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Waste management practices in Nigeria: Impacts and mitigation

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ABSTRACT

We reviewed the current state of waste management practices in Nigeria using examples from different parts of the country. Commonly practiced waste disposal methods in Nigeria, such as burial, open-air burning, and open dumping, were found to be ineffective and detrimental to public health and the environment. It was also shown that waste management cannot be successfully operated as a social service. Rather, the generator of waste must be held responsible. Problems confronting efficient waste management in Nigeria include the proliferation of unplanned settlements, traffic congestion, insecurity, and ignorance. An experimental model being used in Lagos State for the management of wastes may be the solution. Given the rate of population growth, industrialization, and urbanization, forward-looking and effective waste management plans need to be set in motion for the protection of public health. Such plans must involve all stakeholders, including the waste generators, the private sector, the informal sector, and regulatory agencies.

INTRODUCTION

Wastes can be defined as the unwanted by-products of human activities. Human behavior, population, culture, and level of prosperity are among several factors that determine the rate of generation, volume, and type of waste (Elsevier Editorial, 2009; Giusti, 2009). The predominant waste types in developing countries have been described as organic, composed mainly of food wastes (Afon and Okewole, 2007; Sha'Ato et al., 2007; Imam et al., 2008; Babayemi and Dauda, 2009; Ayoola et al., 2012), while the predominant waste in developed countries are varying kinds of industrial wastes (Elsevier Editorial, 2009; Giusti, 2009).

Waste categories involve the physical state, source, and fate of the waste, as well as the threat level of the waste. Figure 1 summarizes the different classification systems for wastes. The effective management of any kind of waste requires an understanding of its characteristics and the geology of the pertinent area. The classification, however, is not hard and fast because some wastes

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