

Nigeria is located in the western part of Africa and has 36 States and a Federal Capital Territory (FCT). FCT is located in the central part of Nigeria, and its territory covers about 8,000 square kilometres. Abuja, the Federal Capital City (FCC), is the capital city of Nigeria and located within the Federal Capital Territory. According to the 2006 National Population Census, FCT had population of 1,406,239 and FCC 776,298. The projection in 2016 shows population of 3,564,100 for FCT and 1,967,500 for FCC.

With the population growth and rapid urbanisation of Abuja, the challenges around SWM in the city are becoming more complicated. The organisation responsible for waste management and sanitation in the FCC is Abuja Environmental Protection Board (AEPB), while the Area Councils are responsible for the zones outside the FCC. A detailed data analysis on SWM-related SDG indicators has been recently undertaken and resulting in an estimated waste collection rate of 45.1%.

## Information

|                               |  |
|-------------------------------|--|
| Population*                   | 3,564,100 (FCT); 1,967,500 (FCC) (Projection 2016)                               |
| Population growth (annual %)* | 9.7 (2006-2016)  |
| Area (km <sup>2</sup> )*      | 7,315 (FCT); 1,769 (FCC)   |
| Climate**                     | Tropical wet and dry climate   |
| Main industries               | Public administration, construction industry, Central Bank, banking, real estate |
| Currency***                   | USD 1: NGN 361.2 (Nigerian naira) (February 2019)                                |

Sources: \* City Population, Nigeria, accessed 20 March 2019, <<http://www.citypopulation.de/php/nigeria-admin.php?adm1id=NGA015>>

\*\* Wikipedia, Abuja, accessed 20 March 2019, <<https://en.wikipedia.org/wiki/Abuja>>

\*\*\* Oanda.com

## Current SWM Situation

| Item  | Outline  |
|---|--|
| <b>Institutional System</b>   |  |
| Legal system  | <ul style="list-style-type: none"> <li>● Abuja Environmental Protection Board Act, 1997: established the Abuja Environmental Protection Board and its functions.</li> <li>● Waste Management Regulations 2012: regulation on gazette fees/charges for waste management services payable by all residents of the FCT.</li> <li>● Guideline and Requirements for Waste Recycling in the FCT (draft).</li> </ul>  |
| Policy/Plan   | <ul style="list-style-type: none"> <li>● Solid Waste Management Policy Guideline for FCT (draft).</li> <li>● Abuja Environmental Protection Board is responsible for developing the Strategic Solid Waste Management Plan 2011-2015 and 2017-2021. It is also proposing FCT a Solid Waste Management Road Map.</li> </ul>  |
| Implementation system   | <ul style="list-style-type: none"> <li>● The Environmental Protection Board is directly providing SWM services in sweeping, collection, and final disposal, as well as collection of healthcare waste and waste from Communal Collection Centres.</li> <li>● There are 106 staff at the SWM department (four in administration, and 102 in operations).</li> <li>● The Federal Ministry of Environment (FMoE) is a related institution, responsible for: <ul style="list-style-type: none"> <li>» Formulation of environmental laws, policies, and regulations.</li> <li>» In charge of environmental assessment of trans-boundary projects.</li> <li>» Relate and liaise with State environmental protection agencies for the implementation of environmental laws and regulations.</li> <li>» Responsible for all ecological controls in Nigeria.</li> <li>» Responsible for all international donor coordination in Nigeria.</li> <li>» Responsible for the development of the SWM infrastructure in Nigeria.</li> </ul> </li> <li>● National Environmental Standards and Regulations Enforcement Agency (NESREA) is the enforcement arm of the Federal Ministry of Environment, and is responsible for SWM legislation, standards, and policies. NESREA is also in charge of all pollution control standards and the enforcement of environmental standards.</li> <li>● The Federal Ministry of Health is in charge of healthcare in Nigeria, including physical verification of environmental nuisances within premises.</li> <li>● Some SWM operations are contracted out to private sector companies (e.g. the sweeping of city centre, public areas and residential areas, the collection service, final disposal and recycling as well as Litter and Vegetation Control Services). Private sector operation/supervision is working well.</li> </ul> |
| <b>Technical System</b>   |  |
| Waste generation amount & characteristics                           | <ul style="list-style-type: none"> <li>● Waste generation rate is 0.42 kg/person/day, according to JICA review.</li> <li>● Waste generation amount is 1,191.9 tons/day, which is estimated by multiplying population and waste generation rate and confirmed by estimating compactor capacity multiplied by compaction ratio.</li> <li>● Composition of waste: food waste 43.43%, plastic 15.27%, papers 7.76%, textile 1.39%, wood 3.36%, rubber and leather 0.081%, metals 2.02%, glass 2.39%, others 24.18% (soil, ceramics, etc.). These figures are taken from a detailed 2018 waste composition survey conducted by professionals such as donor agencies, universities and consultants.</li> </ul>   |
| Storage and discharge/ Collection and transportation/ Road sweeping | <ul style="list-style-type: none"> <li>● 1,711,419 people (72% of the city's population) receive waste collection service twice a week (estimated by area map without population data).</li> <li>● There are sweeping services in the city centre, public areas, and residential areas.</li> <li>● There is no transfer station in the city.</li> <li>● Collection vehicles: 10 Compactor Trucks (4 compactor trucks of 18 m<sup>3</sup> capacity and 6 compactor trucks of 15 m<sup>3</sup> capacity); 4 Roll On-Roll Off Trucks of 13 m<sup>3</sup> capacity.</li> <li>● 40% of compactor trucks are functional; and 50% of other vehicles are functional (mechanical breakdowns are due to irregular maintenance and inadequate spare parts).</li> <li>● Collection work is carried out by the private sector. They have to provide the number of trucks specified in the contract. The government has four trucks in case the private contractor does not provide trucks.</li> </ul>   |

| Item  | Outline   |
|---|---|
| Intermediate treatment/ Recycling                   | <ul style="list-style-type: none"> <li>● Approximately 2,000 people in the city are involved in recycling activities: over 1,000 people involved in collection of recyclable materials on the street, and more than 600 people involved in recovery of recyclables in the central disposal site.</li> <li>● There is no formal recycling facility.</li> <li>● Separation of household waste at source is practiced as a pilot scheme in a district called Gwarimpa 1 (Life Camp).</li> <li>● Self-disposal is practiced (open burning, recyclable materials to recyclers, and the illegal dumping of waste on undeveloped lands).</li> </ul>  |
| Final disposal                                      | <ul style="list-style-type: none"> <li>● There is one final disposal site in the city with a capacity of 90.3 ha.</li> <li>● The disposal site is equipped with gate and fence.</li> <li>● It is operated 10 hours/day and has a daily operation plan.</li> <li>● Operations include: open dumping using D8 Bulldozer to pile up waste.</li> </ul>  |
| <b>Financial system</b>                             | <ul style="list-style-type: none"> <li>● Total revenue: Data not provided.</li> <li>● Expenditure of NGN 2,700 million/year. Of this, NGN 2,670 million/year is spent on collection/transportation, including sweeping and vegetation control.</li> <li>● A waste collection fee is charged (Independently charge waste collection service fee): <ul style="list-style-type: none"> <li>» Household waste NGN 1,200–45,000/year.</li> <li>» Commercial waste NGN 7,800–14,400,000/year.</li> <li>» Institutional waste NGN 240,000–21,600,000/year.</li> <li>» Educational and Religious Institutions NGN 120,000–180,000/year.</li> </ul> </li> <li>● A disposal site fee (tipping fee) of 3% of company contract fee is charged.</li> <li>● Liquid waste services are charged in the city centre only.</li> </ul> |
| <b>Environmental and social considerations</b>      | <ul style="list-style-type: none"> <li>● There is a policy to provide job opportunities for informal sector and there are Rules and Regulation guiding the scavenger's activities.</li> <li>● The community is informed on how to separate and discharge waste through public consultations, through schools, and through print and electronic media. General Monthly Sanitation and Community Sanitation Forums are also held for the communities.</li> </ul>  |
| <b>Donor support</b>                                | <ul style="list-style-type: none"> <li>● JICA: <ul style="list-style-type: none"> <li>» Capacity development of an integrated SWM system.</li> <li>» Overseas training programs about best practice in SWM.</li> <li>» Improvement of waste disposal operations, semi-aerobic landfill operation (Fukuoka Method).</li> <li>» Improvement in waste collection and transportation services, life camp waste collection, and transportation improvement.</li> </ul> </li> </ul>   |
| <b>Areas for improvement (in order of priority)</b> | <ul style="list-style-type: none"> <li>● Development of policies and legal framework on SWM: Preparation of basic laws and regulations on SWM.</li> <li>● Waste collection and transportation improvement plan: Best practices in collection and transportation of waste using the right sets of tools and routes for maximum efficiency and effectiveness in service delivery.</li> <li>● Landfill Improvement Plan: Proper ways of compacting waste using bulldozers and landfill compactors, improvement in data collection about vehicles, daily scheduling of dumping area, and control of scavenging operations.</li> </ul>   |

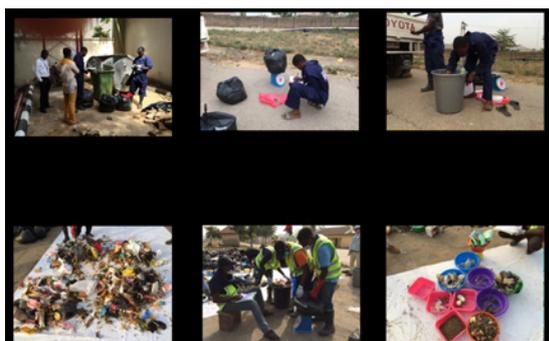
## Waste Amount at Each Stage of Waste Flow\*

| Waste flow                 | Amount** (ton/day) | Remarks  |
|----------------------------|--------------------|--|
| ① Waste generation         | 1,191.9            | Waste generated at houses, offices, shops, restaurants, etc.                               |
| ② Discharge to collection  | 537+38.7           | Waste discharged for collection services.  |
| ③ Self disposal            | 618                | 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 | 537+38.7           | 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      | 38.7               | Recycled and/or reduced waste amount by material recycling, composting, incineration, etc. |
| ⑨ Residue                  | N/A                | Residue from treatment facilities.   |
| ⑩ Final disposal site      | 537                | Waste amount brought into disposal sites.  |
| ⑪ Recycling                | N/A                | Recycled at disposal sites.  |
| ⑫ Final disposal           | 537                | 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:



Images of SWM data analysis being undertaken (Source: presentation at the ACCP Meeting, June 2018)