Waste Not, Want Not Can Also Create Sustainable Societies

Govind Singh

Editor, Journal of Innovation for Inclusive Development, Centre for Earth Studies
Indraprastha College for Women, University of Delhi

Goal 12 of the Sustainable Development Goals (SDGs) focuses on Responsible Consumption and Production. One of the key targets under this Goal is to substantially reduce waste generation through prevention, reduction, recycling and reuse. Waste management has emerged as one of the most challenging problems of the 21st century, thus far. Our waste generation capacity has consistently increased since the industrial revolution. In the absence of the much needed inventions and innovations, the waste management sector is now facing a crisis situation in most parts of the world. This is having a significant adverse impact on the local as well as global environment. Release of methane (a potent greenhouse gas) from landfills for instance, now accounts for 12% of the total global methane emissions (EPA, 2006). Landfill sites have also become point source of particulate matter pollution as well as of surface and ground water contamination.

The world today is rapidly urbanizing. Since municipal solid waste is one of the key by-products of urbanization, the latter is also accompanied by an increase in the generation of municipal solid waste. In 2002, 2.9 billion urban residents were generating approx. 0.68 billion tonnes per year of waste. By 2012, 3 billion urban residents were generating approx. 1.3 billion tonnes per year of waste. It is estimated that by 2025, 4.3 billion urban residents will be producing 2.2 billion tonnes per year of waste (Hoornweg and Bhada-Tata, 2012). In addition to the total municipal waste generated, the per capita municipal waste generation capacity is also increasing with increasing urbanization. The dumping of municipal waste in the landfills, and the daily increase in the size of these landfills have made them into ticking time bombs, planted in almost all the megacities of the world. To complicate matters further, municipal solid waste is only one among the many types of waste being generated in our cities. The various other types of waste generated include electronic waste, biomedical waste, hazardous waste and construction waste. Waste management is thus clearly a sector which needs immediate and careful attention.

Addressing the waste management problem needs to begin with understanding the reasons that have led to the current dismal waste scenario. In countries with deep rooted pasts and sociocultural heritage, it has been observed that working with waste is a social stigma. This mindset has proved to be a hindrance in the research and development of the waste management sector, especially in developing countries. Another aspect of the waste challenge, which sets it apart from other environmental factors such as clean air, potable water and usable energy is volume. While clean air, potable water and usable energy become a challenge when they become limited, waste becomes a challenge when there is too much of it. This makes it relatively easy to understand when air, water and energy reach a crisis situation. However, with waste, it is not always clear as to how much is too much, before it becomes a Himalayan problem. It is no surprise then that a general overview of the top five most populated megacities in the world (UN, 2016) presents an alarming waste scenario. While Tokyo (Japan) has been attempting to create a new island with its waste, Delhi (India), Shanghai (China), Mumbai (India) and São Paulo (Brazil) continue to struggle to offset the waste from their skyscraping landfills. The landfills, as well as the entire waste collection, handling and disposal mechanisms in these cities have thus become a major public health and environmental concern.

An apparently simple solution to the urban waste crisis is the segregation of waste into biodegradable and non-biodegradable waste, at source. It is an overtly simple waste management intervention, so much so that it has seemed too simple to be implemented by many municipal

Email for correspondence: contact@govindsingh.com

agencies around the world. The municipal agencies who have adopted waste segregation have not been able to do so with the micro-scale clarity and political will that it requires. Segregation of waste requires a multi-stakeholder approach, where everyone from the citizen to the waste collector and those handling the waste need to be on board simultaneously. An ideal waste segregation system will ensure decentralization of waste management and at least the biodegradable waste generated by individual households/ residential area should be neutralized within the household/ residential area itself. While this seems to be theoretically appropriate, its implementation in megacities - with large number of houses and residential areas - is farfetched. Thus, implementing segregation of waste in megacities will immediately double the spending on municipal waste collection due to bifurcation of the waste collection system (cf. UN-Habitat, 2011). Waste segregation is therefore not as simple a solution as it seems, for solving the urban waste crisis.

The complexity of the waste management crisis in megacities and urban agglomerations calls for innovative and inclusive solutions involving all stakeholders. It also requires nations and municipal agencies to generate awareness on the need to reduce and optimize our consumption patterns and revisit our increasingly consumerist lifestyle. Tackling waste management efficiently can help address more than half of the 17 Sustainable Development Goals (UNEP, 2015). The ability of nations to handle their waste is going to determine the sustainability of existing and emerging megacities and it is time that the waste management sector is given the attention it has been wanting since at least the last two decades.

References

EPA, 2006. Solid Waste Management and Greenhouse Gases - A Life-Cycle Assessment of Emission and Sinks. 3rd Ed. U.S. Environmental Protection Agency, Washington, USA.

Hoornweg, D. and Bhada-Tata, P. 2012. What a Waste: A Gobal Review of Solid Waste Management. Urban Development Series; Knowledge Paper 15. World Bank, Washington, USA.

UN, 2016. The World's Cities in 2016. United Nations - Economic and Social Affairs. United Nations, New York, USA.

UNEP, 2015. Global Waste Management Outlook. United Nations Environment Program. United Nations, Nairobi, Kenya.

UN-Habitat, 2011. Collection of Municipal Solid Waste – Key Issues for Decision Makers in Developing Countries. United Nations – Habitat. Nairobi, Kenya.