

## Abstract

### **Solid Waste Management Impact on Sustainable Development**

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The economic boom sent solid waste generation skyrocketing. Global municipal solid waste (MSW) generation exceeded 1.3 billion tonnes in 2013 to reach 27 billion tonnes in 2050. The generation will only keep increasing, ergo the collection and disposal of MSW have become a strategic issue for countries around the world. Cities in developing countries spend 20 to 40 percent of their revenues on refuse collection and disposal, yet fail to collect 30 to 50 percent of their solid wastes. Furthermore, 620 million tonnes of waste per year are burned openly due to poor collection coverage and poor waste disposal methods, releasing six times more black carbon equivalent CO<sub>2</sub> compared to CH<sub>4</sub> from disposing waste at the landfill. Apart from this, landfilling continues to be a significant waste management method, most prevalent in developing countries. It is projected that by 2022, roughly two billion tonnes of waste will be landfilled and/or open dumped. In addition, 1.3 billion tonnes of food globally are lost or wasted every year which responsible for \$940 billion in economic losses, while on the other hand, an estimated of one billion people experiencing chronic hunger and go undernourished in poor countries.

This article draws attention to the problem of MSW management in the context of sustainable development to balance the economic, environmental and social needs. Sustainable waste management aims to address the long-term pressures through the recovery, recycling, and reuse of resources, and minimization of waste streams. Additionally, waste management is well embedded in the United Nations Sustainable Development Goals, either explicitly or implicitly in more than half of the 17 goals which will be discussed. To this extent, recycling has become a key priority, referring to all the activities related to avoiding or reducing waste, throughout the production and consumption chain. 3R strategy has been so successful in Japan, Korea and Singapore due to stringent policies and regulations as well as in the urban poor communities in India, Bangladesh and Indonesia as their livelihoods depend on recycling practices. However, other developing nations in Asia and the Pacific Islands reported unsuccessful story even though their municipal waste stream typically contains 20 to 30 percent (by weight) of potentially recyclable inorganic materials. On top of recycling, energy recovery from waste such as plastics has recently come under increasing scrutiny as this reduces the volume of waste sent to landfills by 87 percent, complements plastics recycling along with reduction of greenhouse gas emissions. To conclude, it is vital for countries to take possible actions to draw national or city level plans towards sustainable waste management to ensure economic stability as well as to protect human wellbeing and the natural environment.