



Comparison of Environmental Laws in the Management of Plastic Waste in Indonesia and Malaysia

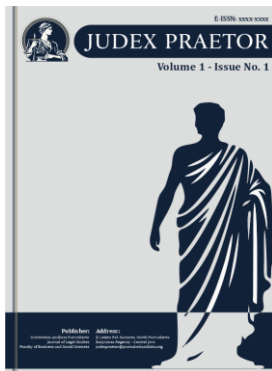
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ABSTRACT



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Plastic waste has become a pressing global environmental issue due to its non-biodegradable nature and long-term ecological impacts on terrestrial and marine ecosystems. Indonesia and Malaysia, as two countries with high plastic waste production, face similar challenges in developing effective environmental regulatory frameworks. This study aims to analyze the environmental legal regulations governing plastic waste management in Indonesia and Malaysia and to identify the substantive similarities and differences between the two systems. This research employs a normative legal method with a descriptive-analytical approach, using statutory, comparative, and conceptual approaches. Data were obtained through library research involving legislation, academic literature, and legal materials relevant to plastic waste governance. The findings show that both Indonesia and Malaysia adopt sustainability principles, extended producer responsibility, and national roadmaps to reduce single-use plastics. However, significant differences exist in regulatory structures and institutional arrangements. Indonesia's regulatory framework remains sectoral and does not explicitly regulate systematic stages of plastic waste management, whereas Malaysia has a more structured system comprising six stages supported by a dedicated agency (SWCorp). Further differences include the effectiveness of implementation and the degree of authority given to local governments in formulating plastic reduction policies. This study highlights the need for regulatory harmonization and institutional strengthening to enhance the effectiveness of sustainable plastic waste management.

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INTRODUCTION

The environment is one of God Almighty's gifts that has fundamental value for the survival of humans and other living creatures. Therefore, the environment must be preserved and developed so that it can continue to function as a source of life support for the sake of sustainability and improvement of the quality of life itself. Conceptually, the environment can be understood as a space inhabited by humans and other living creatures. Dynamic interactions and interdependencies between all elements of life occur within this space.¹

Humans and other living creatures are closely connected in their daily lives, each contributing to maintaining the balance of the ecosystem. These regular and mutually influential interactions form a system called an ecosystem, which is an integral part of the environment. Based on this, the environment must be understood as an inseparable whole, because the existence and survival of all living things depend on the harmony and systemic balance within that environmental order.²

Based on this description, the environment can be understood as a shared space inhabited by humans and other living creatures. Therefore, to ensure the sustainability of the environment as the main pillar of life, legal regulations are needed to guarantee that no party exploits or destroys the environment arbitrarily. In this regard, environmental law plays a role in regulating the relationship and interaction between humans and nature so that it remains within the corridor of ecosystem balance.

Environmental law, in its simplest sense, is a branch of law that regulates the order and management of the environment. This law encompasses a set of norms, rules, and policies that aim to protect, preserve, and ensure the sustainability of the environment as an integral part of human life and other living creatures.³

The term environmental law is a relatively new concept in the discipline of law. Its development has been in line with the increasing global awareness of the importance of protecting and preserving the environment. As public understanding and concern for nature conservation efforts grew, attention in the legal field also developed. This led to the emergence of a separate branch of law that specifically regulates the environment, which became known as environmental law. This branch of law emerged in

¹ Dimas M. Risqi, "Penegakan Hukum Lingkungan," *Jurnal Hasil Penelitian*, Vol. 6, No. 2 (2021), p. 36.

² *Ibid.*

³ M. Hadin Muhjad, *Hukum Lingkungan: Sebuah Pengantar untuk Konteks Indonesia*, Yogyakarta: Genta Publishing, (2015), p. 1.



response to the need for regulation of increasingly complex environmental issues, both nationally and internationally.⁴

Environmental issues are a complex and interesting topic to explore in depth, especially in light of the increasing number of environmental crises at the global level. The complexity of this issue reflects the fact that environmental issues are not only related to natural aspects, but are also closely related to social, political, economic, and cultural dimensions. Mattias Finger argues that the current global environmental crisis is caused by a number of factors, including inappropriate public policies, the application of inefficient and even environmentally destructive technologies, weak political commitment, and the dominance of ideas and ideologies that ultimately harm environmental sustainability. All of these factors contribute simultaneously to the deterioration of global environmental conditions and demonstrate the need for a holistic approach, including through the role of environmental law, in addressing issues that increasingly threaten the sustainability of life.⁵

One of the environmental problems that is becoming increasingly threatening is plastic waste. Plastic waste is inorganic waste that is difficult to decompose and requires special management. The impact of plastic waste on environmental damage is very significant, mainly because plastic is difficult to decompose naturally. The decomposition process of plastic waste in the soil can take between 100 and 500 years, depending on the type and environmental conditions where the plastic is disposed of. This condition makes plastic waste a long-term threat to soil quality and environmental sustainability.⁶

In addition, open burning of plastic waste also has a very detrimental impact on the environment and human health. This process can release polychlorinated dibenzo-p-dioxins (PCDDs), which are toxic compounds that are harmful to living organisms and carcinogenic. Harmful substances from plastic waste released into the environment are not easily decomposed, and if the waste enters water bodies such as rivers, it will be carried by the current to the sea. Rivers are a major contributor to the entry of plastic and microplastics into marine waters. The accumulation of plastic waste in the ocean not only pollutes the marine ecosystem, but also threatens the survival of marine life. Marine animals such as fish, seabirds, and turtles often

⁴ *Ibid.*

⁵ Andre Kurniawan et al., "Penegakan Hukum Lingkungan di Indonesia," *Motekar: Jurnal Multidisiplin Teknologi dan Arsitektur*, Vol. 1, No. 2 (2023), p. 398.

⁶ Chanidia Ari Rahmayani dan Aminah, "Efektivitas Pengendalian Sampah Plastik Untuk Mendukung Kelestarian Lingkungan Hidup di Kota Semarang," *Jurnal Pembangunan Hukum Indonesia*, Vol. 3, No. 1 (2021), p. 19.



mistake plastic for food, which then causes poisoning, digestive disorders, and even death.⁷ Therefore, plastic waste management is very important.

The issue of plastic waste management is not new, but has become a common challenge faced by many countries, including Indonesia. According to data compiled by World Population Review in 2021, Indonesia ranks fifth as the country that produces the most plastic waste in the world, with a total production of 9.13 million tons. Furthermore, Indonesia also ranks fifth as the country that contributes the most plastic waste to the ocean, amounting to 56,333 tons per year.⁸

The data reflects the enormous challenges in handling plastic waste in Indonesia, which are not only related to high production volumes but also to weak waste management and control systems. Therefore, strong and consistent policy interventions are needed through environmental legal instruments to prevent and reduce environmental damage caused by plastic waste in a sustainable manner.

By comparison, Malaysia, Indonesia's neighbor, ranks third in the world in terms of plastic waste contributing to the ocean, with a total contribution of 73,098 tons per year.⁹ This position shows that although Malaysia produces less plastic waste than Indonesia in terms of quantity, the rate of plastic waste disposal into the aquatic environment remains high. This indicates that the effectiveness of plastic waste management is not only determined by the amount of production, but also by the quality of legal policies, institutions, and implementation in the field.

Based on the previous descriptions, the main focus of this discussion is to determine the environmental legal regulations related to plastic waste management in Indonesia and Malaysia. This discussion not only examines the normative provisions applicable in each country, but also aims to analyze the similarities and differences in the legal substance between the two regulatory systems in the management of plastic waste. Through this comparative analysis, it is hoped that a clearer picture can be found regarding the legal approaches taken by each country, as well as their implications for the effectiveness of sustainable plastic waste management.

METHOD

This type of research is normative legal research with a descriptive-analytical nature, namely research that examines positive legal norms through a review of legislation, legal concepts, and relevant legal practices.

⁷ *Ibid.*

⁸ Nikita Rosa, "10 Negara Penghasil Sampah Plastik Terbanyak Di Dunia, Indonesia Nomor Berapa?," DetikEdu, 2022.

⁹ *Ibid.*



This method is used to systematically describe environmental legal regulations related to plastic waste management in Indonesia and Malaysia.¹⁰

The approaches used include the statute approach, to examine all regulations governing plastic waste management in both countries; the comparative approach, to analyze the comparison between the two sets of rules in each country; and the conceptual approach, to discuss key concepts such as environmental sustainability. The data sources for this study are entirely secondary data, which include primary legal materials, namely laws, government regulations, presidential regulations, and Malaysian regulations; secondary legal materials such as books and scientific journals; and tertiary legal materials such as news, dictionaries, and statistical data related to plastic waste generation, which are used to strengthen the analysis of the discussion.¹¹

The data was obtained through library research by reviewing all legal documents and scientific literature related to plastic waste management. All data was then processed through a systematization process, namely grouping, classifying, and compiling data according to the research focus, to be presented descriptively in the form of a narrative description of the plastic waste management system in Indonesia and Malaysia.¹² The analysis process uses normative-qualitative analysis, which examines applicable legal norms without using statistical calculations, but through legal interpretation, juridical reasoning, and comparative analysis to produce logical legal arguments regarding the effectiveness and differences in plastic waste regulations in both countries as discussed in this study.¹³

Graphics are allowed in color. Use contrasting solid colors both for display on a computer screen, as well as for black and white prints, as shown in Figure 1.

Figure 2 shows an example of a low-resolution image that does not comply with the provisions, while Fig. 3 shows an example of an image with adequate resolution. Check that the image resolution is sufficient to reveal important details in the image.

Table 1. Table title begins with a capital letter [Cambria, 10pt, bold, center]

¹⁰ Jonaedi Efendi dan Johnny Ibrahim, *Metode Penelitian Hukum Normatif dan Empiris*, Jakarta: Kencana, (2018), p. 150.

¹¹ Zainuddin Ali, *Metode Penelitian Hukum*, Jakarta: Sinar Grafika, (2022), p. 23.

¹² Muhaimin, *Metode Penelitian Hukum*, Mataram: Mataram University Press, (2020), p. 67-68.

¹³ Efendi dan Ibrahim, *Op.Cit.*, p. 293.



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RESULT & DISCUSSION

A. Environmental Law Regulations Concerning Plastic Waste Management in Indonesia and Malaysia

Legal regulations concerning plastic waste management in Indonesia are reflected in various laws and regulations, both in the form of laws and their derivative regulations. The main legal basis for environmental management in Indonesia is Law No. 32 of 2009 concerning Environmental Protection and Management (PPLH Law). This law regulates important principles such as state responsibility, prudence, and community participation in preserving and sustaining the environment, including waste management. Based on Article 1 Paragraph (20) of the PPLH Law, "Waste is the residue of an endeavor and/or activity." Furthermore, based on Article 1 Paragraphs (21) and (22), it is stated that:

"Hazardous and toxic waste, hereinafter referred to as B3 Waste, is the residue of an endeavor and/or activity that contains substances, energy, and/or other components which, due to their nature, concentration, and/or quantity, either directly or indirectly, can pollute and/or damage the environment, and/or endanger the environment, health, and survival of humans and other living creatures."

Based on these provisions, plastic waste is not automatically categorized as hazardous waste, because not all types of plastic have toxic or directly hazardous characteristics as stipulated in implementing regulations such as Government Regulation No. 101 of 2014 concerning Hazardous Waste Management, which explicitly details the types of



hazardous waste. The environmental impact of plastic waste is very significant, mainly due to its non-biodegradable nature and potential to pollute soil, water, and marine ecosystems in the long term. However, there are no provisions in the Environmental Protection and Management Law (UU PPLH) and Government Regulation No. 101 of 2014 concerning Hazardous Waste Management that explicitly regulate plastic waste.

Furthermore, legal regulations regarding waste management are specifically stipulated in Law No. 18 of 2008 concerning Waste Management (Waste Management Law). This law is a concrete step taken by the state in order to solve the problem of plastic waste management in Indonesia. This law contains the basic principles of sustainable waste management, including regulations regarding the responsibility of producers for the waste they generate. Specifically, Article 15 of the Waste Management Law stipulates that producers are obliged to manage product and/or packaging waste that is difficult to decompose through natural processes. This provision is clarified in the explanatory section of the article, which states that such management includes the recall of packaging for recycling and/or reuse.

As the national legal umbrella in the waste management system, the Waste Management Law also provides an explicit mandate for the formulation of implementing regulations at various levels. This forms the operational basis for the formulation of more detailed technical policies, including those related to plastic waste reduction, producer responsibility, household waste management, and the involvement of local governments and communities in an integrated and sustainable waste management system.¹⁴

More technically, efforts to reduce plastic waste are regulated in Government Regulation No. 81 of 2012 concerning the Management of Household Waste and Household-like Waste. Based on Article 11 Paragraph (1) letter a of this Government Regulation, one of the efforts to reduce plastic waste is by limiting waste generation. Furthermore, Article 12 of this Government Regulation also requires producers to limit waste generation. Article 15 Paragraph (1) explains, "The use of production raw materials and packaging that can be decomposed by natural processes, which generate as little waste as possible, and which can be recycled and/or reused, shall be carried out gradually every ten years through a road map." Based on these provisions, the Minister of Environment and Forestry Regulation Number

¹⁴ Maskuna et al., "Tinjauan Normatif Penerapan Prinsip Tanggung Jawab Produsen dalam Pengaturan Tata Kelola Sampah Plastik di Indonesia," *Bina Hukum Lingkungan*, Vol. 6, No. 2 (2022), p. 188.



P.75/MENLHK/SETJEN/KUM.1/10/2019 concerning the Roadmap for Waste Reduction by Producers (Permen LHK P.75/2019) was formed, which requires producers to develop and implement a roadmap for reducing single-use plastic waste.

In addition, in order to follow up on the Indonesian Government's commitment to handle 70% (seventy percent) of marine plastic waste by 2025, Presidential Regulation of the Republic of Indonesia Number 83 of 2018 concerning Marine Waste Management was enacted. Article 1 Paragraph (4) of this Presidential Regulation explains that "Plastic waste is waste that contains polymer compounds." The plastic waste management strategy as stipulated in Article 2 Paragraph (3) of Presidential Regulation No. 83 of 2018 covers five main strategies, namely:

1. a national movement to raise awareness among stakeholders;
2. management of waste originating from land;
3. waste management in coastal areas and the sea;
4. funding mechanisms, institutional strengthening, supervision, and law enforcement; and
5. research and development.

Overall, Presidential Regulation No. 83 of 2018 does not directly regulate sanctions for violations, but this Presidential Regulation serves as a normative guideline that can be used as a basis for monitoring and evaluating the performance of the central and regional governments. Environmental law enforcement is the last link in the environmental regulation cycle, known as the regulatory chain, and is a continuation of the policy planning process. Law enforcement serves as a tool to ensure that formulated environmental norms and policies can be effectively implemented in the field. Without a strict and consistent law enforcement mechanism, environmental regulations tend to lose their binding force and are unable to encourage compliance from business actors and the community.¹⁵

A number of legal instruments that form the legal basis for waste management, as well as various derivative regulations as mentioned earlier, do not actually constitute national legislation that specifically regulates plastic waste management. Existing national regulations on waste management generally do not explicitly mention the term "plastic waste" in their normative provisions. Regulations on plastic waste are generally implemented through an indirect approach, namely by linking

¹⁵ Andi Hamzah, *Penegakan Hukum Lingkungan*, Jakarta: Sinar Grafika, (2005), p. 48-49.



its characteristics as waste that is “difficult to decompose through natural processes.”¹⁶

Clear and supportive policies and regulations from the government play a crucial role in establishing a solid framework for plastic waste management. The existence of strict legal regulations not only provides direction and legal certainty for stakeholders, but also serves as the basis for designing and implementing sustainable plastic management programs. Conversely, without a strong legal foundation, various plastic management initiatives and policies are likely to face numerous obstacles, ranging from inter-agency coordination issues and minimal public participation to weak law enforcement.

Unlike Indonesia, Malaysia has a waste management system that is considered more efficient and structured. There are six main stages in waste management in Malaysia. First, the waste generation stage, which is the process of recording and calculating the volume of waste produced as a basis for designing further management strategies, such as composting, incineration, landfilling, and recycling. Second, the waste storage stage, which involves the temporary holding of solid waste before collection and disposal, with the aim of preventing pollution at the source. Third, the waste collection stage, which includes the collection of waste from its place of origin or main source, such as households or commercial facilities. Fourth, the waste transfer and transportation process, which involves moving waste to processing sites, recycling centers, or final disposal locations. Fifth, the waste treatment stage, which aims to change the composition and characteristics of waste to reduce its negative impact, including the removal of potentially hazardous materials that can threaten human health and other living creatures. Finally, the waste disposal stage, which is the final process of waste management carried out at a final disposal site (TPA). All of these stages reflect Malaysia's systematic approach to handling solid waste, including plastic waste, with a focus on efficiency, environmental health, and sustainability.¹⁷

Malaysia has a fairly comprehensive legal framework for regulating plastic waste management, which is categorized as part of solid waste management. One of the main regulations is the Environmental Quality Act 1974 (EQA 1974), which serves as the basic law for environmental management in Malaysia. Although it does not explicitly regulate plastic waste, this law gives the Ministry of

¹⁶ Maskuna et al., *Op.Cit.*, p. 189.

¹⁷ Efritya Equina Arindri et al., “Menjaga Alam, Mewujudkan Keberlanjutan: Studi Perbandingan Pengelolaan Sampah di Indonesia dan Malaysia,” *International Waqaf Ilmu Nusantara Library*, 2024, p. 3.



Environment and Water (KASA) the authority to establish regulations related to waste disposal and environmental pollution.¹⁸

Furthermore, more specific regulations regarding plastic waste can be found in the *Solid Waste and Public Cleansing Management Act 2007* (Act 672). This law regulates the management of household waste and similar waste, including plastic waste, which is implemented under the coordination of the Ministry of Housing and Local Government (KPKT) through the implementing agency, the Solid Waste Management and Public Cleansing Corporation (SWCorp). As part of its long-term strategy, the Malaysian government has also designed the *Roadmap Towards Zero Single-Use Plastics 2018–2030*, a national policy document developed by KASA with the aim of gradually reducing the use of single-use plastics until a total ban in 2030.¹⁹

In addition to national policies, Malaysia's federal system of government allows states to set their own environmental policies. Several states, such as Selangor, Penang, and Johor, have even taken proactive steps by banning the use of plastic bags and straws, particularly in the retail and food sectors. This reflects a strong commitment from various levels of government to control the negative impact of plastic waste on the environment.²⁰

B. Similarities and Differences in Legal Substance Between Indonesian and Malaysian Regulations on Plastic Waste Management

Based on the previous discussion, the following is the result of an analysis of the similarities and differences in legal substance between Indonesian and Malaysian regulations on plastic waste management:

1. Legal Substance Similarities
 - a. Indirect Approach to Plastic Waste
 - Indonesia and Malaysia have not explicitly categorized plastic waste as hazardous and toxic waste (Hazardous waste), but recognize its serious ecological impact.
 - Both use a general or indirect approach through the categories of “difficult to decompose waste” (Indonesia) or “solid waste” (Malaysia) in their legislation.
 - b. Principles of Sustainable Management

¹⁸ Hanim Kamaruddin et al., “Legal Aspect of Plastic Waste Management in Indonesia and Malaysia: Addressing Marine Plastic Debris,” *Sustainability*, Vol. 14, No. 12 (2022), p. 75.

¹⁹ *Ibid.*

²⁰ *Ibid.*



- Both countries integrate sustainability principles into their waste management systems.
 - Indonesia regulates this through the 2009 Environmental Protection and Management Law and the 2008 Waste Management Law, while Malaysia regulates it through the 1974 EQA and the 2007 Solid Waste and Public Cleansing Management Act.
- c. Producer Responsibility
- Both Indonesia and Malaysia emphasize extended producer responsibility (EPR) as a principle in plastic waste management, with producers responsible for plastic packaging and products.
- d. Existence of a National Roadmap
- Both countries have a roadmap for reducing single-use plastics:
- Indonesia: Minister of Environment and Forestry Regulation P.75/2019.
 - Malaysia: Roadmap Towards Zero Single-Use Plastics 2018–2030.
2. Substantive Differences in the Laws

Table 1. Substantive Legal Differences Between Indonesian and Malaysian Regulations on Plastic Waste Management

Aspect	Indonesia	Malaysia
Regulatory Approach	It is sectoral in nature and scattered across various national regulations without explicitly mentioning “plastic waste” as a separate category.	More structured and comprehensive through federal regulations and direct implementation by a special agency (SWCorp).
Implementing Institutions	Management is under the Ministry of Environment and Forestry, as well as local governments.	Managed by SWCorp under the coordination of the Ministry of Housing and Local Government (KPKT).
Specifications for Management Stages	Does not systematically outline the step-by-step management of plastic waste in regulations.	Has a clear six-stage waste management system, from generation to final disposal.
Regional Autonomy in Environmental Regulation	Local governments play a role in implementation, but national policies tend to be dominant.	States have a high degree of autonomy and can independently enact policies prohibiting the use of plastic.
Law Enforcement	Not yet optimal and often faces implementation obstacles despite the availability of legal instruments.	Tends to be more assertive, with coordinated oversight and enforcement mechanisms at the national and state levels.



Focus on Marine Debris	Regulated in Presidential Regulation No. 83 of 2018, with a focus on strategies for handling marine plastic waste.	Not explicitly mentioned in the description, but integrated management in the solid waste treatment system.
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Resource:

CONCLUTIONS

Environmental regulations regarding plastic waste management in Indonesia and Malaysia show different approaches despite having similar objectives, namely maintaining environmental sustainability. In Indonesia, related regulations are scattered across various laws and implementing regulations, such as the 2009 Environmental Protection and Management Law and the 2008 Waste Management Law, which tend to use an indirect approach by classifying plastic waste as non-biodegradable waste and emphasizing producer responsibility through a roadmap for reducing single-use plastic waste. Meanwhile, Malaysia has a more structured system through six systematic stages of waste management and institutional support from SWCorp, which works under the coordination of the KPKT. This is reinforced by key regulations such as the Environmental Quality Act 1974 and the Solid Waste and Public Cleansing Management Act 2007, which explicitly regulate the management of solid waste, including plastic, and are further strengthened by the *Roadmap Towards Zero Single -Use Plastics 2018–2030* as a national long-term strategy.

The similarities and differences in the legal substance between Indonesian and Malaysian regulations on plastic waste management include the adoption of an indirect approach to plastic waste categories, the integration of sustainability principles, an emphasis on producer responsibility (extended producer responsibility), and the existence of a national roadmap for reducing single-use plastics. However, there are fundamental differences in terms of regulatory structure, institutional implementation, and legal implementation effectiveness. Regulations in Indonesia are still sectoral in nature and do not systematically regulate the stages of plastic waste management, while Malaysia has developed an integrated six-stage management system overseen by a special agency (SWCorp). In addition, Malaysia gives greater authority to states to establish plastic ban policies, while Indonesia remains centralized in a national approach that is not yet optimal in terms of law enforcement and inter-agency coordination.

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