Domestic Waste Characteristics and the Management Systematic Review

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Abstract---*Waste is increasingly difficult to manage, so in addition to public awareness and participation ineffective waste management, it is necessary to identify the characteristics of waste, especially residential waste, so that it is easy to manage. Alternative methods of being healthy and clean help prevent people from contracting environmental diseases. This review is conducted to analyze the characteristics and the management of domestic waste. Methods: This review is based on Elsevier, IJSDGE, PROCEEDINGS, ICCEM, HINDWAI, JPHE, JSTFT, and the World Bank, all of which were written in English and complied with 25 Articles Total. Of the total 25 articles, 5 (five) articles cannot be accessed in their entirety, 16 (sixteen) search results will be reprocessed, and 4 (four) search results will not be reprocessed. Result: waste management and solid waste treatment pose risks to the environment and human health. Unmanaged waste, especially sewage and other liquids and solids generated by families and communities, is a serious health hazard and contributes to the spread of infectious diseases. Therefore, effective waste management measures such as Reduce, Reusing, and Recycling are needed to ensure that the volume of waste does not increase and endanger public health.*
Keywords---*characteristics, domestic waste, management*

Introduction

The problem of garbage is constantly brought up for discussion, as it is intertwined with the community's lifestyle and culture, both rural and urban. Waste as salvageable commodities should not be considered as unpleasant things (unusable) but must be managed appropriately to avoid endangering public health and contributing to environmental damage. Waste management is one of the problems affecting emerging countries, as the government, institutions, and private sector have historically placed a low premium on solid waste management, oblivious to the consequences for the general public. This is defined by an inefficient collecting method, insufficient coverage, and an inefficient collection and disposal system (Olukanni & Akinyinka, 2012). This condition has had a significant influence on public health and deteriorated the quality of the environment. The handling of health care waste is extremely concerning due to the dangers it poses to public and environmental health, particularly in developing nations. Currently, several alternative technologies are available worldwide as an effective and economical waste management choice. However, selecting proper technologies and implementing an effective waste management strategy is critical (Hasan & Rahman, 2018).

The world is presently preoccupied with the unresolved trash problem. It began by determining the most effective approach to manage various types of garbage and disposal options. Managing perishable garbage generated by households, chemical waste generated by industry, and electronic waste generated by corporate organizations have grown in importance, although its significance does not constitute a threat to families or society in general (Lakshmikantha & Malur, 2014). As a result, a sustainable waste management system is desired.

To investigate how cities in developing nations have tackled their solid waste concerns through integrated sustainable waste management. The history of related concepts and provisions is discussed, and it is differentiated from integrated waste management, which is mostly employed in industrialized countries in the context of technology integration. Integrated sustainable waste management takes into account both physical components (collection, disposal, and recycling) and governance considerations (inclusiveness of users and service providers; financial sustainability; coherent, healthy institutions supported by proactive policies). The findings indicate that performance has greatly improved during the last decade. Controlled collection and disposal coverage rates of up to 95% in middle-income cities and 50% in low-income cities are typical. In many low-income nations, the informal sector achieves recycling rates of 20—30 percent at no direct cost to cities – giving tremendous opportunity for all major stakeholders if recurring difficulties are to be handled (Wilson et al., 2013).

The characteristics of rotting waste (garbage), which includes kitchen waste, leaves, garbage gardens, garbage markets, and agricultural waste, and non-rotting waste (refuse), which includes plastic, paper, rubber, glass, metal, and glass, as well as garbage in the form of dust and ash. The most hazardous trash for humans, plants, and animals is garbage that contains hazardous chemicals or physical things. Apart from industry and manufacturing, this form of waste is generated by urban activities, including families. To keep garbage from damaging humans, plants, and animals, proper waste management is required.

To manage waste, this is not the case. The objective is to raise public awareness of the hazards of waste on human and environmental health. Nigeria (2017), demonstrated this. Over 77 percent of families have concerns about disease transmission as a result of improper solid waste disposal. 53 percent are knowledgeable about diseases associated with solid waste disposal. Although households have a high level of knowledge and a favorable impression of waste management, there is a lack of efficient waste management behavior. Therefore, the process of processing the appropriate health education must be enforced by relevant authorities to affect behavioral changes. This literature research was undertaken with the assistance of Olukanni & Akinyinka (2012). The purpose of this study was to verify that there has been no investment in existing development plans to implement a modern waste management system. This paper proposes a novel approach that government institutions and other organizations can utilize to ensure sustainable and effective sanitation without jeopardizing public health.

Method

When composing Article Reviews, this author consults a variety of library sources, including proceedings, articles, and reports on the features of domestic trash and its treatment. The objective of this search is to locate as many correct and pertinent articles as possible. Search Papers are written for articles that have been reviewed between 2009 and 2019. The keywords "characteristics, domestic waste, management" are used in related articles or are relevant to the title of this article. In this case, the researchers used scientific considerations to compile many articles published between 2009 and 2019. The data is extracted in a heterogeneous manner based on the summary of various sorts of referrals consistent with this writing, such as the summary of a table: name, year, study design, sample size, model, and outcome. These factors combine to form a thorough picture of the articles gained through this literature reviews' synthesis (Poulsen et al., 1995; Devatha et al., 2016).

Waste management is critical for the community, both in urban and rural locations because as population expansion accelerates, waste production also accelerates. As a result, a sound waste management strategy is sought to assist the community or government in resolving waste issues. In short, waste management must take place at all levels, from the micro (home) to the macro (city). 3R can contribute significantly to sustainable waste management by protecting the environment from a variety of waste problems and transforming garbage into a beneficial resource for the community (Chowdhury et al., 2014).

The data extraction process is exhaustive, based on the features of publications published between 2012 and 2019. From the total number of articles extracted from various sources, including Elsevier, IJSDGE, PROCEEDINGS, ICCEM, HINDWAWI, JPHE, JSTFT, and the World Bank, a total of 25 publications in the International Article category were identified. Then, 16 articles are reviewed further to screen the title, abstract, and content for inclusion and exclusion. This data extraction technique is quite efficient at assisting and tracing articles that can be analyzed and developed in the future.

Results and Discussion

Waste and management are becoming a public health concern, as improper handling can result in adverse or unanticipated changes to the environmental balance, polluting the ecosystem on land, water, and air, resulting in

diseases such as ISPA, Dengue TB, SKIN, and others. As a result, it is vital to manage and control rubbish to combat pollution (Diya'uddeen et al., 2012; Domingo & Nadal, 2009). The review's findings will cover the study's features, intervention, waste management, and the impact of trash on health.

Study characteristics

Characteristics of an Article Review Begin by conducting an information search or reading articles via online tools or by opening numerous websites as a data source. The site is accessed by first accessing the http://www.ac.id page and then entering a password and a key to gain access to the page). Additionally, other pages are accessed that contains information about trash management and public health, as illustrated. The sixteen papers processed suggest that all studies undertaken have identified origins and components of garbage; the type and amount of waste disposed of, the manner of waste management and public health are all of concern.

Intervention characteristics

Waste management is one of the interventions that may be used to mitigate the detrimental effect on public health. Each year, human growth has increased, inextricably linked to the growth of the largest amount of waste in various locations (Zhao et al., 2020; Han et al., 2019; Muliarta, 2016). It is impacted by the community's lack of an effective waste management system. Of the 16 studies regarding the characteristics of domestic waste management of public health, it can be found that the intervention must be carried out from the micro (house) level to the macro (city) level so that it can ensure the management of sustainable waste. Therefore, the intervention carried out must use the right system approach like 3R (reduce, reuse, recycle). 3R can play a role for it to need effective and efficient control to protect and prevent people from disease, in addition to maintaining environmental aesthetics.

Some studies demonstrate that centralized or decentralized waste management in one location cannot affect the resolution of waste problems in the community's environment. 3R is supposed to be a hierarchy, regulated in ascending order of negative environmental impacts. Reduction is often regarded as the most effective and efficient way of waste management. Can not only cut garbage generation, but also transportation, disposal, and recycling costs (Poon, 2004; Sadi et al., 2012). The purpose of Strategy 3R is to reduce waste, reuse, and recycle. It does so by minimizing waste disposal in open areas, rivers, floodplains, and final disposal sites and by promoting waste recycling through mandatory sorting at the source, market creation for the product, and the provision of incentives for recycling reset waste (Yousuf & Reza, 2013).

The 3R can contribute to sustainable development. Furthermore, the value of waste management in terms of reducing, reuse, reduction, and recycling will be demonstrated. This concept aims to raise public awareness about the critical nature of waste reduction by including as many 3R principles as feasible to conserve natural resources for future generations and to protect our environment and society (Samiha, 2013). Each activity that lowers waste generation will undoubtedly lower the cost of waste disposal. That is why waste reduction, reuse, and recycling are critical for the community's well-being (Awopetu et al., 2012).

Waste characteristics

By determining the composition of trash, the most efficient processing procedure can be determined and used. These qualities change considerably depending on the components of the waste. The peculiarities of waste from diverse locations/areas and types allow for a variety of features. The composition of urban waste in emerging countries will differ from that of urban waste in affluent ones. The features of waste generated by industrial, commercial, and institutional businesses (including hospitals), market waste, page waste, and road sweeping all have a significant impact on human life and public health. Solid waste management is the process of collecting, transporting, caring for, recycling, reusing, and disposing of waste solid objects in metropolitan settings. The objective of waste management is to minimize disposal and improve environmental quality, while also creating jobs and money, protecting the environment's health, and enhancing economic efficiency and production (Nwogwugwu & Ishola, 2019).

The characteristics of stored solid waste have a significant impact on the design, operation, and management of landfills since they affect settlement, slope stability, and the integrity of infiltration or gas wells. Participation and knowledge of the public in solid waste management are critical, but regrettably, not many people are aware of trash concerns. Because the majority of people perceive garbage to be the government's obligation or public service, they are unconcerned with waste management (Khan et al., 2009). Waste is separated into three categories: residential

waste, city service waste (such as roads and parks, and waste from sanitation), and institutional and commercial waste.

The content of solid waste is determined by a variety of factors, including diet, traditional culture, socioeconomic status, and climate conditions. The makeup of SWs varies according to institutional category. All ten types of garbage (paper, packing materials, cans, plastics, textiles, glasses, vegetables, stones, and wood) are segregated as long as research varies significantly between institutional groups. All actions associated with waste control, collection, transportation, processing, and disposal adhere to the highest standards of public health, economics, engineering, conservation, aesthetics, and other environmental factors. Public participation is required in developing an integrated solution to waste management concerns. To operate a waste management program economically and efficiently, the generator must provide significant cooperation. When waste accumulations are unavoidable, these materials can be viewed as a resource (Hossein Khani, 2020).

Identifying the characteristics of waste it is very easy to help do garbage separation on the Sumberny and participatory actions that require cooperation from those who produce waste, such as individuals, households, or commercial companies. To convince this to separate the waste they produce requires significant efforts to public education campaigns for behavioral changes, as well as considerable investment in preparing infrastructure support. All of these activities, therefore, increase sustainability efforts. If only the organic fraction waste, which is the largest in both communities, reduced at the stage of manufacturing waste, this will lead to an immediate positive impact on the system, such as; a) increasing compaction capacity and reducing damage to vehicle garbage collection; b) reduce fuel costs in collecting waste; and c) the lower amount of garbage stored in a waste disposal site, thus increasing the life span (Allen et al., 2010).

The increase in volume and diversity of increasing junk characteristics requires good handling and processing to anticipate the emergence of negative impacts on the environment. Until now processing waste such as waste recycling and the waste disposal site in the form of landfills or incinerators are still needed in overcoming solid waste problems. The increase in population, changes in consumption patterns, and the lifestyle of the community, especially in major cities have increased the amount of garbage, type, and diversity of garbage characteristics. The increase in the amount of garbage is not followed by improvements and improving the facilities and infrastructure for waste management. This resulted in the problem of waste being complex, including garbage not being transported and there was wild waste disposal. Thus hurts health and disrupts the sustainability of environmental functions in both residential environments, forests, rice fields, rivers, and oceans de (Souza Melaré et al., 2017; Principato et al., 2021).

Waste management

Increased volume of garbage waste production that occurs everywhere both in rural areas and urban areas and the habit of people who dispose of garbage is not in a place where people are at risk of environmental-based diseases such as diarrhea, ISPA, skin diseases, and others. Therefore, there needs to be a concept or system of proper waste management so that it can help manage the waste produced from each household of society. The results of the study show significant findings related to poor solid waste disposal and their impact on the environment and public health, 75% of households involved in solid waste mass disposal, other factors that contribute to the disposal of poor solid waste and documents, distance to the disposal site, storage of household waste, and poor waste separation. More than 77% of households have perceptions of transmission of disease from poor solid waste disposal. 53% have good knowledge of diseases related to solid waste disposal. Significant awareness and good perception among households but there are bad behaviors in terms of effective solid waste management, the distribution of appropriate health education messages must be enforced for better behavior changes by relevant authorities (Nigeria, 2017).

The waste management system is required to be integrated into sectors to be integrated: Local Governments must follow the approach of sustainable development in resolving waste problems, in addition to environmental, economic, and social impacts of investment in the waste sector must be well integrated. All steps of management waste (for example: preventing/reduce, reuse, recycle, recovery, landfill) are relevant decision points and need to adopt the appropriate analytical waste management framework (Cucchiella et al., 2014). Waste is produced from human activities and is usually managed to reduce its impact on health, environment, or aesthetics. Waste management is also carried out to restore natural resources (resources recovery). The results of the study from Foday et al, conducted at Sankoh et al. (2013), showed that the two closest residents and residents had suffered from related diseases because the location of the disposal site was closer to their settlements. It was found that the occupants of less than fifty meters from landfills were the most influenced by landfills. Therefore they are victims of malaria, chest pain, diarrhea, cholera, irritation to the skin, nose, and eyes.

Reduce, Reuse, Recycle (3R) is a useful strategy for efficient efficiency and effective waste management because it adheres to the principle of sustainable environmental achievement. Some studies use observational checklists in respondents analyzed (n = 545). This reveals that most respondents (> 80%) are aware of the use of solid waste, recycling, and reductions from sources and many of them (> 90%) are willing to participate in the related schemes (Awopetu et al., 2012). Waste management must be carried out from the micro (household) level to the macro (city) level. Towards sustainable waste management, 3R can play an important role to protect the environment from greenhouse gas emissions and change waste into invaluable resources (Hossein Khani, 2020). The results of other studies it was revealed that> 72% of respondents realized that solid waste can be reused, reduced, and recycled by itself enough to produce useful results. There is a need for residents to be discussed or informed about how solid waste can be reused and reduced from the source (Awopetu et al., 2012).

The concept of effectiveness places a premium on the accomplishment of previously established goals. The efficacy of a business can be judged by comparing the plans or targets established with the outcomes attained. If the business or the results of the work performed do not conform to the plan, the business is said to be ineffective. Effectiveness is defined in this case as the attainment of waste management goals through the efficient use of resources that are efficiently owned, reviewed from a reduced, reuse, and recycle perspective. An activity is considered to be efficient if it is carried out correctly and according to the procedure, but it is said to be effective if it is carried out correctly and produces valuable outcomes. In conjunction with effective and efficient waste management, it will ensure good environmental quality and protect people from environmental diseases (Han et al., 2018; Gui et al., 2021).

Conclusion

By classifying household waste according to its characteristics, a suitable and appropriate waste management method may be built in the community setting, thereby improving health and environmental quality and repurposing waste. The welfare of the public. The model should include several stakeholder components and should take into account the peculiarities of trash, the characteristics of urban or rural locations, and the presence of a local socio-culture. Waste management must be more conscientious about environmental cleanliness and refrain from littering. Because the influence of a polluted environment can result in the spread of disease to both us and the surrounding population. To that end, let us begin immediately by avoiding trash and always preserving a clean environment.

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