

Kaduna, usually referred to as Kaduna State to distinguish it from the city of Kaduna, is a state in Northwest Nigeria. Kaduna State consists of twenty-three Local Government Areas. The major cities are Kaduna (the capital), Zaria, and Kafanchan.

State SWM services are managed through the Ministry of Environment and Natural Resources (MENR) and the Kaduna State Environmental Protection Agency (KEPA). Since the final disposal sites are open dumping sites, the surrounding environment is deteriorating. Only 5% of collected waste streams are recycled. In order to improve revenue from SWM, the State Government is currently trying to implement a new waste charging system from January 2018 (starting in the high-income districts).

Information

Population	6,113,503 (2006 census); 8,000,000 (2016, CIA Factbook)
Population growth (annual %)	1.4 (2006-2015)
Area (km ²)*	46,053
Climate	Tropical savanna climate
Main industries	Textiles, machinery, steel, aluminium, petroleum products, pottery. Kaduna is one of the education centres in Nigeria, with many colleges and the most recognised university in Nigeria.
Currency**	USD 1: NGN 361.2 (Nigerian naira) (February 2019)

Sources: * Wikipedia, Kaduna State, accessed 15 March 2019, <https://en.wikipedia.org/wiki/Kaduna_State>

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Current SWM Situation

Item	Outline
Institutional System	
Legal system	<ul style="list-style-type: none"> ● The related laws and regulations for SWM are: <ul style="list-style-type: none"> » Kaduna State Environmental Protection Edict No 1 of 1994. » KEPA Solid Waste Management Regulation No 1 of 2011. » KEPA Regulation No 6 of 2009, Control and Management of Hazardous Substances. » KEPA Environmental Impact Assessment and Audit Regulations No 4 of 2009. » Kaduna State Environmental Protection Authority, KEPA Law of 2010. ● There is a legal framework for PPP, and the Kaduna State Investment Promotion Agency is in charge.
Policy/plan	<ul style="list-style-type: none"> ● Kaduna State Executive Council has approved the first state policy on environment and is presently working on its implementation plan.
Implementation system	<ul style="list-style-type: none"> ● Constitutionally, SWM is the responsibility of local councils. In Kaduna State, KEPA manages waste in urban areas of Kaduna State. ● Local councils are responsible for managing waste in the rural areas. ● The state Governor defines the SWM vision, the Commissioner is responsible for policy and strategy, the private and informal sector operate the services while KEPA regulate the SWM regime as defined by its law and regulations, <www.kepa.org.ng>. ● MENR is responsible for SWM policy and laws. ● KEPA is responsible for monitoring, supervision, and enforcement.
Technical System	
Waste generation amount & characteristics	<ul style="list-style-type: none"> ● Waste generation amount: 240 tons/day (2017, DFID). ● Waste characteristics: plastics 10%, paper 8%, metals 5%, organic waste 54%.
Storage and discharge/ Collection and transportation/ Road sweeping	<ul style="list-style-type: none"> ● Access to government collection services in the state is as low as 1.5%. ● Over 50% of the urban population has access to private or informal services for a fee. ● The SWM regime is operated by the government-appointed service contractor, Cape Gate Investments Ltd. ● The Kaduna State Government (KDSG) have appointed a contractor, also Cape Gate Investments Ltd, to clean public spaces for a fee (paid by government). ● Industries, businesses, and households are served by private collectors or the informal sector for a fee. ● Only 10% of municipal waste is collected formally. ● There are more than 6,000 informal waste pickers, including children. <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>Waste collection by Cape Gate Investments Ltd.</p> </div> <div style="text-align: center;">  <p>Door-to-door collection by informal collectors</p> </div> </div>

Item	Outline
Intermediate treatment/ Recycling	<ul style="list-style-type: none"> ● There are six community-based Materials Recovery Facilities (MRFs) and transfer stations. All are managed by Cape Gate Investments Ltd. ● There are six waste aggregators (dealers) and nine industrial-scale recyclers. ● Only 5% of collected waste streams are recycled.
Final disposal	<ul style="list-style-type: none"> ● There are two officially designated dump sites (unofficial communal dumps abound in the city) and all are managed by Cape Gate Investments Ltd, as agreed with KDSG. ● There are not so many waste pickers at the final disposal site, but a few farmers collect organic waste for fertiliser use. <div style="text-align: right;">  <p>Final disposal site</p> </div>
Financial system	<ul style="list-style-type: none"> ● There is a federal government subsidy for private waste enterprises. ● Kaduna State also collects funds from local governments and uses them for waste collection. Therefore, residents do not pay waste collection fee. ● Currently, there is a transition on SWM financing in Kaduna State where the KDSG contributes 40% while Local Government contribute 60% commencing from January 2019. It is expected that local governments will take full responsibility of SWM in their respective areas by 2020.
Environmental and social considerations	<ul style="list-style-type: none"> ● There is now an approved State Environmental policy that will support the informal sector. ● KDSG and Cape Gate Investments Ltd are working together to formalise the informal SWM services.
Donor support	<ul style="list-style-type: none"> ● No donor activity has been identified. However, the Department for International Development (DFID) have previously implemented a liquid waste management project.
Areas for improvement (in order of priority)	<ul style="list-style-type: none"> ● Need a sustainable income system to cover waste operation cost, in short term. ● There is long-term plan on SWM, as captured in the state policy on the environment.

Waste Amount at Each Stage of Waste Flow*

Waste flow	Amount** (ton/day)	Remarks
① Waste generation	240	Waste generated at houses, offices, shops, restaurants, etc.
② Discharge to collection	N/A	Waste discharged for collection services.
③ Self disposal	N/A	Disposal at generation sources, such as burning and burying.
④ Recycling at source	N/A	Reuse of materials, composting, sold to recyclers.
⑤ Collection and transport	24	Waste amount collected and transported.
⑥ Clandestine dumping	N/A	Waste illegally disposed of in unknown location.
⑦ Treatment	N/A	Material recycling, composting, incineration, etc.
⑧ Recycling/Reduction	N/A	Recycled and/or reduced waste amount by material recycling, composting, incineration, etc.
⑨ Residue	N/A	Residue from treatment facilities.
⑩ Final disposal site	N/A	Waste amount brought into disposal sites.
⑪ Recycling	N/A	Recycled at disposal sites.
⑫ Final disposal	N/A	Waste amount finally disposed of at disposal sites.

* Based on the waste flow chart on page.

** Figures include estimated value.

Location of Waste Management Facility and Related Photographs:



Final Disposal Site 1 (coordinates: N 10°24'23.4" E 7°23'57.1")



Final Disposal Site 2 (coordinates: N 10°35'51.7" E 7°19'59.8")