Chapter 18
Municipal Waste Management in Turkey

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ABSTRACT

Due to geographical position at the crossroads between Middle East and Asia and Europe, Turkey has a significant role for neighbor developing countries in terms of economical and social growth. Since solid waste management system mainly depends on these factors, Turkey has been always comprehensive model for many developing countries with its management system. This chapter, consisting of eight sub-sections, evaluates the management of municipal solid waste in Turkey with current data from the Ministry of Environment and Urbanization and provides an overview of the development of waste management practices in Turkey. In addition to the future perspectives and planning, the current status, waste amount, waste characteristics, prevention studies, recycling and re-use applications, collection, treatment and disposal applications of municipal wastes, packaging wastes, and medical wastes are reported in this chapter.

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INTRODUCTION

Economic development, socio-economic structure, industrialization and climate significantly affect the solid waste generation rates in all over the world. Generally, the amount of solid waste increase with the increase in economic development and the rate of urbanization growth. Hence, the consequence of the unplanned urbanization growth will lead to a huge problem on solid waste management including the collection, transport and disposal in developing countries. Solid waste management is becoming even a more difficult problem of governments to solve due to the scarcity of financial, human, and other critical resources, especially for meeting the increasing demand for proper and healthy municipal service (UNEP, 2005).

It is clear that many developing countries face main problems with proper management of solid waste activities with advanced and expensive technologies due to the lack of adequate administrative and financial resources. An appropriate waste collection, recycling, and disposal methods require a sustainable municipal solid waste management system in a developing country. Therefore, an integrated solid waste management system has to be established a proper system for planning and designing considering technical, political, environmental, socioeconomic, legal, and cultural aspects as well as characteristics of municipal solid waste. Due to differences in waste characteristics, countries may need to use different technologies for waste disposal. Therefore, each country should develop its own waste management system to protect human health and environment, respond to the needs and its situation, also considering its financial situation. However, technology transfer without consideration of solid waste characteristics in developing countries may not be evaluated as an effective option for waste management. Otherwise, this kind of applications may cause more financial debts and adverse impacts on the environment, natural resources, and public health (Japan International Cooperation Agency, 2015).

Over the years, waste management has been a major challenge for Turkey as in whole developing countries. It is even more so with higher population and urbanization as well as socio-economic structure, and therefore more volume of waste is generated. Hence, Turkey has find waste management uneasy because of lack of financial capacity for integrated solid waste management. After European Council gives Turkey the status of candidate country for EU membership in 1999, environmental investments have started to increase, and therefore, waste management has become a pressure point for Turkey as of these years. Turkish Government has implemented several measures in order to protect environmental and public health originated from improper waste disposal. Consequently, a great deal of effort has been taken for appropriate collection, reuse, recycle, and disposal methods for municipal solid wastes during the last decade. This chapter, consisting of eight sub-sections, evaluates the management of municipal solid waste in Turkey with current data from the Ministry of Environment and Urbanization and provides an overview of the development of waste management practices in Turkey.

Section 2 gives a general overview of Turkey, as well as a historical perspective to the background of waste management. Moreover, a summary of population growth and urbanization is given. In addition, the current applications in waste management systems of Turkey are summarized.

Section 3 focuses on legislative development of waste management in Turkey from the 1930s to 2018. Also, the reasons for failure of these regulations to solve the waste management problem are shortly discussed.

Section 4 deals with the existing data on waste classifications, the amount of municipal waste generated and the characteristics of solid wastes in the light of the past and present studies.