

Dhaka, the capital of Bangladesh, has a population of approximately 12 million residents, including 3 million in unincorporated areas. By 2020, Dhaka's population is expected to reach 20 million, making it one of the world's most populous cities.¹ Dhaka is one of the most densely populated cities in Asia, with many people living in slums and squatter settlements. Although it recently adopted a Solid Waste Master Plan, most areas of the city lack sufficient waste collection services. Only 40–60% of Dhaka's waste is collected and transported to the city's two landfills. Uncollected waste is deposited in open dumps and common areas, creating public health and environmental hazards. Considering the city's rapid growth and insufficient waste services, the need for improved solid waste management presents a key opportunity for simultaneously addressing health, development, and environmental issues in Dhaka.

Dhaka Fast Facts

- Population: Approximately 12 million (15 million in Greater Dhaka region) (as of 2013)²
- Population density: More than 30,000 people per square kilometer²
- Annual growth rate: Approximately 6%¹
- Per capita income: Approximately 923 USD³
- Percentage below poverty line: 55%⁴
- Number of slums: More than 2,000 in incorporated area¹
- Percentage of poor living in slums/squatter settlements: 50%⁴



Solid Waste Management in Dhaka

Waste Generation

Dhaka generates approximately 1.65 million metric tons of solid waste annually. The waste stream is more than 80% organic matter and contains a wide variety of substances, such as food waste, paper, cloth, agricultural waste, construction debris, metals, hospital waste, and appliances. Per capita waste generation estimates range between 0.29 and 0.60 kilograms per person per day, depending on the individual's level of income (higher-income individuals tend to generate more waste).^{4,5}

Waste Collection

For administrative purposes, Dhaka is divided into two distinct units – Dhaka North City Corporation (DNCC) and Dhaka South City Corporation (DSCC). These units are responsible for solid waste collection and disposal in their respective areas. In the DNCC, it is estimated that only 40–60% of waste is collected; a 2007 study estimated that approximately 42% of the entire city's (DNCC and DSCC) waste is collected.^{2,4} Uncollected waste is deposited in open spaces, where its accumulation contributes to foul odors, rodents, and clogged stormwater and sewer drains. It is often burned deliberately to reduce its volume and by accident, which contributes to a range of health and environmental impacts. Waste

collection is particularly insufficient in the slum areas, which are home to approximately half of the city's poor and where government services are minimal. Dhaka is making improvements under its 2005 Solid Waste Master Plan, which led to a new system for regularly collecting household waste from a network of collection bins throughout the city. However, that plan is due to expire in 2015, and it is not certain that a new plan will replace it.²



Waste Disposal

Collected waste is first transported on hand trolleys (often by private micro-enterprises) from dense neighborhoods to consolidation locations, where it is loaded onto city-owned trucks. Before 2007, these trucks transported the waste to two open dumps outside the city. In 2007, one of the dumps was converted to a controlled landfill (in DSCC), but access is limited by traffic congestion and a large portion of the waste generated in the DSCC is consequently transported to the DNCC.² The DNCC is planning upgrades to its dump, including adding a leachate management system and a waste-to-energy facility.

Organic Diversion

Only a small portion of Dhaka's organic waste is diverted before being transported to the city's landfills or deposited in open spaces. However, one small-scale, private composting company is currently collecting (for a fee) and processing approximately 100 metric tons of organic waste per day, and selling the compost to local farmers. Dhaka has preliminary plans to develop a larger Integrated Resource Recovery Center at one of the city's landfills to process waste into compost and to generate electricity using landfill gas.



Recycling

Dhaka has historically relied on the informal recycling sector (e.g., waste pickers, of whom there are an estimated 120,000) for the recovery of non-organic materials.⁶ In an effort to recover more recyclable materials, the city launched a source separation pilot program in 2012.

Climate and Clean Air Coalition Municipal Solid Waste Initiative

The Climate and Clean Air Coalition (CCAC) is a voluntary partnership uniting governments, intergovernmental and nongovernmental organizations, and representatives of civil society and the private sector in the first global effort to address emissions of short-lived climate pollutants, including methane and black carbon, as a collective challenge. The CCAC Municipal Solid Waste Initiative is working with government officials, sanitation engineers, private entrepreneurs, and other stakeholders in pilot cities to help build capacity to improve waste management.

¹ World Bank, 2007 (<http://siteresources.worldbank.org/BANGLADESH/EX/295759-1182963268987/dhakaurbanreport.pdf>)

² EPA CCAC MSW Initiative Assessment

³ BBS: Bangladesh Bureau of Statistics (FY 2012–2013)

⁴ APO, 2007 (<http://www.apo-tokyo.org/publications/files/ind-22-swm.pdf>)

⁵ Dhaka North City Corporation

⁶ UNESCAP, 2006 (<http://www.unescap.org/pdd/prs/ProjectActivities/Ongoing/Best%20practice/Bangladesh.pdf>) and Sinha, 1993 ("The Formal and Informal Sector Linkages in Waste Recycling A Case of Solid Waste Management in Dhaka City," an unpublished M.Sc. Thesis, Human Settlement, Asian Institute Technology)