Chapter 2
An Analytical Analysis of the Present-Day Procedures for Disposing of Waste

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ABSTRACT

Population growth, urbanisation, industry, modernization, and digitalization increase residential, industrial, commercial, mining, radioactive, agricultural, hospital, and electronic wastes in the 21st century. Waste management is becoming the biggest global challenge. Waste management includes collecting, transporting, sorting, destroying, processing, recycling, controlling, monitoring, and regulating garbage, sewage, and other waste. Waste management preserves the environment, prevents pollution, and protects health. Global waste management is modern. Biological reprocessing, recycling, composting, waste-to-energy, bioremediation, incineration, pyrolysis, plasma gasification, ocean/sea disposal, etc. Waste management enhances life. This ensures future peace and wellness. Global health depends on waste management. This optimises waste management. This document discusses worldwide garbage management. It also offers the best waste management approach by critically reviewing previous researchers' findings.

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INTRODUCTION

In the 21st century, a rapid increase in population, urbanisation, industrialization, modernization, and digitalization all contribute to an increase in wastes. These wastes include domestic garbage, industrial waste, commercial waste, mining waste, radioactive waste, agricultural waste, hospital waste, and electronic waste, amongst other types of waste. It won't be long until the correct management of these wastes is seen as one of the most important problems confronting the international community (Singh et al., 2022). Waste management is defined as the process of collecting, transporting, sorting, discarding, destroying, processing, recycling, controlling, monitoring, and regulating garbage, sewage, and other types of waste materials. The fundamental objectives of waste management are the mitigation of negative impacts on the surrounding natural environment and the avoidance of polluting activities. Protecting human health from the potentially negative effects that garbage can have is a secondary goal of waste management. The management of these wastes is currently being approached from a variety of innovative perspectives in many different parts of the world. Incineration, pyrolysis, composting, waste to energy, bioremediation, pyrolysis, plasma gasification, biological reprocessing, recovering materials through recycling, dumping rubbish in sanitary landfills, composting, and dumping waste in the ocean or sea are all examples of these types of waste disposal methods. These approaches to waste management contribute to an improvement in the overall quality of the environment, which in turn makes it simpler for living organisms to thrive in that setting. Because of the steps that are being taken right now, this paves the way for future generations to live in an atmosphere that is peaceful and conducive to good health. Finding and implementing the most efficient method of waste management that can be discovered is not only a pressing necessity in the present moment (Verma et al., 2022), but it is also essential to the health and happiness of people living in every region of the world. As a direct consequence of this change, the process of managing rubbish will become substantially more successful and effective. The purpose of this work is to make an attempt to describe the various waste management systems that have been used in various parts of the world at various times in history. In addition to this, it conducts an analysis of the discussions and findings of the research carried out by other researchers in an effort to determine the waste management systems that are the most successful (Dogiwal et al., 2022).

We are completely reliant on the environment around us in order to achieve the goals we have set for ourselves. Food, materials for clothing, electronic equipment, buildings, and transportation are just some of the things that we get from our surrounds and use in our day-to-day lives. Our surroundings also provide us with a lot of the things that we need. The condition of the material eventually deteriorates to the point where it is regarded as undesirable, defective, or otherwise useless. For the sake of leading a more refined way of life, we made a lot of things, used them for a while, and then threw them away as garbage in the dirt. Materials that have neither been wanted nor used appropriately are referred to be wastes. It is conceivable for it to exist in any state, including the solid, liquid, or gaseous states, depending on the circumstances. It is possible that it will be quite low in magnitude, or it may be rather high (Gupta, M., (2022). The rise in the number of people produces an increase in garbage that is precisely proportional to that rise. As a result of the buildup of wastes in the environment, the state of the environment has evolved into a major cause for concern for humankind. It lowered the standard of the air we breathe, the water we drink, and the soil we live on. Our earth and our species both began to be put in jeopardy as a direct result of the destructive effects it produced. Protecting our home planet Earth from the many pollutants has developed into a difficult and time-consuming endeavor for humans. It is imperative that we have effective waste management in place in order to guarantee the long-term survival