

## **Exploring Environmental Justice and Government Transparency: The Cilowong Landfill Case in Serang City**

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### **Abstract**

The Cilowong landfill, which receives around 400 tonnes of waste every day, has caused various environmental problems, including groundwater pollution and methane gas emissions. This study examines environmental issues and government transparency in the management of Cilowong landfill in Serang City, with a focus on environmental justice and its impact on the surrounding community. Through a quantitative approach, this study explores community perceptions of environmental justice and evaluates government transparency in landfill management. The research is grounded in environmental justice theory which emphasises the fair distribution of environmental burdens and benefits among all levels of society. Environmental justice includes not only equitable distribution, but also equal participation in the decision-making process. On the other hand, government transparency is defined as openness in decision-making and accessibility of public information, which are key elements in good governance. The main objectives were to identify and analyse environmental issues in Cilowong landfill, measure the implementation of environmental justice, and evaluate government transparency in landfill management. Using in-depth interviews, field observations, and document analyses, the study collected data from communities living within a 2km radius of the landfill, management officials, and relevant government officials. The results show that the Cilowong landfill suffers from serious environmental pollution, with levels of heavy metals such as lead and mercury exceeding safe thresholds. The impact on public health is significant, with around 60% of the population experiencing health problems such as skin and respiratory diseases. Analysis of the policies and practices of Cilowong landfill management shows that the implementation of environmental justice is still inadequate, with minimal community participation in the decision-making process. Practically, the research results are expected to encourage local governments to increase transparency and involve communities more actively in landfill management. The main recommendation proposed is the need to improve access to public information and community participation to achieve better environmental justice in Cilowong landfill.

Keywords: Environment, Government, Cilowong, Serang, Health.

## **INTRODUCTION**

Environmental issues in Indonesia have become a major concern in recent decades, mainly due to their far-reaching impact on people's quality of life. Along with rapid population growth and inevitable urbanisation, pressure on natural resources and the environment is increasing. One of the biggest challenges faced by governments and communities is waste management, particularly in landfills. The Cilowong Landfill in Serang City is a clear example of a waste management issue that requires serious attention and a more comprehensive approach.

Based on data from the Environmental Agency of Serang City, Cilowong Landfill receives around 400 tonnes of waste every day, the majority of which comes from household waste (Environmental Agency of Serang City, 2022). This condition represents a major challenge in terms of waste management capacity and effectiveness, considering that most landfills in Indonesia, including Cilowong, still use the open dumping method, which has

been proven to be environmentally unfriendly and inefficient. This practice often causes water, soil, and air pollution, as well as potential health risks for the people living around it.

In the midst of this situation, the concepts of environmental justice and government transparency are two important aspects that must be prioritised in sustainable environmental management policies. Environmental justice refers to efforts to ensure that the negative impacts of various human activities on the environment do not disproportionately burden certain groups of people, especially vulnerable groups such as low-income communities living near landfills. Government transparency, on the other hand, plays an important role in ensuring that every policy and action in environmental management can be accessed, monitored and evaluated by the public, thus encouraging accountability and community participation.

Cilowong Landfill, located in Taktakan Sub-district, Serang City, has been in operation since 2005 and serves as the main waste disposal facility for the entire Serang City and surrounding areas. However, despite its vital role in municipal waste management, the landfill has often come under scrutiny due to the various environmental problems it has caused. For instance, groundwater pollution around Cilowong Landfill is reported to have exceeded the threshold set by the government, as revealed in a report from the Banten Province Environmental Agency (BLH) (BLH Banten Province, 2021). Other negative impacts include decreased air quality due to methane gas emissions and foul odours that disrupt the lives of local residents.

The main problem faced at Cilowong Landfill is environmental pollution that negatively affects the health of the surrounding community. This condition indicates a serious threat to public health due to direct or indirect exposure to pollutants coming from the landfill. In addition, the application of environmental justice principles in Cilowong Landfill remains a big question mark, raising questions about the extent to which all levels of society, especially vulnerable groups, receive equal protection from the negative impacts generated by landfill operations.

Government transparency in the management of Cilowong landfill is also a critical issue that needs attention. Based on a report from Transparency International Indonesia, the level of transparency of the local government in the management of Cilowong landfill is low, with a score of only 45 out of 100 (Transparency International Indonesia, 2021). This reflects a lack of transparency in the decision-making process and management of the landfill, which in turn can reduce public participation and public trust in the local government.

The study was analysed using the theory of environmental justice, which provides a key framework for understanding how negative environmental impacts such as pollution and

ecosystem damage can discriminate against certain groups of people. The theory highlights the need for equitable distribution of environmental risks as well as equal access to natural resource benefits and legal protection. As such, environmental justice theory offers a critical perspective in evaluating whether the management of Cilowong landfill has been done fairly or has caused injustice to the surrounding community, particularly those most vulnerable to the negative impacts of environmental pollution.

By applying the theory of environmental justice, this research will explore the extent to which the government and relevant parties have acted to prevent and address the environmental injustice occurring around the Cilowong landfill. This research will also evaluate transparency in waste management and the extent to which information disclosure and public participation have been implemented as part of efforts to create sustainable and equitable environmental management. This evaluation includes how open the government is in conveying information about landfill management to the public, how the decision-making process is conducted, and the impact of this level of transparency on the level of community trust and participation in local environmental issues.

Thus, this research is expected to provide concrete recommendations to improve the management of Cilowong Landfill that is more equitable and transparent, and supports the achievement of better environmental sustainability in the future. In addition, this research also seeks to analyse the extent to which environmental justice has been implemented in Cilowong landfill. Do the policies implemented by the local government reflect the principles of environmental justice, which require the distribution of environmental risks to be done fairly without discrimination against certain groups? With this approach, it is hoped that more targeted and inclusive solutions can be identified to address environmental problems in Cilowong landfill and in similar locations throughout Indonesia.

## **METHOD**

This research uses a qualitative approach to provide an in-depth and comprehensive picture of the various issues related to the existence of the Cilowong landfill. Environmental justice influences the trajectory of environmental, socio-political, and critical philosophies and transformative activism (Figueroa, 2022). This approach was chosen because it was able to explore the perceptions, experiences and views of people living around the landfill, and understand how the environmental impacts of the landfill affect their daily lives. Through this approach, the researcher can explore in more detail and holistically the social and environmental phenomena that occur in the location, and capture the dynamics of the relationship between the community and its environment.

This research focuses on Cilowong Landfill, which is located in Taktakan Sub-district,

Serang City. This location was chosen by considering several key factors, such as the high level of pollution caused by landfill activities and the significant impact felt by the surrounding community. The research subjects consisted of people living within a 2-kilometre radius of the landfill, covering a wide range of age groups, genders, and socio-economic backgrounds, environmental experts with direct knowledge of the environment, as well as local government officials responsible for environmental management and public health policies, in this case the Environmental Agency of Serang City.

The data collection process was conducted through several methods, namely in-depth interviews, field observations, and document analyses. In-depth interviews were conducted to gain a rich understanding of the community's experiences, concerns and expectations of the Cilowong landfill. The questions asked in the interviews focussed on their perceptions of environmental quality, health and well-being since the landfill began operating. In addition, field observations were made to record the actual conditions around the landfill, including air, soil and water pollution, as well as the impact on plants, animals and local infrastructure. Document analysis was conducted by reviewing official reports, public health data, and relevant policy documents to understand the regulatory context and management of the landfill by the local government.

The data obtained were then analysed using thematic analysis techniques, which allow researchers to identify patterns, themes and main categories that emerged from the interviews and observations. This strategy is one of the most effective methods for research that requires in-depth analysis of the data to find important themes (Asmi, 2022). This analysis focuses on describing people's lived experiences, the socio-economic impacts they experience, and the adaptation strategies they use to deal with the negative impacts of landfill. It also explores the dynamics of the relationship between the community, the landfill manager and the local government, and how this relationship influences environmental management policies and practices around the Cilowong landfill.

Table 1. profile of resource persons in this research

No	Name of Interviewee	Role
1	Muinah	Local citizens
2	Suandi	Local citizens and Neighbourhood Head
3	Agam	Kepala UPT Pengelolaan Sampah Dinas Lingkungan Hidup (Head of the Waste Management Technical Implementation Unit of the Environmental Service)
4	Nana Prayatna Rahardian	Environmental Expert

## **RESULTS AND DISCUSSION**

### **Problem Identification at Cilowong Landfill**

The main findings of this study show that Cilowong Landfill faces some significant environmental problems. Groundwater pollution levels around the landfill exceed the threshold set by the government, with high levels of heavy metals such as lead and mercury (BLH Banten Province, 2021). In addition, methane gas emissions from the landfill are also high, contributing to climate change. Cilowong Landfill serves as the final processing site for waste from all areas of Serang City, Banten Province. Every day, the landfill receives around 1,250 cubic metres of waste, but only 750 cubic metres can be processed. This indicates limited management capacity compared to the volume of incoming waste, creating conditions that are prone to excessive waste accumulation and adverse environmental impacts.

Cilowong Landfill in Serang City is a source of environmental and social problems for the surrounding community. The impacts felt by the community include unpleasant odour pollution, increased traffic due to waste transport vehicles, and groundwater pollution by leachate water from the waste. This leachate water has great potential to contaminate residents' wells that are used as a source of drinking water and contaminate agricultural soil, thus disrupting local agricultural activities. Communities living around the Cilowong landfill face the direct impact of the landfill. They experience various health problems such as coughing, fever, runny nose, and shortness of breath due to the air pollution produced by the waste piles.

In addition, the potential for disasters such as landslides and floods also increases due to the existence of poorly managed landfills. This situation is exacerbated by the lifespan of the waste, which ranges from 10 to 20 years, meaning the impact will continue to be felt over a long period of time. Although there is a compensation policy for affected residents, this policy is considered ineffective because it does not solve the fundamental problems caused by the existence of the landfill. Compensation is only temporary and does not address the long-term needs of the community to live in a healthy and safe environment.

There is an imbalance in the distribution of environmental impacts between communities living around the Cilowong landfill and communities in other areas. Communities around the landfill face worse conditions than communities in other areas, both in terms of air, water and soil quality. This inequality reflects social injustice where the burden of environmental damage is borne more by communities that have little political influence or bargaining power. The management of Cilowong landfill has been criticised for its lack of transparency and community participation. In the cooperation between South Tangerang City (Tangsel) and Serang City, access to documentation related to landfill management is considered limited, and the local community feels less involved in the decision-making process,

especially regarding the placement of this landfill. The designation of Cilowong as a landfill site was a decision made before the area became part of Serang City, and community involvement in this process is unclear.

The Environmental Agency of Serang City has channelled compensation funds to affected communities to reduce the burden on their health and welfare due to pollution from the landfill. This compensation is intended to cover medical expenses and other needs. However, despite the compensation fund, communities are still dissatisfied as negative impacts persist, and the compensation provided is not enough to address the main problems they face. In addition, there are reports that the distribution of this compensation fund is uneven and does not reach all residents in need.

The government, through the Environmental Agency, has taken several steps to deal with the waste problem at Cilowong Landfill, including socialising to the community, cooperating with companies in waste management, and providing compensation. However, these efforts face various obstacles, such as limited infrastructure, infrastructure, and budget. There are also issues related to the unequal distribution of compensation and the lack of community access to information and involvement in the decision-making process.

Many local residents depend on activities at the Cilowong landfill, such as scavenging for rubbish. Their income is very low, ranging from IDR 30,000 to 50,000 per day. This difficult economic condition is exacerbated by the high unemployment rate in the area. The community hopes for more efforts from the government, such as the opening of new jobs or economic empowerment projects that can help them escape poverty. In addition, they also want infrastructure improvements, such as access to clean water and restoration of polluted agricultural land.

### **Implementation of Environmental Justice**

Environmental justice refers to the principle that every individual or community group is entitled to equal protection against environmental risks and hazards, and to be involved in the decision-making process regarding policies and activities that affect their living environment. In the context of Cilowong Landfill, implementing environmental justice means ensuring that communities living around the landfill are protected from negative environmental impacts such as air, water and soil pollution, and fairly compensated for the impacts they experience. Environmental justice also means that communities should have equal opportunities to be involved in decision-making processes related to landfill management and environmental policies.

Environmental justice emphasises fair access to natural resources, such as clean water, land and air, which should be shared by all levels of society without discrimination. In the case of Cilowong landfill, this concept is poorly applied. Communities around the landfill experienced a decline in environmental quality due to inefficient waste management. Leachate that seeps into the ground contaminates residents' wells, making clean water difficult to access. The odour generated from waste processing also pollutes the air, creating an unhealthy environment and degrading the quality of life of communities around landfill sites. Environmental injustice is evident from the fact that the burden of this pollution is mainly borne by socially and economically disadvantaged communities, while they have little influence in the decision-making process regarding landfill management. This suggests that their right to live in a healthy environment is not adequately respected.

In response to the negative impacts of the landfill, the government through the Environmental Agency has allocated a compensation fund for affected communities. This fund is intended to cover medical expenses and other basic needs due to pollution. However, the effectiveness of this compensation has been questioned due to its uneven and inadequate distribution by residents. Many residents reported that the funds provided were not enough to cover health costs and daily living needs, and did not improve overall environmental conditions. As such, this compensation cannot be considered a comprehensive form of environmental justice as it does not address the root causes of the problem or provide long-term solutions. This practice only temporarily masks a deeper problem, which is waste management that does not comply with the principles of environmental justice. As an alternative, a 'polluter pays' approach is suggested, where the party that pollutes the environment must bear the costs and responsibility for the damage caused.

One important aspect of environmental justice is equitable community participation in the decision-making process. In Cilowong landfill, community involvement in decisions regarding waste management and the distribution of compensation funds is minimal. Residents feel they have no channel to express their opinions or influence policies directly related to their welfare. This lack of participation means that policies are often not in line with local communities' real needs and are ineffective in addressing existing problems.

Communities around the Cilowong landfill not only have to deal with adverse environmental impacts, but also experience significant economic disparities. Many residents depend on waste scavenging at the landfill with low incomes, while the unemployment rate in the area is high. This injustice is all the more glaring because, although they bear the adverse impacts of the landfill, they do not get economic benefits that match the losses incurred by the

landfill. They also feel overlooked in decision-making processes that affect their lives, such as compensation distribution and land use.

### **Evaluation of Government Transparency in Cilowong Landfill Management**

Transparency is an important element in equitable environmental management, but in the case of Cilowong landfill, the government faced criticism for its lack of openness in the landfill management process. The rule of law, which is supposed to be a guarantee for the community, does not go hand in hand with other principles. The community considered that the Environmental Agency of Serang City stated that it was still far from the goal of good governance itself (Juwandi et al., 2023). The community does not have adequate access to information about waste management, compensation distribution, and environmental impact evaluation. This lack of transparency prevents the public from understanding what the government is doing, thus reducing public trust and creating disinformation.

The lack of transparency in the cooperation between the governments of South Tangerang City and Serang City in managing Cilowong Landfill is one of the main issues. Access to key information regarding the cooperation agreement, waste management, and other related documentation is very limited, creating a perception of a lack of openness and accountability from the government. This prevents the public from knowing what the government is actually doing and creates distrust of public policies.

The government often cites infrastructure and budget constraints as reasons behind the lack of transparency. Despite efforts to collaborate with companies and organise community socialisation, the lack of public documentation and easy access to information reflects a lack of seriousness in efforts to improve transparency. The management of compensation funds and related programmes are often not published in detail, raising suspicions of inefficiency or even misuse of funds.

The problem of unequal and less transparent distribution of compensation is one of the main issues faced by the government in the management of Cilowong landfill, because the surrounding communities that are directly and indirectly affected should receive compensation (Ester et al., 2024). However, the reality is that there are many complaints from the community regarding compensation funds that do not reach the rightful recipients or are not used according to the urgent needs of the residents. The lack of strong accountability mechanisms to monitor and evaluate the use of these funds worsens public perceptions of government transparency. This reflects weaknesses in the government's governance system that could lead to misuse of funds and lower policy effectiveness.



To improve transparency, the government can adopt several mechanisms, such as providing more complete and accessible information to the public through online platforms, increasing community involvement in planning and decision-making processes, and establishing an independent oversight body tasked with monitoring landfill management and the use of compensation funds. With greater community involvement and stricter oversight, the government can increase public accountability and trust, and ensure that policies are in line with the needs and aspirations of the community.

The main challenges in improving transparency are limited resources and cumbersome bureaucracy, which often impede the flow of fast and accurate information. However, there are opportunities to improve this situation through institutional capacity building, developing information technology for real-time environmental impact reporting, and promoting best practices from other regions that have succeeded in more transparent and effective waste management. This requires strong political commitment and a willingness to innovate in environmental governance.

The Serang city government can adopt some of the best practices that have been implemented in other areas, such as in Jombang, East Java, and Lombok, where waste is better managed. These examples show that waste can be converted into electrical energy and fertiliser, as well as using technology that makes waste an economic resource. By adopting innovative practices such as the regions mentioned, the resulting positive impacts can increase transparency and demonstrate the government's commitment to fairer waste management for the public.

#### Long-term Plan and Implementation Challenges

The claim that Cilowong Landfill can operate until 2041 requires the support of more comprehensive research and studies, especially if waste management is not carried out, it can be reduced only until 2035 with the increase in population (Susanto, 2024). The operational sustainability of this landfill is highly dependent on the implementation of effective waste management technology, the commitment of the government in enforcing regulations, and the active involvement of the community in sustainable waste management and support from various parties. The government needs to conduct an in-depth feasibility study to ensure that the landfill can operate in the long term without causing further environmental damage. Investments in infrastructure, waste processing technology, and capacity building of managers are important steps to ensure that this landfill can function properly in the long term.

Cilowong landfill requires the implementation of more advanced and sustainable waste management technologies, such as composting, recycling, and waste-to-energy conversion

technologies. These measures will not only help reduce the volume of waste that must be processed in the landfill, but can also turn waste into an economic resource that benefits the community. In addition, supportive policies, such as incentives for companies using green technologies and waste reduction programmes at the household level, can reduce pressure on landfills. In addition, waste management is a crucial element in preserving the environment, and various strategies have been developed to tackle this problem. In recent years, there has been increasing interest in the use of environmentally friendly technologies in waste management, one of which is vermi-transformation technology (VTT). This technology utilises earthworms to transform biodegradable waste into nutrient-rich compost (Hajam et al., 2023). The management of Cilowong landfill requires a more holistic and inclusive approach, involving all stakeholders, including affected communities, in every stage of policy planning and implementation. Transparency in the management of compensation funds and provision of adequate information to the community are essential to build trust and increase community participation in waste management. Active participation from communities can help identify more appropriate local solutions, such as the utilisation of simple technologies for recycling and waste reduction.

## **CONCLUSION**

The research findings show that there is a close link between environmental justice and government transparency. The lack of transparency in the management of Cilowong landfill contributes to the environmental injustice felt by the surrounding community. The implication of these findings for landfill management policies and practices is the need to increase transparency and community participation in landfill management to achieve better environmental justice. There is an urgent need to strengthen waste management policies and practices, in light of the long-term impacts on local ecosystems and the health of surrounding local communities.

The collaborative efforts between the government, the community, and the private sector are key in realising a more equitable waste management around Cilowong landfill. Cilowong landfill also requires major reforms in various aspects, from management, policy, to involving community participation. The government should adopt a more inclusive, technology-based approach to address the social and ecological impacts faced by the surrounding communities so that Cilowong landfill can be transformed from a source of environmental problems to an innovative waste management model that does not bring major negative impacts to the environment.

With the above research findings showing that environmental justice regarding the Cilowong landfill case is still an issue that needs to be resolved, government transparency in landfill management needs to be improved to ensure accountability and public trust. Efforts to increase transparency can be made by involving the surrounding community, improving access to information, and establishing effective monitoring mechanisms. With these measures, landfill management can be improved to reflect the principles of environmental justice and better accountability. Cilowong landfill needs to adopt best practices from other regions and the implementation of stricter regulations could be the first step to addressing these issues.

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