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The Impact Of Antang Landfill Management On Public Health Rights And Sustainable Urban Development

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ABSTRACT

The environmental impacts of landfill activities are increasingly affecting public health and environmental quality in urban areas. In Makassar City, the Antang Landfill has become an environmental concern due to odor pollution affecting communities living in residential areas surrounding the landfill. This study analyzes environmental protection and public health rights in the management of the Antang Landfill within the perspective of sustainable urban development. The study employs a normative-empirical legal research method using statutory, conceptual, and socio-legal approaches. Primary data were obtained through field observations, questionnaires, and interviews with affected communities, while secondary data were collected from laws and regulations as well as scientific literature related to environmental law and waste management. The results indicate that suboptimal landfill management contributes to environmental pollution, reduces community comfort, and raises public health concerns among surrounding communities. This study also reveals a gap between normative environmental management provisions and their implementation in practice. Therefore, strengthening environmental governance, environmental supervision, sustainable waste management systems, and community participation is essential to achieving sustainable urban development.

Keywords:. *Environmental Law; Public Health Rights; Sustainable Urban Development; Environmental Governance; Antang Landfill*

INTRODUCTION

Environmental problems resulting from urban waste management have increasingly become a major challenge in sustainable urban development. Population growth, urbanization, and urban activities continue to increase waste volume, thereby creating serious challenges for environmental protection and the sustainability of urban areas.[1][2] Waste management is no longer viewed merely as a technical issue of urban sanitation, but is also closely related to environmental governance, public health, and environmental sustainability.[3][4]

In the context of Makassar City, the existence of the Antang Final Disposal Site (TPA Antang) plays an important role in the urban waste management system. However, on the other hand, waste management activities within the landfill area also generate environmental impacts experienced by surrounding communities, particularly in the form of unpleasant odors, declining air quality, environmental pollution, and disruption to community comfort.[5][6] Various studies indicate that suboptimal waste management may result in air pollution, water contamination, environmental degradation, and public health risks in urban areas.[7][5][8]

Waste management is essentially an important component of environmental protection and sustainable development. In the development of modern law, environmental law has

evolved into environment-oriented law which regulates the relationship between humans and the environment as well as the protection of environmental sustainability.[9] In addition, the concept of sustainable waste management has also developed as part of efforts to establish sustainable environmental governance through the reduction of pollution impacts and the strengthening of urban waste management systems.[3][10][11]

Normatively, Law Number 18 of 2008 concerning Waste Management affirms that waste management aims to improve public health and environmental quality.[12] Furthermore, Law Number 32 of 2009 concerning Environmental Protection and Management also guarantees the public's right to obtain a good and healthy environment.[13] These provisions demonstrate that waste management cannot be separated from the protection of community rights to environmental quality and public health.[14]

From the perspective of environmental law, the utilization of natural resources and urban development often not only provide benefits to society, but may also create negative impacts on certain community groups. Syahrul Machmud argues that the utilization of natural resources, while benefiting certain groups, may also create risks of harm to other groups.[15] This condition is relevant to the issue of waste management at TPA Antang, where communities living around the landfill area directly experience environmental impacts resulting from waste management activities. Moreover, various studies show that developing countries still face major challenges in urban waste management due to weak policy implementation, limited infrastructure, and low effectiveness of environmental governance.[7][2]

In addition to being related to the technical aspects of waste management, environmental issues surrounding landfill areas are also closely connected to the protection of the constitutional right of communities to a good and healthy environment.[16] Therefore, the effectiveness of regulatory implementation and environmental governance becomes crucial to ensure that waste management is carried out sustainably and does not create environmental pollution that harms surrounding communities.[6][17][4] Strengthening public participation, sustainable waste management policies, and circular economy approaches also constitute important components in achieving sustainable urban development.[18][11][4]

Based on these conditions, this study examines environmental protection and public health rights in the management of TPA Antang in Makassar City from the perspective of sustainable urban development. This research is important to determine the extent to which waste management implementation has been carried out in accordance with statutory regulations and how it impacts communities surrounding the landfill area.

Based on the background described above, the research problem in this paper is formulated as follows: "How are environmental protection and public health rights implemented in the management of TPA Antang in Makassar City from the perspective of sustainable urban development?"

Type of Articles

This manuscript is categorized as an original research article resulting from normative-empirical legal research and qualitative case study analysis concerning sustainable waste management governance at TPA Antang, Makassar City, Indonesia. The article is written in English and prepared in accordance with the ICSD article writing guidelines.

The manuscript consists of 8–12 pages including references and systematically contains the following sections: title, author's name, institution and correspondence address, abstract, keywords, introduction, research method, results and discussion, conclusion, acknowledgments, and references.

The article title is written using Times New Roman font size 16, bold, centered, and capitalized for each principal word, consisting of no more than 15 words and reflecting the substance of the manuscript. The author's name is written using Times New Roman font size 12 without academic titles. The first name is abbreviated while the surname is written completely.

The manuscript is presented narratively without numbering in subtitles. Mathematical formulas, if used, are written separately from sentences, numbered on the right side, and prepared using Microsoft Equation.

This article emphasizes sustainable urban development, environmental governance, public health protection, and waste management policy implementation through an interdisciplinary legal and environmental approach.

METHOD

This study employs a normative-empirical legal research method using statutory, conceptual, and socio-legal approaches. The statutory approach was conducted through the analysis of regulations related to waste management and environmental protection, particularly Law Number 18 of 2008 concerning Waste Management and Law Number 32 of 2009 concerning Environmental Protection and Management.

Primary data were obtained through direct observation at the Antang Landfill (TPA Antang) area in Makassar City, questionnaires, and interviews with communities affected by waste management activities surrounding the landfill area. Field observations were conducted to examine the factual conditions of waste management practices, including waste processing systems, reduction mechanisms, and environmental impact control measures implemented at the landfill site.

Secondary data were collected from statutory regulations, scientific journals, and literature related to environmental law, sustainable waste management, and sustainable urban development. The collected data were analyzed qualitatively to assess the conformity between the implementation of waste management practices at TPA Antang and the principles of environmental law and sustainable urban development.

RESULTS AND DISCUSSIONS

Waste management constitutes an important component of environmental protection and public health, particularly in urban areas with high levels of waste generation. In the context of Makassar City, the existence of TPA Antang not only functions as a final waste disposal site, but also directly affects environmental conditions and the quality of life of surrounding communities. Therefore, landfill management should be implemented sustainably while ensuring the protection of community rights to a good and healthy environment.

Normatively, Law Number 18 of 2008 concerning Waste Management affirms that waste management aims to improve public health and environmental quality.[12] Furthermore, Law Number 32 of 2009 concerning Environmental Protection and Management also guarantees the public's right to obtain a good and healthy environment.[13] These provisions demonstrate that waste management is not merely related to technical waste handling, but is also closely connected to the protection of community rights to environmental quality. Based on preliminary observations and questionnaire findings, communities surrounding TPA Antang continue to experience environmental disturbances in the form of unpleasant odors, declining air quality, and reduced environmental comfort. Most respondents stated that waste management activities at TPA Antang negatively affect daily activities and the comfort of surrounding communities.[19] In addition, several respondents

expressed concerns regarding potential health impacts caused by environmental conditions around the landfill area. These findings indicate that waste management problems in landfill areas are not solely related to administrative issues, but are also closely associated with environmental quality and public health protection.

The questionnaire results further indicate that the majority of respondents agreed and strongly agreed that odors originating from TPA Antang disturb environmental comfort, affect air quality, and create concerns regarding public health impacts on surrounding communities. In addition, most respondents considered that waste management at TPA Antang still requires improvements in pollution control systems and more sustainable environmental management practices.

From the perspective of environmental law, resource utilization and development frequently provide benefits to certain groups of society while simultaneously creating risks of environmental harm to other groups. This condition is consistent with Syahrul Machmud's view regarding the risks of environmental loss experienced by certain community groups.[15] This situation is relevant to the management of TPA Antang, where communities surrounding the landfill area directly experience environmental pollution resulting from waste management activities.

In addition, environmental disputes are fundamentally related to the protection of constitutional rights to a good and healthy environment.[15] Therefore, landfill management should not merely be viewed as part of urban public services, but also as part of the protection of community rights to environmental quality and public health.

Within the perspective of sustainable urban development, waste management should not merely focus on waste accumulation. Law Number 18 of 2008 regulates that waste management includes systematic and sustainable waste reduction and handling measures.[12] Furthermore, waste handling activities include sorting, transportation, processing, and environmentally safe final disposal systems.[12] These provisions indicate that landfill management should not merely function as a final disposal area, but must also be supported by adequate environmental management systems to minimize pollution and environmental impacts on surrounding communities.

Sustainable waste management is also emphasized in Government Regulation Number 81 of 2012 concerning Household Waste Management and Household-Like Waste Management. The regulation states that waste management activities should be conducted through waste reduction and waste handling mechanisms including sorting, collection, transportation, processing, and environmentally safe final disposal systems.[20] These provisions demonstrate that landfill management should not merely rely on waste accumulation patterns, but must also be supported by sustainable environmental management systems.

Presidential Regulation Number 109 of 2025 concerning the Acceleration of National Waste Management also demonstrates the government's commitment to accelerating national waste management due to increasing waste volume and environmental impacts caused by urban waste problems.[21] This regulation positions waste management as an important component of environmental protection and sustainable development. Therefore, the management of TPA Antang should not only be interpreted as an administrative issue of urban waste management, but also as part of governmental responsibility in ensuring environmental quality for surrounding communities.

Based on field observations, this study further examines whether waste management practices at TPA Antang have been implemented through mechanisms of waste reduction, processing, and environmental impact control as regulated under environmental legislation, or whether waste management is still predominantly characterized by waste accumulation

without optimal environmental management systems. This issue is important because the effectiveness of environmental regulation implementation constitutes a fundamental component in achieving sustainable environmental governance.

According to the concept of environmental governance, environmental law should not merely remain at the normative level (das sollen), but must also be effectively implemented in practice (das sein).[16] Therefore, the success of TPA Antang management should not only be measured by its capacity to accommodate urban waste, but also by the extent to which the waste management system is capable of protecting environmental quality and public health for surrounding communities.

If waste management activities continue to generate environmental pollution, unpleasant odors, and public health disturbances, such conditions indicate the existence of a gap between normative environmental regulations and their implementation in practice (das sein). Therefore, strengthening waste management systems, environmental supervision, and the implementation of sustainable development principles are essential in achieving better environmental governance in Makassar City.

CONCLUSION

The management of TPA Antang in Makassar City has not been fully implemented in accordance with the principles of sustainable waste management and environmental protection regulated under environmental legislation. Based on field observations and questionnaire findings, communities surrounding the landfill area continue to experience environmental disturbances in the form of unpleasant odors, declining air quality, and reduced environmental comfort. These conditions indicate that waste management activities at TPA Antang still create environmental impacts affecting public health rights and environmental quality for surrounding communities.

This study further demonstrates the existence of a gap between normative environmental regulations and their implementation in practice (das sein), particularly regarding environmental supervision, pollution control, and sustainable waste management systems. Therefore, strengthening environmental governance, improving waste management systems, enhancing environmental supervision, and increasing community participation are essential to achieving sustainable urban development and protecting public health rights in Makassar City.

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Author Contributions

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F. and A.R.; supervision, A.R.; project administration, F. All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflict of interest

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