Economics and Public Health Implications of Solid Waste Management in Nigeria: A review

Abstract

Nigeria's population growth as a result of urban techno-economic development and changes in the production and consumption of materials has increased the amount of solid trash produced. The nation's existing waste management procedures are clearly unsustainable and are putting both the environment and the economy at danger. In this research, we evaluate the major elements of the available literature, including waste characterization, waste management techniques, economic impacts of solid waste management as well as the consequences on public health. At the conclusion of the investigation, it was determined that the country's current waste management practices are unsuccessful and that improper solid waste management has a detrimental influence on public health, contributing to diseases like typhoid, cholera, polio, malaria, and yellow fever. Yet, properly managed solid waste can also provide some economic benefits, such as providing industries with raw materials and a means of subsistence for the individuals who are employed in the management process. So, in order to handle solid waste efficiently, households must be educated on proper disposal methods, and waste management organizations must create recycling facilities.

Keywords: solid waste, public health, waste management

Introduction

Unusable non-liquid and non-gaseous byproducts of human activity are referred to as solid wastes (Babayemi and Dauda, 2009). solid waste also refers to byproducts of production processes or materials that may need to be disposed of by law (Okecha, 2000). When it comes to managing of solid wastes, the best practices in the area of public health, finances, infrastructure, sustainability, beauty, and other ecological factors are taken into consideration as well as the views of the wider populace. On the basis of source, environmental dangers, utility, and physical characteristics, solid waste can be categorized in a variety of ways. According to a generally cited source, solid wastes are divided into the following categories: industrial, agricultural, Construction and excavation, radiation , municipal, and animal waste products, mineral

extraction and processing, and medical (Omofonmwan and Eseigbe, 2009). According to Isu (2005), 87% of Nigerians dispose of their solid waste in unhygienic ways that are a nuisance, unsightly, smell bad, and act as a habitat for pathogens and parasites to reproduce.

Management of Solid Waste in Nigeria

Many of Africa's rapidly urbanizing regions face a significant difficulty with solid waste management. According to current estimates, the growth of urban solid waste is outpacing urbanization. Worldwide estimations showed that in 2002, 2.9 billion urban individuals produced 0.64 kg of garbage per person per day, and by 2012, when there were 3 billion urban residents, this number had increased to 1.2 kg per person per day. There will be roughly 4.3 billion urban dwellers by 2025, and each one will produce 1.42 kg of rubbish each day on average (Hoornweg and Bhada-Tata, 2012). (2015) Yusuf and Adesola looked into how much people benefited from federal govt spending on solid waste management. The report showed that the poor benefit from around 63% of all government spending on solid waste management, although the moderately poor are disproportionately favored. In a study of the waste management program in Kwara state conducted by Ayanshola et al. (2015), it was found that more than 50% of the households were unhappy with the current trash management system in various ways.

The methods used to manage solid waste differ widely between areas and there is no one method fit all as each location adopt the management practice they deem beneficial to them. (Hoornweg and Bhada-Tata, 2012). While being encouraged by contemporary waste management strategies, reuse, recycling of waste, and secure waste disposal are commonly neglected.. A significant fraction of garbage generated in underdeveloped nations is not recycled. It is challenging to recycle or compost due to the lack of waste sorting. Due of this, in underdeveloped countries, a large size of solid trash are regularly burnt and deposited in public places. (Oguntoyinbo, 2012). The presence of and how strictly implemented are the policies and regulations governing waste disposal, the amount of financing available, and the type and amount of trash created all have an impact on the variances in waste management methods (UNEP, 2013) The management of solid waste is the duty of both public and commercial entities in many developing nations (Osibanjo and Nnorom, 2007). The final disposal is frequently at an open dumping site on the outside of the city, with collection frequently occurring near the source or temporary dumping site. Truckloads of rubbish are frequently dumped at dump sites, which are typically large open

spaces. Dumped rubbish is frequently searched for useful items and recyclables, and it is frequently burned to minimize the bulk. Solid waste composition is complicated due to inadequate solid waste screening at any level and may include chemical, pharmaceutical, technological, and domestic waste thrown on the same public grounds as the rest of the city's trash. (Needhidasan et al., 2014)

Impact of Solid Waste Management on Public Health

Several major towns, particularly those in developing nations like Nigeria, have adopted open dumpsites as a method of managing their solid waste, which has led to the careless dumping of trash in such places. These waste sites pose serious health risks to individuals who live nearby since they are not adequately monitored (Sankoh et al., 2013). According to UNEPA, (2006), incorrectly disposed trash, particularly household and community solid wastes, can constitute a serious health concern and can transmit disease. There is little doubt that there is a danger of health risks from such exposure, even if data linking exposure to gases from careless garbage disposal to mortality and morbidity have varied between cities and research (Zanobetti et al., 2000). Studies have also shown that residents who are unaware of the dangers of handling solid waste directly run the risk of contracting a variety of infectious and chronic diseases, the most susceptible groups are scavengers at disposal grounds and waste management personnel who are actively involved in the processing of these materials. (Nwanta and Ezenduka, 2010).

According to a research by Yongsi et al. (2008), children are frequently the most exposed to these contaminants and that exposure to hazardous waste at dumpsites can have an impact on one's health. Direct contact with these dangerous substances at open dump sites can cause illnesses in the public by exposing them to chemicals. Open landfills pose a serious threat to the ecosystem, especially to the air we breathe. Those who live in, near, or around dumpsites are sickened by the offensive odors and smoke they create. Kola-Olusanya and Fagbohun (2011) observed that inappropriate management of solid waste has additional negative health effects, including the transmission of water-borne illnesses such typhoid, cholera, meningitis, polio, and hepatitis. These are illnesses brought on by polluted water, whether it be from human, animal, or other types of waste. In addition to serving as a breeding place for insects like mosquitoes, tsetse flies, and others that transmit diseases like malaria, yellow fever, dengue fever, sleeping sickness,

and other similar illnesses to people, poorly maintained dumpsites can also serve as a source of waste.

Economic Implications of Waste Management

While health issues with waste management and recycling are a significant problem, the economic benefits of garbage recycling as a method to mitigate climate change cannot be overstated. For the few bold and brave people who can recognize the commercial possibility in collecting garbage that go beyond attempting to keep their environs clean, financial prosperity and abundant revenues are added benefits (Onwughara et al., 2013). The knowledgeable workers in the industry filter precisely what they want while collecting recyclable rubbish. You have the option of collecting only plastic garbage, only cans of aluminum, only rubber, any other kind of waste, or all of them (Terada, 2012). By putting into practice recycling company ideas that are centered on the collection of a certain kind of garbage, a recycler may keep operations organized, make waste collection simpler, and raise the likelihood of profitability (Edom, 2016).

The concept of recycling has been welcomed as a catalyst for socioeconomic growth across the world since it is considered as a means of creating jobs and has apparent environmental benefits (Onwughara et al., 2013). Waste recycling can assist to fulfill the United Nations Sustainable Development Goal of ending poverty by reducing environmental pollution, environmental degradation, minimizing any other human actions that degrade the surrounding and wildlife. Recycling trash for environmental management in Nigeria offers commercial opportunities, according to research. There is hardly anything more thrilling than enjoying yourself and earning revenue at the same time. (Terada, 2012). Recycling garbage is about doing your part to protect the environment and make money at the same time. The best illustration to offer when arguing that people see gold right in front of them but are unaware of it is recycling. Due to Nigeria's poor level of industry knowledge, recycling company prospects and concepts are usually disregarded (Edom, 2016). The following are only a few of the numerous economic advantages of good solid waste management, according to Ataman et al. (2018):

1. They save energy since recycled materials use less energy in the recycling facility than goods made from virgin material do. This preserves energy in the form of fuel or power.

2. Solid waste may be a source of important raw materials for businesses if some beneficial products are retrieved, lowering the need for imports from other nations for countries that depend on such products while allowing for the export of surplus output.

3. Trash recycling lowers the price of garbage disposal.

4. Trash recycling reduces the amount of greenhouse gases and water pollutants released into the atmosphere. Also, it aids in lowering greenhouse gas emissions, which cause global warming.

5. Trash recycling, if carefully and effectively arranged, may provide employment and a means of subsistence for unskilled persons in poor nations.

6. Trash recycling can increase the country's gross domestic product at a low cost to the economy (GDP).

Conclusion

It has been determined through this evaluation research that the nation's solid waste management falls below acceptable levels since neither public nor private organizations are up to the task. A number of illnesses have been linked to improper solid waste management which then have a detrimental effect on the general public's health. Nonetheless, correctly managed solid waste may also have certain economic advantages, such as providing industries with raw materials and a means of subsistence.

Recommendation

The following recommendations are judged required at the conclusion of this investigation;

1. For convenient disposal, every household needs solid waste facilities such a garbage can and a dustbin.

2. Trash management organizations should provide quick service.

3. Recycling facilities must be established so that garbage may be recycled and the revenues from the recycled goods can be increased.

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