Accra

Waste Collection

- Solid waste collection in Accra is **mostly privatized**.
- The city contracts with **10 waste collection firms** that are responsible for all **residential, commercial, and industrial waste** generated in their respective collection districts.



Solid Waste Management in Accra

- The **firms recover their costs by collecting city-regulated fees from waste generators.**
- The city estimates that **88% of waste generated** in areas where it provides **collection services is collected.**
- However, waste collection services are only provided in **a limited area**; only **40% of households** in the city have waste collection bins.



Solid Waste Management in Accra

Waste Disposal

- In Accra, **informal waste collectors** used to collect more than **300 tonnes** of waste daily
- Informal waste disposal occurs in areas of Accra where there are **no waste collection services**.
- Informal solid waste disposal sites include **abandoned stone quarry sites, gouged natural depressions in the ground, old mining areas, or man-made holes in the ground**.
- **Open burning** occurs at some of the open dumps, particularly during the **dry season**.
- In general more than **600 tonnes** of waste were discarded in **open dumps daily**.
- To combat this, the **AMA closed all open** dumps in May 2017.



Solid Waste Management in Accra

- All of **Accra's** waste disposal sites are currently **closed**; the city has **no waste disposal site of its own**.
- Collected waste is currently **transported** from Accra to a **landfill in Tema**, approximately **37 kilometers outside Accra**.
- The **landfill** was constructed to accept **700 tons per day**, but currently **receives more than double** that amount (**more than two-thirds comes from Accra**).
- The city recently entered into a contract for the construction of a **new landfill**,



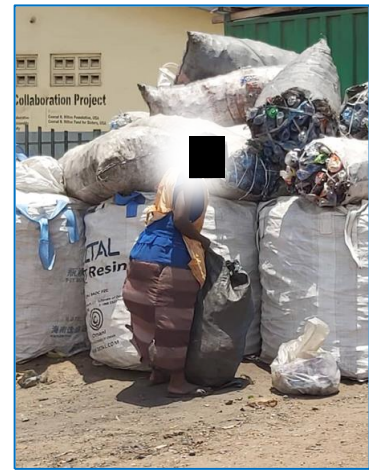
Solid Waste Management in Accra

- Two of the dumps alone covered almost **100,000 m²** and received more than **450 tonnes of waste every day**.
- AMA instead **opened** Achimota **transfer station**, Kokolemie mini transfer station, and Ring Road West mobile transfer facility.
- The **Achimota transfer station** is located in Greater Accra and can handle **1,200 tonnes of waste per day**.



Solid Waste Management in Accra

- **601 informal** waste collectors have been registered.
- The city provides **waiting areas at the transfer stations** for the waste collectors to **sort the waste and store the recyclables**, which they often **sell to middlemen** to **increase their earnings**.
- The **three newly opened transfer stations** receive more than **400 tricycles daily** and more than **20,000 households** receive waste collection service from Accra's **informal collectors**.



Mortuary Road Scrapyard: collection of an informal group of recyclers



A pile of scrap metals



removing copper wires from old electric motors



Extracting copper from refrigerator



Reclaimed parts being weighed



Young people busily extracting materials from scrap



scrap metals transported

E-waste management at Agbogbloshie (closed Scrapyard)

Agbogbloshie e-waste dump in Ghana's capital, Accra



Agbogbloshie is a nickname of a commercial district on the Korle Lagoon of the Odaw River, near the center of Accra

world's largest destinations for used electronic good

Up to 10,000 workers/informal recyclers

One of the destination for illegal e-waste from Western Europe and the United States

In total, about 80,000 men, women, and children subsist from the Agbogbloshie dump, living either on-site or in the adjacent slum.

Old Scrapyard: dismantling discarded electrical and electronic equipment (e-waste)

Service: for more than 20 years

Located: Ghana's capital, **Accra**, Agbogbloshie

Considered: one of the world's biggest scrapyards

Size: 15 hectares, or 21 football pitches

E-waste management at Agbogbloshie



The area is nicknamed "**Sodom and Gomorrah**"

methods of waste processing - especially burning - which **emit toxic chemicals** (lead, mercury, arsenic, dioxins, furans, and brominated flame retardants) into the air, land and water.

The area remains **heavily polluted**

Caused significant **health problem** and **environmental problem**

The site **demolished in July 1, 2021**: Affects **livelihood** of the city's urban poor and **exacerbate environmental pollution**

E-waste: batteries buyer

- Technical Training Center (TTC). It was established by the GIZ in partnership with the Ghana Ministry of Environment Science Technology and Innovation (MESTI).



Private sector involvement in solid waste management: Zoomlion Company Limited

- A wholly **Ghanaian owned company** that focuses on **delivering total waste management solutions**.
- They have **5 million customer with 90,000 workforce**
- One of the member of Environmental Services Providers Association (**ESPA**) of Ghana

The Environmental Service Providers Association (ESPA) It is an association of private waste companies handling waste of various categories for Metropolitan/Municipal and District Assemblies (MMDAs), in a public private-partnership (PPP) agreement. ESPA operates in line with the government's policy of maintaining.

Zoomlion Company Limited



- Zoomlion was established as a **waste management business** in Ghana in April **2006**
- has **23 sister companies**
- Major service of includes the company:

- ❖ Public Cleansing

- ❖ Communal Container

- ❖ Solid Waste Collection

- ❖ Waste Transfer Station

- ❖ **Compost Production & Recycling**

- ❖ **Plastic Recycling**

- ❖ **Landfill Site Management**

- ❖ **Faecal Waste Treatment**

- ❖ Medical Waste Treatment

- ❖ **Waste Recovery & Recycling**

- ❖ Fabrication & Sales

- ❖ Vector Control

- ❖ Tricycle Waste Collection

- ❖ Landscaping and Beautification

- ❖ Cesspit Emptier

- ❖ Sale & Rental of Mobile Cabins

- ❖ Features Include:

- ❖ Janitorial Service

- ❖ Capacity Building and Training

Compost Production & Recycling



❖ **800 tons** of solid waste on a sixteen (16) hour shift, **80% waste recovery rate**



Integrated Recycling and Compost Plant Limited (IRECoP) is an integrated waste processing and recycling company established to receive, sort, process and recycle Municipal solid waste to produce **organic compost for agronomic purposes**. Other recoverable materials include **plastics and metal scraps** which serve as input materials for the **steel and plastic manufacturing sectors**.



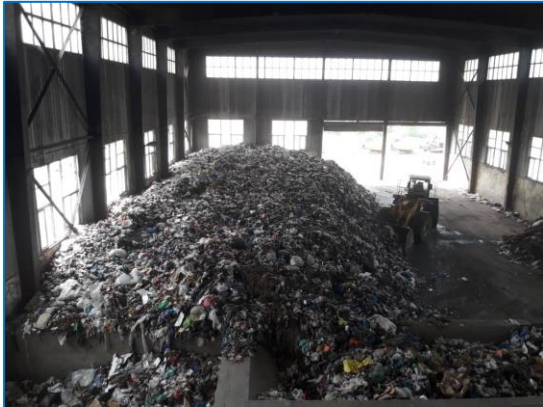
Compost Production & Recycling



Compost Production & Recycling



600 tons of solid waste on a sixteen (16) hour shift, **75 -80% waste** recovery rate



ACARP is an integrated waste processing and recycling company established to receive and process solid and liquid waste and produce **organic manure** for agronomic purposes. The plant also addresses the problem of plastic waste through **sorting, processing and recycling** of such waste.



Recovered Material for Reuse

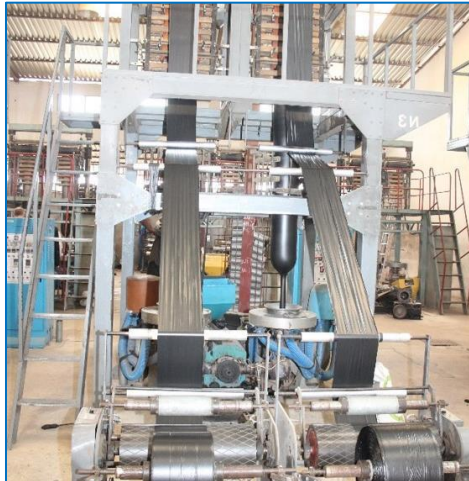


Plastic Recycling for The Production Of Bins



Production of 400 dust bins per day

Plastic Recycling for The Production Of Bin Liners



Production of biodegradable bin liners

Landfill Site & Solid waste Management



The company involves in solid waste collection and landfill management

Faecal Waste Treatment



SEWERAGE SYSTEMS GH. LTD.
Clean Environment • Green Energy

**Sewerage Systems
Treating and
Converting Liquid
Waste To Resource**

Designing, Construction and Management of faecal treatment plants

Consultancy services on liquid waste water treatment

Designing, Construction and Management of sewerage systems

Designing and construction of sewer networks

Designing and construction of liquid waste water treatment plants

Electricity

Rehabilitation of pump stations

Charcoal

Compost

Experience from Accra

- ❑ **Increase** involvement and **earning** of informal sector from waste recycling and reuse practice
- ❑ Preparing **dedicated** scrapyards, transfer stations
- ❑ Thinking about **composting** as one alternative solution for solid waste management
- ❑ Prepare for **e-waste**
- ❑ **Earning** from Waste **recycling** and **reuse practice**
- ❑ Participation of the **private sector** in solid waste management



Thank you!