

DHAKA WASTE MANAGEMENT PROBLEM

Tradition vs. Modernity: Examining Dhaka's Outdated Waste Management Practices Amidst Rising Urbanization Challenges

South Asians exhibit a profound attachment to traditions, as evidenced by practices such as mothers preparing delicacies on Eid morning or individuals waking up to the tune of Esho he Baishakh playing in the neighborhood on Pahela Baishakh. These traditions are held in high regard and regarded as being of great value. In addition, there are other traditions that warrant further examination. To illustrate, Dhaka has retained a traditional waste management system that has undergone minimal alteration since the city's independence in 1971. This system permits the indiscriminate and open dumping and burning of waste, as well as its disposal into air, water bodies, landfills, and even directly into agricultural land in rural areas. Despite the passage of five decades, such practices persist unabated and are regarded as normal.

Modern societies are, in fact, confronted with the challenge of managing the unprecedented amounts of waste generated by changes in consumption patterns, which are further compounded by uncontrolled urbanization. Of the more than 2.01 billion tons of waste produced globally, approximately one-third is not managed in an environmentally safe manner. According to one study, approximately 5,000 tons of waste is generated in Dhaka city on a daily basis. However, only half of this amount is properly collected and disposed of, while the remaining half remains untreated.

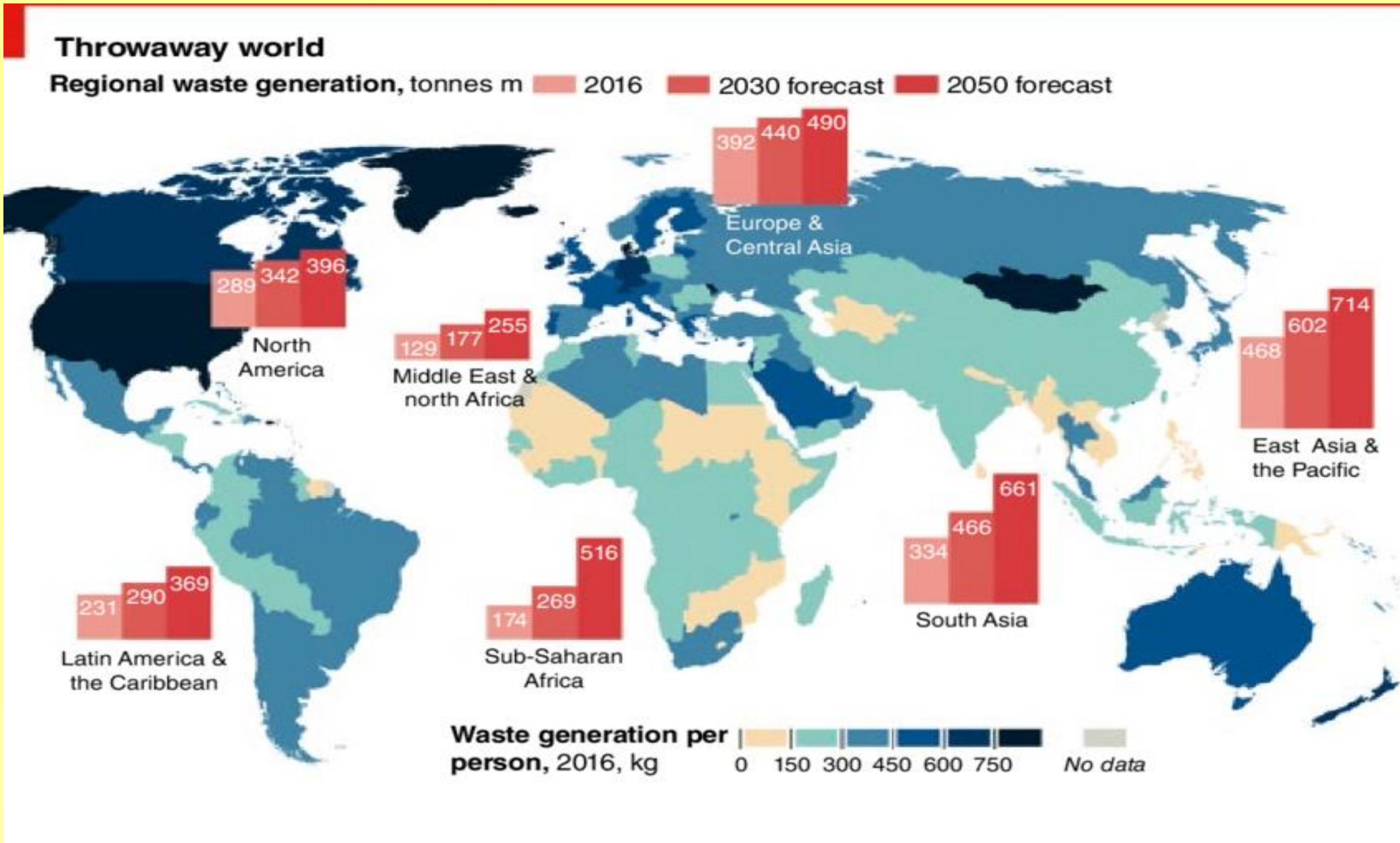


FIGURE: Global waste generation

Barriers to Effective Recycling and the Outdated Waste Management System in Dhaka: A Public Perspective

A review of public opinion indicates that, despite the presence of well-intentioned recycling programs, the lack of adequate facilities presents a significant obstacle to their success. The current system lacks the infrastructure to facilitate the separation of different types of recyclables. Consequently, even when residents attempt to separate their materials at home, they ultimately end up in a single, consolidated pile during collection. Others highlighted the absence of incentives to engage in recycling activities, emphasizing the significant effort required for regular recycling practices. Despite these observations, however, the lack of incentives remained unaddressed. For some, the effort required was not commensurate with the potential reward.

The system of waste collection and management in Dhaka is characterized by a lack of organization and outdated practices when compared to other modern cities. The traditional waste collection system is a labor-intensive process that makes minimal use of modern technical solutions. The system comprises three principal stages of collection: The primary collection, secondary collection, and final journey to the landfills are all linear processes. At the primary stage, we observe the tokais (child waste collectors who should be attending school) collecting waste from the streets and scavenging in rickshaw vans that traverse the city, collecting waste from one building to another. The unsightly and overfilled plastic sacks are a common sight. This is the reality of primary waste collection in the city.



FIGURE: Mismanagement in waste management

Uncollected Waste: A Public Health Hazard and Environmental Crisis in Urban Areas

The collected rubbish is subsequently deposited into large receptacles, which could be situated in a greater number of selected locations on the street if desired. However, this is not the case. The unsorted and unseparated pile of garbage at these secondary collection points frequently remains uncollected for several days. This situation is not only aesthetically displeasing and detrimental to the health of those residing in the vicinity; it also creates an environment conducive to the transmission and proliferation of waste-borne diseases among the general population. It represents a significant public health hazard that could potentially have severe consequences.

On occasion, these bins, filled with a combination of waste and disease-bearing microbes, are emptied into garbage-collecting trucks, which traverse the center of the city to the outskirts while emitting an unpleasant odor and spilling some of the garbage along the way. The landfill represents the ultimate destination for the waste material. These sites are used as informal recreation areas for the Tokai population, who engage in activities such as climbing the landfill structures, which are often contaminated with hidden health hazards, in search of recyclable materials to sell to recycling shops at a minimal price.



FIGURE: Matuail landfill almost reaches capacity

Addressing Dhaka's Growing Waste Crisis: The Need for Smart, Technological Interventions in Urban Waste Management

Indeed, the narrative surrounding Dhaka's waste management challenges has remained largely unaltered since the country's independence, contrary to expectations. However, the rate of waste production per capita has increased significantly due to the rapid urbanization and subsequent population growth in Dhaka. As a consequence, it is unsurprising that Dhaka has become one of the most polluted and unlivable cities in the world, with an accumulation of waste observed in numerous locations, including streets, educational institutions, commercial establishments along public thoroughfares, recreational areas, and even residential neighborhoods. This contributes to the perception of the city as a vast receptacle for waste. One might inquire whether this is an appropriate representation of an aspiring middle-income country. What impact does this have on the country's image?

The current state of the city provides compelling evidence that the conventional waste management system is inadequate in ensuring a hygienic environment for the residents of Dhaka. In the context of the Fourth Industrial Revolution, a potential solution to this problem may lie in the realm of technical and digital interventions. The objective is to enhance the existing system in terms of intelligence, efficacy, and economic profitability, both direct and indirect. The introduction of smart technology has the potential to transform the existing rickshaw vans that collect waste into efficient waste collection vehicles. The integration of a smart sensor chip at the top of the bins can facilitate the transmission of information to waste collection facilities when the bins are full, thereby establishing a regular pattern for waste collection. Smart solutions of this nature will enable the authorities to exercise enhanced control over the collection and regulation of waste, ultimately leading to a cleaner city with happier, healthier citizens. These options will be explored in greater depth in subsequent episodes.



FIGURE: Already expired Aminbazar site to acquire 80 acres of land

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