

CHAPTER 6

Landfill management and efficacy of anaerobic reactors in the treatment of landfill leachate

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6.1 Introduction

Increasing thrust on technological advancement around the globe has led to a drastic increase in the consumption of various products or raw materials consequently leading to an enormous amount of solid waste generation. The ever-increasing generation of solid waste has become a great concern for society because of the relentless economic and environmental issues associated with its disposal. Solid waste is too heterogeneous and can be classified as kitchen waste, yard waste, paper, and cardboard waste, plastic and rubber waste, metallic waste, glass waste, and miscellaneous/others (electronic waste, construction and demolition waste, medical waste) waste and it is shown in Fig. 6.1. The world generates 2.01 billion tons of municipal solid waste annually, with at least 33% of that is not managed in an environmentally safe manner. Approximately, an average of 0.74 kg of waste is generated per capita per day but it is having a wide range from 0.11 to 4.54 kg/capita/day. Due to increasing urbanization and economic developments, global waste generation is expected to reach 3.4 billion tons by 2050 which is double the growth rate of the population (Atlas, 2018). This employs that the variation in income also plays a crucial role in the generation of solid waste.