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Assessing the Impact of Environmental Waste Policies on Manufacturing Industry Practices

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ABSTRACT

This study aims to evaluate the impact of waste management policies on manufacturing industry practices in Makassar City. These policies are implemented to regulate the disposal, treatment, and recycling of industrial waste to reduce negative impacts on the environment and public health. Despite the implementation of these policies, challenges remain in their execution, such as limited technology, high implementation costs, and insufficient coordination between government agencies and industries. This qualitative study employs in-depth interviews with government representatives, industry managers, and affected communities. The findings indicate that while the policies have encouraged some industries to adopt environmentally friendly technologies, significant barriers still hinder their full effectiveness. Recommendations to enhance policy effectiveness include increasing technology access, consistent regulation enforcement, public education, and financial and infrastructural support. This study provides valuable insights for policymakers and industry practitioners in developing more effective and sustainable waste management strategies.

Keywords: *waste policies, manufacturing industry, environmental impact*

1. INTRODUCTION

Throughout history, human progress has been intrinsically linked to waste management, as its impact on public health and the environment is significant. One of the urban problems in Indonesia is the waste management problem (Perencanaan et al., 2020). Waste is a part of daily life that cannot be separated, and therefore waste accumulates around us (Zulkarnain, 2018). Waste management has become a pressing issue in the midst of rapid industrial development in Makassar City. As one of the centers of industry in Indonesia, this city has experienced an increase in industrial activities, bringing significant economic benefits, but also environmental challenges. With the growth of industry, the amount of waste generated also increases significantly, including solid, liquid, and gas waste that all have the potential to harm the environment if not managed properly. The city government has implemented various policies to manage waste with the goal of regulating waste disposal, processing, and recycling. This policy includes strict regulations and environmental-friendly initiatives that are expected to reduce the negative impact of industrial waste on the environment and public health. Indonesia is estimated to produce 376,089 tons of solid hospital waste per day and 48,985.70 tons of liquid waste per day.

According to Wardiman Djojonegoro, industrial practices (PI) are a form of vocational education that systematically integrates school programs and programs acquired through direct work experience in the industry or business world, aimed at achieving a level of professional competence (1998:79). However, the effectiveness of these policies is often questioned. Urban waste is waste that arises in cities and does not include hazardous and toxic materials (B3) (Nuswantoro, 2012). Although regulations have been implemented, cases of

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environmental pollution caused by poorly managed industrial waste are still frequently found. For example, rivers near industrial areas are often contaminated by hazardous chemicals, not only damaging aquatic ecosystems but also posing a threat to the health of nearby residents. Additionally, the air around industrial areas sometimes becomes contaminated with hazardous gas emissions exceeding safe limits. These conditions indicate that there is a gap between existing policies and field practices in waste management (Wahidmurni, 2017).

This research focuses on the impact of waste management policies on manufacturing practices in Makassar City. The main objective of this research is to evaluate to what extent the policies implemented have been able to promote positive changes in waste management practices by industries. It is undeniable that environmental problems are complex and have become a topic of ongoing discussion at both national and international levels (Syahrir et al., 2022). Environmental law speaks about the law of the environment. Both individual and collective actions by individuals, legal entities, or institutions such as companies, non-profit organizations, or even hospitals (Arief & Musakkir, 2019) can cause environmental damage. This research will study whether the existing policies are sufficient in reducing the negative impact of industrial waste and whether the industries are truly implementing environmentally-friendly waste management principles in their daily operations. Additionally, this research will also attempt to identify the obstacles faced by industries in implementing these policies and seek solutions to improve the effectiveness of policy implementation in the field (Syailla, 2017).

Good governance, also known as good administration, is currently a hot topic in research and public administration studies (Aprizal, 2016). Motivation is crucial in waste management, as stated by Mangkunegara, who defines motivation as a condition that influences the awakening, guidance, and maintenance of work-related behavior. The environment is our place to live and conduct daily activities, where everything is interconnected and involves humans and other living beings (Sapti et al., 2019). Aryadewi With a qualitative approach, this research will explore the perspectives of various stakeholders, including government, industry, and community, to obtain a comprehensive picture of the dynamics of waste management in Makassar City. Through in-depth interviews with city government representatives, the researcher will understand how waste management policies are designed, implemented, and monitored. Additionally, interviews with manufacturing industry managers and workers will provide insight into the practical challenges they face in complying with these policies and the innovations and initiatives they have taken to manage waste more effectively. This research will also involve those directly affected by industrial activities, to gain their perspectives on the effectiveness of waste management policies and their impact on their quality of life (Astuti & Purnama, 2014).

One of the important aspects that will be explored in this research is to what extent waste management policies have encouraged industries to innovate in managing their waste. In some areas, strict policies and strong government support have prompted industries to develop more effective and environmentally-friendly waste processing technologies. For example, some companies may have invested in advanced recycling technologies or adopted clean production practices that reduce waste from the beginning of the production process. This research will evaluate whether the waste management policies in Makassar City have had a similar effect, and if not, what can be done to encourage more innovation in this sector (Elvania, 2022).

Biological waste treatment is classified into aerobic and anaerobic treatment methods. This research will also identify the obstacles faced by industries in implementing waste management policies. These obstacles may be technical, such as the lack of adequate waste processing technology, or economic, such as high costs related to the implementation of environmentally-friendly technology. Other obstacles may be institutional, such as poor coordination between government agencies or a lack of resources for monitoring and enforcing policies. By understanding these obstacles, this research will provide specific and practical recommendations for overcoming these problems, so that waste management policies can be implemented more effectively. According to Nugroho's implementation management model, implementation or implementation of policies is within the framework of "organizing-leading-controlling" (Kasner & Bruce, 2005).

The expected outcome of this research is to provide valuable insights for policymakers and industry practitioners in developing more effective and sustainable waste management strategies. The findings of this research can be used to improve existing policies, develop training programs and education for industries, and increase public awareness about the importance of good waste management. Additionally, this research is

expected to contribute to improving the quality of the environment and community well-being in Makassar City. Therefore, this research is not only relevant to Makassar City, but also can serve as an example for other cities in Indonesia that face similar challenges in industrial waste management.

In the long term, this research can help build a foundation for more sustainable waste management in Indonesia, highlighting the importance of cooperation between government, industry, and society. Through a qualitative approach, this research will produce rich and detailed insights into the dynamics of waste management in Makassar City, which can be used to inform policy and practice in the future. Thus, this research has the potential to make a significant contribution to global efforts to address environmental problems and achieve sustainable development.

2. RESEARCH METHODS

2.1 Research and Development Model

In this research, I used a qualitative approach, where the research is descriptive in nature. Through this approach, I will provide a detailed and in-depth description of the implementation of waste management pr actices in industrial waste in Makassar City, related to environmental cleanliness.

2.2 Research Procedure and Development

a. Waste Management System:
   The waste management system in this research is related to the handling of waste, including sorting, reuse, and recycling, which is done by the community, both at the household, office, and school levels. The generated waste will be taken to a temporary landfill.
b. Sampling Technique:
   According to Kodoatie Robert J. (2005), the failure of a good waste management system is seen from the technical operational aspects, such as limited facilities and equipment for collecting containers (arm roll truck or dump truck), transportation, management at the final disposal site, and limited land for final disposal and treatment. The samples in this research involve the waste management department and the cleanliness department, using an interview method to determine the extent to which factors affect waste management in Makassar City.

2.3 Location and Time of Research

The researcher conducted the research at one of the places with waste management practices related to industrial manufacturing practices in Makassar City. The research was conducted in May 2024.

2.4 Research Focus

The focus of this research is the environmental issue in the Tamangapa Landfill. The most significant problems that arise include liquid waste, bad smells, flies, and smoke from burning waste, as well as the accumulation of waste. In addition, public complaints related to this issue are related to the provision of job opportunities related to the development of facilities for destroying LFG at the Tamangapa Landfill. Furthermore, the theory used in this research is based on Provan and Milward (1994), which introduces the concept of "Hollow State" governance. In this concept, government work is more outsourced to third parties, so that government officials only handle essential matters. There are three main focuses in this research:

a. Mechanism
   The mechanism in the Hollow State differs from general government mechanisms in that it has little authority and control mechanisms. In the Hollow State, this mechanism has a lot of potential for flexibility and adaptation to meet existing needs. The mechanism in government includes funding, contracts, and agreements, and is not solely dependent on government authority and sanctions. The dimensions of the mechanism in the Hollow State involve three types of mechanisms, namely: Mechanism of funding, Mechanism of contract determination, and Mechanism of evaluation. When the government is able to become the core agency in controlling the partnership mechanism, the partnership process is viewed from the perspective of the Hollow State as being integrated or not fragmented, where effective cooperation can be achieved well. On the other hand, if the three mechanisms in the partnership process are separate, and the government's role as the core agency is not visible, then the mechanism becomes fragmented.

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b. Structure

The type of structure in the Hollow State theory focuses on the partnership between government and private companies. The discussion on structure in the Hollow State does not follow conventional understanding of organizational structure or cooperation. Instead, it focuses on the roles and tasks of actors involved in cooperative activities. According to the Hollow State theory, a structure will be effective when networks of actors are integrated, especially through a single agency. This structure facilitates the creation of more efficient integration and coordination. In the discussion on the concept of Hollow State, the main network is separated from weaknesses. The need for coordination in joint production causes the network to have unstable conditions. Managers often face problems that result in instability in negotiations, coordination, and supervision, and this makes third parties responsible. The concept of shared Power will make an institution more effective. Although the government and private sector collaborate in the provision of public services, the government still maintains the function of system integration by being responsible for negotiations, monitoring, and contract evaluation.

c. Incentive

According to this perspective, incentives refer to the things provided by the employer (government) to the private sector in the partnership process. The purpose of providing incentives is to make the partnership program run effectively. The effectiveness of a partnership is also greatly influenced by integrated incentives. This theory suggests that good funding shows better performance or results compared to minimal funding systems. When the level of fairness in funding is combined with a suitable organizational design or partnership, the stability of the relationship between agents also has an impact. A stable system will increase capital and value. Although it is designed minimally or underfunded, stability allows individuals or organizations involved to solve problems and agree on work distribution in the system. Stability provides confidence that the partnership will produce good results. In this perspective, cooperation acts like a clear property right for investors, meaning that if they invest to gain profits, they do not put the service system up for grabs every three years. This is a way to prevent individual behavior that may be rational in the short term but will damage collectively in the long term. This provides incentives to service providers to overcome collective action problems as their own responsibility.

2.5 Sampling

Using the Slovin formula, it was determined that the number of respondents needed for this study was 30.

Table 1. Research Subjects

No	Method	Number of Participants
1	Interviews	30

Sources: Data Primary.

2.6 Type of Data

In this study, the type of data collected includes primary and secondary data

a. Primary Data

Primary data in this study was obtained from several informants who were able to explain how waste management was implemented in Makassar City. The informants included the Head of Environmental Services and Public Health, the Head of Construction Company, the Head of TPA Tamangapa UPTD, and staff, as well as district heads, sub-district heads, and community leaders who care about the importance of cleanliness. To obtain the data, a direct interview technique was used with the informants.

b. Secondary Data

Secondary data or supporting data in this study was obtained from document studies that explained how partnership between government and private companies worked in waste management in Makassar City. Sources of secondary data include books, literature, and research reports related to partnership issues. Document collection technique was used to collect secondary data.

2.7 Data Collection Technique

In this study, the data collection technique used is:

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a. Observation

The researcher observed, recorded, and noted phenomena or activities related to the implementation of partnership between government and private companies in waste management in Makassar City, particularly in the field of environmental cleanliness.

b. Interview

The researcher conducted interviews with people who were able to explain how partnership between government and private companies worked in waste management in Makassar City, particularly in the field of environmental cleanliness.

c. Document Study

A document collection technique was used to collect data and information from relevant documents related to the research problem.

2.8 Data Analysis Technique

Data analysis was done continuously, starting from reviewing all available data from various sources, including interviews, observations, and document studies, until the conclusion stage. In conducting data analysis, the researcher referred to several steps outlined by Miles and Huberman (Sugiyono, 2010:91), which consisted of several steps:

a. Collecting Information through Interviews
The researcher conducted interviews with informants relevant to the study. In addition, direct observation in the field was also done to support data collection.

b. Data Reduction
The process of selecting and focusing on simplifying raw data notes from field observations during the study. The goal of transcribing data is to select information deemed relevant to the research problem.

c. Data Presentation (Data Display)
Information is presented in the form of narrative text, graphs, networks, tables, and diagrams. The purpose is to sharpen the researcher's understanding of selected information. In qualitative research, narrative text is often used for data presentation.

d. Conclusion or Verification
The final stage is to find the meaning of patterns of explanation, possible configurations, causal chains, and propositions. The conclusion is drawn carefully by conducting a verification review on field notes so that the validity of the data is tested.

3. RESULTS AND DISCUSSION

3.1 Effectiveness of Waste Management Policy in Makassar City

This study aims to evaluate the extent to which waste management policies in Makassar City have been effectively implemented by manufacturing industries and their impact on the environment and society. The results of interviews with various stakeholders, including government, industry, and community, provide a deep understanding of the dynamics of waste management in this city.

a. Understanding and Implementation of Policies by Industry
Most industries in Makassar City have understood the importance of good waste management and have made efforts to comply with existing regulations. Several key findings related to the understanding and implementation of waste management policies by industry are:
   1) Environmental Awareness: Many industries have shown increased awareness of the importance of good waste management. They recognize that unmanaged industrial waste can harm the environment and public health.
   2) Policy Implementation: The implementation of waste management policies in the field varies. Some industries have successfully implemented these policies, including complying with waste disposal standards and using environmentally friendly processing technologies. However, there are also industries that still face challenges in meeting the set standards due to various technical and financial constraints.
   3) Monitoring and Evaluation: The city government has conducted monitoring and evaluation of industrial waste management practices. However, the effectiveness of this oversight is still needed to ensure that all industries are actually complying with existing regulations.

b. Challenges in Implementing Policies

The implementation of waste management policies by industry faces several significant hurdles. These barriers include:

1) Technological Limitations: Many industries, particularly small and medium-sized ones, do not have access to adequate waste processing technologies. Advanced technologies for recycling and waste processing are often expensive and difficult to access for industries with limited resources.
2) Implementation Costs: Implementing environmentally friendly technologies requires significant investment. Many industries feel burdened by high costs, especially in unstable economic conditions. As a result, some industries prefer not to adopt new technologies that are more environmentally friendly.
3) Lack of Coordination: Coordination between various government agencies and industries is still not optimal. This leads to inconsistent and ineffective implementation of policies in the field. Poor coordination also results in inadequate supervision and law enforcement.
4) Institutional Barriers: These barriers include a lack of resources for monitoring and enforcing policies, as well as a lack of training and education for industry players on good waste management practices.

3.2 Innovation in Waste Management

One of the main goals of waste management policies is to encourage innovation in the industrial sector. This study found several important innovations that have been adopted by industries in Makassar City:

a. Development of Recycling Technology

Several companies in Makassar City have invested in advanced recycling technology. This technology allows industrial waste to be processed into raw materials that can be used in production processes, reducing the amount of waste that needs to be disposed of. For example, some companies have adopted recycling systems for plastics, metals, and chemicals, which enable them to reduce waste and minimize the negative impact on the environment.

b. Clean Production

In addition to recycling technology, some industries have also adopted the concept of clean production, which aims to reduce waste from the beginning of the production process. Clean production includes various strategies such as reducing the use of hazardous chemicals, improving energy efficiency, and using environmentally friendly raw materials. Some industries have reported that by adopting clean production practices, they have not only reduced waste but also increased operational efficiency and reduced production costs.

c. Innovation in Liquid and Gas Waste Management

This study also found that some industries have developed innovative approaches to managing liquid and gas waste. For example, some companies have implemented advanced wastewater treatment technologies that enable them to process wastewater into safe and reusable water.

3.3 Perspective of the Community on Waste Management

Through interviews with community members living near industrial areas, this study found that community perspectives on the effectiveness of waste management policies are diverse. Some key findings related to community perspectives are:

a. Negative Impact of Industrial Waste on Health

Community members complained about the negative impact of industrial waste on their health. Air and water pollution caused by gas emissions and wastewater discharge often exceed safe limits, causing various health problems such as respiratory issues, skin diseases, and digestive problems. Some community members also reported an increase in chronic disease cases that they believed were linked to environmental pollution.

b. Awareness and Community Participation

Community awareness about the importance of good waste management is still lacking. Active community participation in waste management programs run by government and industry is still low due to a lack of information and education about the dangers of industrial waste and its management. Community members also feel that they are often excluded from decision-making processes related to waste management policies.

c. Community Expectations from Government and Industry

The community expects government and industry to work together more effectively in managing industrial waste. They want government and industry to take joint actions to address environmental pollution caused by industrial activities. In addition, community members expect government and industry to provide education and training programs that can help them understand and participate in better waste management practices.

3.4 Recommendations for Improving Policy Effectiveness

Based on the study findings, several recommendations can be made to improve policy effectiveness:

a. Increased Access to Technology
The government needs to provide financial and technical incentives to help small and medium-sized industries access advanced recycling technology that is environmentally friendly. In addition, programs for training and workshops can be established to help industries understand and implement this technology.

b. Consistent Enforcement of Regulations
Regulatory enforcement needs to be carried out consistently and firmly. The government must ensure that all industries comply with established waste management standards and impose clear penalties for non-compliance. The establishment of a special task force responsible for enforcing regulations can be a solution to improve policy effectiveness.

c. Community Education and Awareness
Community education and awareness programs need to be increased to inform people about the dangers of industrial waste and how it can be managed. Active community participation in these programs is essential for achieving better results.

d. Better Coordination among Government Agencies
Better coordination is needed among government agencies to ensure that waste management policies can be implemented effectively in the field. The establishment of a coordination forum or special task force involving all stakeholders can help address coordination issues and ensure that all parties work together effectively in managing industrial waste.

e. Financial Support and Incentives
The government can provide financial support in the form of subsidies or tax incentives for industries that adopt environmentally friendly technologies for waste management. This can encourage more industries to invest in advanced technologies that can reduce the negative impact of industrial waste on the environment.

f. Improvement of Waste Management Infrastructure
The government needs to improve waste management infrastructure, including facilities for wastewater treatment and disposal, as well as recycling facilities that can handle large volumes of waste. Investment in infrastructure can help reduce the burden on industries managing their own waste and ensure that waste is processed safely and environmentally friendly.

4. CONCLUSIONS AND SUGGESTION

This is a research study on the effectiveness of waste management policies in Makassar City, focusing on industrial waste and its impact on the environment and society. The study found that the waste management policies in Makassar City have been implemented by industries to varying degrees of success. Some industries have shown good understanding of the importance of waste management and have adopted environmentally friendly technologies, such as recycling and clean production. However, there are still several challenges that hinder the implementation of these policies, including limited access to technology, high implementation costs, lack of coordination among agencies, and institutional barriers.

From the community's perspective, there are significant concerns about the negative impact of industrial waste, such as air and water pollution that affect public health. The community feels that their participation in waste management is still limited and they hope for increased education and involvement in decision-making processes. The community also hopes that the government and industry will improve enforcement and regulation consistently.

To address these challenges and improve the effectiveness of waste management policies, the study recommends several key steps. Increasing access to waste management technology, enforcing regulations more strictly, increasing community education and awareness, and improving coordination among agencies are crucial for achieving more effective waste management. Financial support and incentives for industries that

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invest in environmentally friendly technologies, as well as improvements in waste management infrastructure, are also important for ensuring the sustainability of these efforts.

The study has provided a clear picture of the current state of industrial waste management in Makassar City, but there are still some aspects that require further research. Future research is recommended to explore the effectiveness of specific waste management technologies applied in local industries, as well as how these technologies can be accessed and adopted by small and medium-sized industries. In addition, further research can focus on developing more inclusive policy models that involve active community participation in decision-making and monitoring waste management.

This is a continuation of the research study, focusing on evaluating the long-term impact of waste management policies on public health and environmental quality. By doing so, it can identify more effective and sustainable interventions. The study also provides an opportunity to further explore the financial incentives that the government can offer to encourage the adoption of environmentally friendly technologies, as well as evaluating the success of these incentives in a local context.

To increase community awareness and participation, the study recommends developing a more comprehensive and strategic education program, including environmental awareness campaigns that involve various stakeholders. In this way, the community will not only be a recipient of the benefits of waste management policies but also play an active role in maintaining their own cleanliness and health. Through more in-depth and comprehensive research, it is hoped that waste management policies in Makassar City can continue to be improved and provide more optimal benefits to both the environment and the community.

REFERENCES

Aprizal, N. M. (2016). "sumber data "Responsivitas Pelayanan Persampahan Di Dinas Pertamanan Dan Kebersihan Kota Makassar. 11.

Arief, S., & Musakkir. (2019). Tinjauan Viktimologi Pencemaran Limbah Oleh Rumah Sakit Di Kota Makassar. Jurnal Petitum, 7(1), 81–101. https://uit.e-journal.id/JPetitum/issue/view/62

Astuti, A., & Purnama, S.. (2014). Kajian Pengelolaan limbah di rumah sakit umum Provinsi Nusa Tenggara Barat (Ntb). Comunnity Health, 2(1), 12–20. http://pasca.unhas.ac.id/jurnal/files/5bfa5f2d1eba625351aac989609e6962.pdf

Elvania, N. C. (2022). Manajemen Dan Pengelolaan Limbah. Cv Widina Media Utama. https://repository.penerbitwidina.com/media/publications/408665-manajemen-dan-pengelolaan-limbah-48c31ad4.pdf

Kasner, C., & Bruce, R. (2005). Praktik Industri. Gravure, OCT., 66–67.

Nuswantoro. (2012). Diajukan untuk memenuhi salah satu syarat memperoleh gelar Sarjana Teknik Informatika Disusun Oleh:

Perencanaan, J., Dan, W., Teknik, F., & Makassar, U. B. (2020). Evaluasi pengelolaan sampah di kota enrekang kabupaten enrekang skripsi.

Sapti, M., Pancapalaga, W., Widari, W., Rambat, R., Suparti, S., Arquitectura, E. Y., Introducci, T. I., 赫晓霞, Iv, T., Teatinas, L. A. S., Conclusiones, T. V. I. I., Contemporáneo, P. D. E. U. S. O., Evaluaci, T. V, Ai, F., Jakubiec, J. A., Weeks, D. P. C. C. L. E. Y. N. to K. in 20, Mu, A., Inan, T., Sierra Garriga, C., … Evvyani, L. (2019). Efektivitas Pengolahan Sampah Di Pulau Kodingareng Kec Sangkarang Kota Makassar (Telaah Atas Ketatanegaraan Islam). Jurnal Sains Dan Seni ITS, 53(1), 1689–1699. https://www.infodesign.org.br/infodesign/article/view/355%0Ahttp://www.abergo.org.br/revista/index.php/ae/article/view/731%0Ahttp://www.abergo.org.br/revista/index.php/ae/article/view/269%0Ahttp://www.abergo.org.br/revista/index.php/ae/article/view/106%0Aht

Syahrir, N., Mas'ud, M., & Rahim, S. (2022). Analysis Of Environmental Management Accounting Application In The Manufacturing Industry In Makassar City (Empirical Study On Cake Companies). Invoice: Jurnal Ilmu Akuntansi, 4(1), 100–113. https://journal.unismuh.ac.id/index.php/invoice

Syailla, A. N. (2017). Pengaruh Praktik Kerja Industri Dan Motivasi Kerja Terhadap Kesiapan Kerja Siswa Kelas XII. Psikoborneo: Jurnal Ilmiah Psikologi, 5(3), 358–365. https://doi.org/10.30872/psikoborneo.v5i3.4421

Wahidmurni. (2017). Implementasi Kebijakan Strategi Pengelolaan Bagi Pedagang Kaki Lima Kota Makassar. 2588–2593.

Zulkarnain, F. (2018). Pelaksanaan Kemitraan Pemerintah Dan Swasta Dalam Pengelolaan Sampah Di Kota Makassar. 121.