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The Role of Law Enforcement and Government Policies in Combating Air Pollution for a Sustainable Environment

Alya Maya Khonsa Rahayu^{1*}, Triwanto Triwanto², Syifa Azzahra Nada Arantxha³, & Risma Yulia Astuti⁴

^{1,2,3,4}Law Faculty, Universitas Slamet Riyadi Surakarta, Indonesia

Correspondence

Alya Maya Khonsa Rahayu, Law Faculty, Universitas Slamet Riyadi Surakarta, Indonesia, Jl. Sumpah Pemuda No.18, Kadipiro, Kec. Banjarsari, Kota Surakarta, Jawa Tengah 57136, e-mail: alyamkr@gmail.com

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Original Article

Abstract

Air pollution is a significant environmental issue with severe consequences for human health and ecosystems. In Indonesia, particularly in major cities, high levels of air pollution pose a serious threat to public health and quality of life. The primary contributors include emissions from motor vehicles, industrial activities, and forest fires. However, law enforcement against polluters remains weak, and protection for victims is inadequate. This study examines law enforcement efforts aimed at protecting victims of air pollution and the government's role in fostering a cleaner environment. A normative legal research method with a qualitative approach was employed. The findings highlight the urgent need to strengthen regulations, improve institutional coordination, and implement policies that effectively reduce pollution. Additionally, public awareness must be enhanced to ensure sustainable air quality and long-term environmental preservation.

Keywords: *Law Enforcement, Government Policy, Air Pollution, Environment*

Abstrak

Pencemaran udara adalah masalah lingkungan yang berdampak serius pada kesehatan manusia dan ekosistem. Di Indonesia, pencemaran udara yang tinggi, terutama di kota besar, mengancam kualitas hidup masyarakat. Faktor utama penyebabnya adalah emisi kendaraan bermotor, industri, dan kebakaran hutan. Sayangnya, penegakan hukum terhadap pelaku pencemaran masih lemah, sementara perlindungan bagi korban belum optimal. Oleh karena itu, penelitian ini mengkaji upaya penegakan hukum dalam melindungi korban pencemaran udara serta peran pemerintah dalam menciptakan lingkungan yang lebih bersih. Metode yang digunakan adalah penelitian hukum normatif dengan pendekatan kualitatif. Hasil penelitian menunjukkan perlunya penguatan regulasi, koordinasi antar lembaga, serta kebijakan yang mendorong pengurangan polusi. Kesadaran masyarakat juga harus ditingkatkan untuk menjaga kualitas udara demi keberlanjutan lingkungan.

Kata kunci: *Penegakan Hukum, Kebijakan Pemerintah, Polusi Udara, Lingkungan*

1. INTRODUCTION

The environment is a gift from Allah SWT that must be preserved to ensure the sustainability of human, animal, and plant life, all of which are interdependent. Maintaining environmental sustainability is crucial to preventing pollution and ecological degradation.¹ Human survival is heavily reliant on the environment, as many essential needs are derived from nature. Without a healthy environment, humans cannot sustain their lives. Therefore, for people to live properly and harmoniously, they must coexist with nature and actively work to preserve its sustainability.²

However, in reality, environmental degradation is increasingly widespread due to rapid development and human activities. The rising population and industrial expansion are significant contributors to the high levels of pollution in many countries. Various forms of pollution, including air, water, and soil contamination, are prevalent.³ Even more concerning, many individuals responsible for pollution fail to recognize the harm they are causing to the environment.

Environmental pollution is a pressing global issue affecting all living beings on Earth. The growing human population, advancements in science and technology, and the establishment of industries to meet human needs have exacerbated pollution levels. Increased industrial activities lead to higher volumes and more diverse types of waste being released into the environment. Pollution is a collective concern that must be urgently addressed, as it directly impacts public safety, health, and overall quality of life. Everyone has a role to play in mitigating environmental pollution, starting from individual actions within their immediate surroundings to broader community efforts.

The 1945 Constitution of Indonesia explicitly emphasizes the importance of environmental protection. Article 28H, Clause 1 states: “Everyone has the right to live in physical and mental well-being, to have a place to live, and to enjoy a good and healthy environment, as well as the right to access healthcare services.” This article serves as a legal foundation for environmental protection as a fundamental human right. However, in practice, this provision has not been fully enforced, as evidenced by the ongoing environmental degradation and pollution issues. The fundamental human right to a healthy environment remains unfulfilled.

Air pollution poses a particularly serious threat to human health. Air consists of various gases with fluctuating ratios influenced by temperature, atmospheric pressure,

¹ Nafi Mubarak, “Keadilan Hukum Dalam Penyelesaian Sengketa Lingkungan Hidup Di Indonesia,” *Daulah: Jurnal Hukum Dan Perundangan Islam* 10, no. 2 (2020): 336–368, <https://doi.org/10.15642/ad.2020.10.2.335-368>.

² Muhammad Hasan Ubaidillah, “Fiqh Al-Bi’ah (Formulasi Konsep Al-Maqasid Al-Shari’ah Dalam Konservasi Dan Restorasi Lingkungan),” *Al-Qanun: Jurnal Pemikiran Dan Pembaharuan Hukum Islam* 13, no. 1 (2016): 26–52, <https://doi.org/10.15642/alqanun.2010.13.1.26-52>.

³ Anika Ni’matun Nisa and Suharno Suharno, “Pencegahan Hukum Terhadap Permasalahan Lingkungan Hidup Untuk Mewujudkan Pembangunan Berkelanjutan: Studi Kasus Kebakaran Hutan Di Indonesia,” *Jurnal Bina Mulia Hukum* 4, no. 2 (2020): 294–312, <https://jurnal.fh.unpad.ac.id/index.php/jbhm/article/view/92>.

and environmental conditions.⁴ Essential components of air include oxygen, which humans need for respiration; carbon dioxide, which plants use for photosynthesis; and ozone, which protects against ultraviolet radiation.⁵ However, the rapid growth of industrial centers, particularly in urban areas, has led to significant deterioration in air quality, a phenomenon known as air pollution. If left unaddressed, air pollution will have severe consequences for humans, animals, and plant life.⁶

Government Regulation No. 41 of 1999 on Air Pollution Control defines air pollution in Article 1, Clause 1 as “the entry or introduction of substances, energy, and/or other components into the ambient air due to human activities, leading to a decline in air quality to a level that prevents it from fulfilling its intended function.” The government has issued regulatory measures to address air pollution, as outlined in Article 21 of the same regulation. This article mandates that businesses must comply with government-set air quality standards, implement measures to prevent and mitigate air pollution, and ensure public access to information on air pollution control.

The purpose of this study is to examine the factors contributing to air pollution and environmental degradation, analyze how law enforcement provides protection to victims of air pollution, and assess the roles of the government and community in addressing this critical issue.

2. RESEARCH METHODOLOGY

This study employs normative legal research, a method of legal inquiry that examines library materials or secondary data. Also known as doctrinal research, this approach conceptualizes law as it is written in statutes and regulations or as a set of rules and norms that serve as standards for appropriate human behavior. Normative legal research is the process of identifying legal rules, principles, or doctrines to address specific legal issues.⁷ Based on this definition, the present study qualifies as normative legal research, as it relies primarily on library materials for case analysis rather than field research.⁸ This research method utilizes secondary sources, commonly referred to as library legal research, and broadly aims to explore legal principles, analyze legal systematics, examine legal synchronization, study legal history, and conduct comparative legal research.

⁴ Huan Minh Tran et al., “The Impact of Air Pollution on Respiratory Diseases in An Era of Climate Change: A Review of The Current Evidence,” *Science of The Total Environment* 898 (2023): 166340, <https://doi.org/10.1016/j.scitotenv.2023.166340>.

⁵ Afifa Afifa et al., “Air Pollution and Climate Change as Grand Challenges to Sustainability,” *Science of The Total Environment* 928 (2024): 172370, <https://doi.org/10.1016/j.scitotenv.2024.172370>.

⁶ Shira Thani, “Peranan Hukum Dalam Perlindungan Dan Pengelolaan Lingkungan Hidup,” *Majalah Ilmiah Warta Dharmawangsa* 51 (2017): 1–7, <https://doi.org/10.46576/wdw.v0i51.240>.

⁷ Peter Mahmud Marzuki, *Penelitian Hukum*, 19th ed. (Jakarta: Prenada Media Group, 2019), <https://prenadamedia.com/product/penelitian-hukum-edisi-revisi/>.

⁸ Irwansyah Irwansyah, *Penelitian Hukum: Pilihan Metode Dan Praktik Penulisan Artikel*, ed. Ahsan Yunus (Yogyakarta: Mirra Buana Media, 2020).

3. RESEARCH RESULT AND DISCUSSION

The environment can be considered a vital resource that serves as a means to promote human well-being. Article 33, Paragraph 3 of the 1945 Constitution of Indonesia states that “Earth, water, and the natural resources contained therein shall be controlled by the state and utilized for the greatest prosperity of the people.” However, due to population growth and various other factors, environmental sustainability is increasingly at risk from threats such as pollution and ecological degradation. These issues disrupt the balance and sustainability of surrounding ecosystems.

Article 1, Paragraph 14 of the 2009 Environmental Protection and Management Law defines environmental pollution. One of the most critical components of human life is air, which is essential for survival at every moment. On average, a person requires approximately 20 square meters of air daily for respiration. Access to air is generally effortless, as it naturally fills environmental spaces.

Air consists of a mixture of gases, with nitrogen and oxygen being its primary components. Among these, oxygen plays a crucial role in sustaining life and facilitating combustion. Humans and animals inhale clean air, which is invisible, odorless, colorless, and tasteless. However, obtaining clean air has become increasingly difficult, particularly in urban areas where industrial activities and high traffic density contribute to significant air pollution.⁹ Polluted air, which contains harmful contaminants, poses a serious threat to both the environment and human health.

Air pollution occurs when pollutants, whether primary or secondary, are present in the atmosphere at concentrations that disrupt its natural balance and negatively impact human life and ecosystems. Common air pollutants include sulfur dioxide (SO₂), carbon monoxide (CO), particulate matter, hydrocarbons (HC), nitrogen oxides (NO₂), photochemical oxidants, lead (Pb), ozone (O₃), and volatile organic compounds (VOCs).¹⁰

In Indonesia, air pollution control is regulated under Government Regulation (PP) No. 41 of 1999, which outlines measures for air pollution prevention, control, and air quality restoration. Pollution prevention efforts commonly include establishing ambient air quality standards, setting emission quality standards for stationary sources, determining permissible levels of disturbances, and regulating gas emission thresholds, motor vehicle exhaust emissions, and noise pollution levels.

Impact of Air Pollution

⁹ Leony Sanga Lamsari Purba and Neli Harefa, “Pengaruh Kandungan Oksigen Udara Sekolah Terhadap Konsentrasi Belajar Siswa,” *EduMat.Sains: Jurnal Pendidikan, Matematika Dan Sains* 4, no. 2 (2020): 169–82, <https://doi.org/10.33541/edumatsains.v4i2.1381>.

¹⁰ Yunus Tri Jatmiko and Ahmad Fauzi, “Kepedulian Masyarakat Terhadap Lingkungan Melalui Kegiatan ProKlim,” *Jurnal Socia Logica* 3, no. 1 (2023): 138–148, <https://doi.org/10.572349/socialogica.v3i1.355>.

1) Environmental Impact

Air pollution resulting from industrial activities has a significant impact on human life. The pollutants released into the atmosphere can lead to severe environmental degradation, which in turn affects human health due to exposure to hazardous substances.¹¹ The relationship between air and the environment plays a crucial role in determining the extent of this impact. James Lovelock's Gaia Hypothesis suggests that living organisms help regulate atmospheric balance by maintaining appropriate levels of chromium oxide and oxygen.¹² This self-regulating process not only contributes to the unique chemical composition of the atmosphere but also ensures environmental stability, which is essential for sustaining life. Several major environmental consequences of air pollution include:¹³

- a) Reduced Visibility – The presence of airborne pollutants and particulate matter can impair visibility, creating hazardous conditions, particularly in urban and industrial areas.
- b) Soil and Water Contamination – Atmospheric deposition of pollutants can lead to soil acidification, nutrient imbalances in coastal waters and estuaries, depletion of soil nutrients, and disruptions in ecosystem diversity.
- c) Formation of Ground-Level Ozone– Increased concentrations of ground-level ozone can damage ecosystems by impairing plant growth and disrupting the surrounding environment.
- d) Acid Rain Formation– The interaction of water (H₂O) with carbon dioxide (CO₂) and sulfur dioxide (SO₂) results in the formation of sulfuric acid (H₂SO₄), while nitrogen oxides contribute to the formation of nitric acid (HNO₃). Acid rain causes extensive environmental damage, including soil degradation, aquatic ecosystem disruption, and structural corrosion.

2) Health Impact

Health is a fundamental aspect of human well-being and requires special attention, particularly for vulnerable populations such as the elderly and young children. According to Indonesian Law No. 23 of 1992, public health is defined as a state of well-being that encompasses physical, mental, and social aspects, enabling

¹¹ Dimas Mochamad Risqi, "Penegakan Hukum Lingkungan," *JHP 17: Jurnal Hasil Penelitian* 6, no. 2 (2021): 39–44, <https://doi.org/10.30996/jhp17.v6i2.6214>.

¹² James Lovelock, *Gaia: A New Look at Life on Earth* (Oxford: Oxford University Press, 2000).

¹³ Rionaldo Elen Pamungkas, Sulistyani Sulistyani, and Mursid Rahardjo, "Analisis Risiko Kesehatan Lingkungan (ARKL) Akibat Paparan Karbon Monoksida (Co) Melalui Inhalasi Pada Pedagang Di Sepanjang Jalan Depan Pasar Projo Ambarawa Kabupaten Semarang," *Jurnal Kesehatan Masyarakat* 5, no. 5 (2017): 824–31, <https://doi.org/10.14710/jkm.v5i5.19207>.

individuals to lead productive lives both socially and economically.¹⁴ Air pollution poses a serious risk to human health, particularly for individuals exposed to hazardous pollutants in the ambient air. Those affected by air pollution are classified as at-risk populations. A health risk in this context refers to the increased likelihood of developing illnesses due to prolonged exposure to environmental pollutants.¹⁵

Prolonged or cumulative exposure to air pollution over a lifetime can have severe health consequences. The effects can result from both short-term (acute) high-level exposure and long-term (chronic) low-level exposure. In both cases, air pollution significantly contributes to morbidity and mortality. Even short-term exposure to air pollution can negatively affect health, leading to decreased productivity levels both socially and economically. The accumulation of pollutants in the body over time increases the likelihood of developing serious respiratory diseases. Long-term exposure has been linked to chronic health conditions such as lung cancer, bronchitis, emphysema, and other respiratory illnesses.

3.1. Resolution of Air Pollution and Environmental Cases Through Judicial and Non-Judicial Mechanisms

Resolution of Environmental Cases Through Non-Judicial Mechanisms

Article 85 of Law No. 32 of 2009 on Environmental Protection and Management (UUPLH) stipulates that environmental disputes may be resolved either through judicial or non-judicial mechanisms. Furthermore, the article states that the choice of dispute resolution method is voluntary and determined by the disputing parties. Legal action in court can only be pursued if the non-judicial dispute resolution process is declared unsuccessful by one or all parties involved.¹⁶

Non-judicial resolution of environmental disputes is carried out through alternative dispute resolution (ADR), which is voluntary and does not apply to environmental crimes. ADR mechanisms primarily focus on compensation and/or specific actions to ensure that environmental damage or pollution does not recur.¹⁷

¹⁴ Johanes Lawalata, Hendra Riogilang, and Steeva G. Rondonuwu, "Analisis Pencemaran Udara Gas CO Akibat Pembuangan Gas Emisi Kendaraan Bermotor Di Depan Bahu Mall Pada Ruas Jalan Wolter Monginsidi Kota Manado," *Tekno* 19, no. 78 (2021): 151–57, <https://doi.org/10.35793/jts.v19i78.35544>.

¹⁵ Esti Nurmala, Budiyo Budiyo, and Suhartono Suhartono, "Hubungan Konsentrasi Suspended Particulate Matter (SPM) Udara Ambien Dan Kondisi Cuaca Dengan Angka Kejadian Asma Di Kecamatan Semarang Barat Tahun 2015-2017," *Jurnal Kesehatan Masyarakat* 6, no. 6 (2018): 110–18, <https://doi.org/10.14710/jkm.v6i6.22163>.

¹⁶ Handri Wirastuti Sawitri and Rahadi Wasi Bintoro, "Sengketa Lingkungan Dan Penyelesaiannya," *Jurnal Dinamika Hukum* 10, no. 2 (2010): 163–74, <https://doi.org/10.20884/1.jdh.2010.10.2.149>.

¹⁷ Imron Rosyadi and Isnaini Putri Wulandari, "Penegakan Hukum Lingkungan Terhadap Pencemaran Udara Akibat Aktivitas Industri Di Kabupaten Gresik," *Al-Qanun: Jurnal Pemikiran Dan Pembaharuan Hukum Islam* 24, no. 2 (2021): 279–307, <https://doi.org/10.15642/alqanun.2021.24.2.279-307>.

According to Article 85 of the 2009 Environmental Law, the objectives of non-judicial dispute resolution include:¹⁸

- a) Non-Judicial Environmental Dispute Resolution Aims to Achieve Agreements on
 - The form and amount of compensation.
 - Measures for environmental restoration due to air pollution and/or environmental degradation.
 - Specific actions to prevent the recurrence of pollution and/or environmental destruction.
 - Preventive actions to mitigate negative environmental impacts.
- b) Limitation on Non-Judicial Dispute Resolution
 - Non-judicial settlement does not apply to environmental crimes as stipulated in the law.

In resolving environmental disputes outside the court system, the involvement of mediators and/or arbitrators is permitted to facilitate the resolution process. Law No. 32 of 2009 states that non-judicial environmental dispute resolution aims to reach agreements regarding compensation, specific corrective actions to prevent recurrent pollution and environmental damage, and measures to mitigate negative environmental impacts. However, this mechanism does not apply to environmental crimes.

Non-judicial environmental dispute resolution can be facilitated through third-party services, including entities authorized to make binding decisions, such as government agencies and/or community organizations. Various methods of resolving environmental disputes outside the court include arbitration, mediation, negotiation, conciliation, and fact-finding. The following sections provide a detailed explanation of each dispute resolution mechanism.¹⁹

1) Arbitration

Arbitration is a dispute resolution mechanism in which the disputing parties submit their case to a neutral third party with the authority to render a binding decision. According to Article 1, Clause 1 of Law No. 30 of 1999, arbitration is a method of resolving civil disputes outside the general court system, based on a written arbitration agreement between the disputing parties.

¹⁸ Mas Achmad Santosa and Margaretha Quina, "Gerakan Pembaruan Hukum Lingkungan Indonesia Dan Perwujudan Tata Kelola Lingkungan Yang Baik Dalam Negara Demokrasi," *Jurnal Hukum Lingkungan Indonesia* 1, no. 1 (2021): 23–54, <https://doi.org/10.38011/jhli.v1i1.164>.

¹⁹ Abdurrahman Abdurrahman, *Pengantar Hukum Lingkungan Indonesia* (Bandung: Alumni, 1983).

2) Mediation

Mediation is a dispute resolution process in which a neutral third party, known as a mediator, facilitates negotiations between the disputing parties to help them reach an agreement. If the parties involved are unable to resolve the dispute on their own, they may seek assistance from a mediator to guide the resolution process. Mediation is regulated under Article 6, Paragraphs (3), (4), and (5) of Law No. 30 of 1999. In mediation, a mediator may assume two different roles:

- **Passive Role:** The mediator acts primarily as a facilitator, allowing the disputing parties to take an active role in resolving their conflict. The mediator's role is limited to guiding discussions and ensuring the negotiation process remains structured and productive.
- **Active Role:** The mediator actively intervenes in the dispute resolution process by identifying common ground, articulating shared interests, and providing both parties with insights into potential solutions. In this role, the mediator plays a more direct part in resolving the dispute, ensuring that both parties reach a mutually acceptable resolution. By fulfilling either of these roles, a mediator is expected to assist in resolving disputes efficiently, as both parties rely on their guidance to find a fair and equitable solution.

3) Negotiation

Negotiation is a voluntary bargaining process in which the disputing parties engage in direct discussions to reach a mutually beneficial agreement. The negotiation process is characterized by open communication, cooperation, and careful deliberation between the parties involved. In the context of environmental dispute resolution, legal considerations are not necessarily a primary concern as long as the negotiation process leads to a fair and mutually advantageous outcome. The success of a negotiation depends on the willingness of both parties to engage in constructive dialogue. However, negotiations may face obstacles if one party prioritizes its own rights without acknowledging the interests of the other.

While negotiation typically involves direct discussions between the disputing parties, in certain cases, the involvement of a third party with expertise in negotiation may be necessary to ensure that the outcome is fair and does not disproportionately benefit one party over the other.

Settlement of Environmental Pollution Cases Through the Courts

As stipulated in Article 84 of Law No. 32 of 2009, environmental disputes may be resolved either through the courts or out of court. The choice of dispute resolution method is made voluntarily by the disputing parties. A lawsuit in court can only be

pursued if out-of-court dispute resolution efforts are deemed unsuccessful by one or both parties.

1) Compensation and Environmental Restoration

Any individual or entity responsible for a business and/or activity that engages in unlawful conduct, resulting in environmental pollution and/or degradation, must provide compensation and/or undertake specific remedial actions. Furthermore, individuals or entities that transfer, alter, or modify the nature and form of a business while violating legal provisions remain legally accountable. A court may impose financial penalties for each day of delay in implementing its ruling. According to Article 87, Paragraph (1), in addition to paying compensation, polluters may also be required by the court to take specific legal actions, such as restoring environmental functions, and/or eliminating or neutralizing the causes of environmental pollution and/or degradation.

2) Strict Liability

Under Article 88 of Law No. 32 of 2009, individuals or entities engaged in activities involving hazardous and toxic materials (B3), including their production and/or management, and those posing a serious threat to the environment, bear absolute liability for any resulting damage—without requiring proof of fault.

3) Statute of Limitations for Filing a Lawsuit

The statute of limitations for filing an environmental lawsuit follows the deadlines outlined in the Civil Code and is calculated from the time the environmental pollution and/or damage is discovered. However, this limitation does not apply to cases involving businesses and/or activities that use, manage, or produce B3 waste.

4) Government and Regional Government's Right to Sue

Government agencies and regional authorities responsible for environmental management have the legal standing to file lawsuits seeking compensation and specific actions against businesses and/or activities causing environmental pollution and/or damage. Environmental losses refer to damages resulting from pollution and/or degradation that do not fall under private property rights.

5) Community's Right to Sue

Communities have the right to file class-action lawsuits either on their own behalf or in the interest of the public if they suffer losses due to environmental pollution

and/or damage. Such lawsuits can be pursued when there is a shared basis of facts, legal principles, and claims among the group representative and its members.

6) Environmental Organizations' Right to Sue

Environmental organizations, in the interest of environmental protection and management, have the right to file lawsuits aimed at ensuring the preservation of environmental functions. However, such lawsuits are limited to compelling specific actions and do not include claims for financial compensation—except for reimbursement of actual expenses incurred.

Research findings indicate that most environmental disputes are resolved through administrative measures. Forms of administrative sanctions include Written warnings, Government-imposed coercion, Suspension of environmental permits, and Revocation of environmental permits. Legal protection serves as a fundamental function of law, ensuring justice, order, and the fulfillment of fundamental rights, while upholding the principle of legality and promoting overall societal benefits. According to *Satjipto Rahardjo*, legal protection involves safeguarding individuals' interests by recognizing their legal rights and granting them the power to act in defense of those rights, ensuring they can fully enjoy the legal protections afforded to them.

In the context of legal protection for the environment, the libertarian school of thought, which rejects the economic approach theory, views environmental pollution and degradation not merely as issues of inefficiency and unfair resource distribution but as direct violations of personal and property rights. Consequently, from a libertarian perspective, the law must ensure protection by holding business actors accountable for compensating environmental pollution or destruction caused by their nickel mining activities.

From a legal standpoint, compensation obligations are recognized as a mechanism to balance the interests of industrial actors, who may contribute to air pollution, with those of affected community members.²⁰ Compensation for victims of environmental pollution must be clearly regulated within positive law to ensure social justice. The absence of such legal regulations may provoke public unrest, thereby undermining the broader public interest.

Community members affected by environmental pollution have the right to seek compensation from businesses engaged in industrial activities that result in environmental degradation or air pollution. This right is explicitly outlined in Article 87,

²⁰ Ataur Rahman Belal, Stuart M. Cooper, and Niaz Ahmed Khan, "Corporate Environmental Responsibility and Accountability: What Chance in Vulnerable Bangladesh?," *Critical Perspectives on Accounting* 33 (2015): 44–58, <https://doi.org/10.1016/j.cpa.2015.01.005>.

Paragraph (1) of the Environmental Protection and Management Law (UUPPLH), which states:

“Any party responsible for a business and/or activity that engages in unlawful actions leading to environmental pollution and/or degradation, causing harm to individuals or the environment, must provide compensation and/or take remedial actions.”

Additionally, Article 1365 of the Indonesian Civil Code reinforces this obligation, stating:

“Every unlawful act that causes harm to another person requires the party responsible for the harm to provide compensation for the resulting losses.”

These legal provisions emphasize that business entities responsible for environmental pollution must compensate affected community members. Should the responsible parties fail to fulfill this obligation, the government is required to intervene and provide restitution. This aligns with Sri Wahyuni’s argument that:

“Restitution for victims of environmental crimes may be provided by the government in cases where officials, through arbitrary actions or negligence, fail to fulfill their duties.”

As such, residents impacted by nickel mining-related environmental pollution in South Konawe Regency have the legal right to seek compensation from both the business entity responsible and/or the local government. The legal process for seeking compensation due to industrial environmental pollution in Sragen may be pursued through court proceedings in accordance with the applicable legal framework. Article 91, Paragraph (1) of the UUPPLH states:

“Communities have the right to file a class-action lawsuit on behalf of themselves and/or the public interest if they suffer losses due to environmental pollution and/or degradation.”

Moreover, compensation claims are not limited to affected individuals or communities; they may also be initiated by the central or regional government. Article 90 of the UUPPLH specifies:

“Government agencies and local governments responsible for environmental management have the authority to file lawsuits demanding compensation and specific remedial actions against businesses and/or activities that cause environmental pollution and/or degradation, leading to environmental harm.”

These legal provisions clearly establish that victims of industrial environmental pollution have multiple avenues for seeking compensation. Claims may be filed directly by affected community members or pursued by government institutions responsible for environmental protection. Therefore, Articles 90 and 91, Paragraph (1) of the UUPPLH

serve as essential legal foundations for ensuring that compensation is provided to victims of industrial environmental pollution in Sragen.

3.2. Government and Community Efforts to Mitigate Air Pollution

Air pollution is a global environmental challenge that significantly impacts human health and ecosystem sustainability. Amid rapid economic growth and urbanization, Indonesia faces escalating air pollution issues. In recent years, the Indonesian government has undertaken various initiatives to mitigate air pollution and improve air quality. The following are key policies and measures implemented by the government to address this issue:

1) Implementing Strict Policies and Regulations

The Indonesian government has enacted numerous policies and regulations to control air pollution. Law No. 32 of 2009 on Environmental Protection and Management serves as a comprehensive legal framework for addressing air pollution. Additionally, Government Regulation No. 41 of 1999 on Air Pollution Control and the Minister of Environment and Forestry Decree on Motor Vehicle Emission Standards establish specific emission limits and concrete measures to reduce air pollution.

2) Controlling Forest and Land Fires

One of the primary sources of air pollution in Indonesia is land and forest fires, particularly during the dry season. To mitigate this issue, the government has enforced strict prohibitions and regulations under Law No. 32 of 2009 on Environmental Protection and Management. Article 69 explicitly prohibits unauthorized burning activities that contribute to air pollution, except under special permits issued by relevant authorities.

3) Promoting Energy Transition and Sustainable Transportation

To reduce greenhouse gas emissions and other air pollutants, the Indonesian government is actively promoting renewable energy adoption and eco-friendly transportation. Given that transportation is a major contributor to urban air pollution, the government has implemented sustainable mobility initiatives, including expanding public transportation networks, encouraging the use of electric vehicles, and launching public campaigns to reduce private vehicle usage. If effectively implemented, these measures can significantly curb air pollution.

4) Strengthening Air Quality Monitoring and Law Enforcement

The Indonesian government has enhanced its air quality monitoring systems to detect pollution levels with greater accuracy. This improvement enables swift responses to deteriorating air conditions. Additionally, law enforcement efforts have intensified, targeting businesses and activities that contribute to air pollution violations.

5) Raising Public Awareness and Education

The government has initiated public awareness campaigns to educate communities about the health and environmental impacts of air pollution. These efforts encourage active public participation in pollution reduction strategies. In major cities, local governments have introduced policies such as the odd-even traffic restriction program to limit vehicle use, public transportation development initiatives to reduce dependency on private vehicles. These measures aim to decrease vehicle numbers on roads, thereby lowering gas emissions and mitigating air pollution.

6) Collaborating with Private and International Entities

Recognizing the transboundary nature of air pollution, the Indonesian government collaborates with neighboring countries, international organizations, and private sector stakeholders to address cross-border pollution impacts and develop joint solutions. These collaborations span multiple sectors, including environmental protection, public health, and energy policy. Through comprehensive policies, law enforcement, public engagement, and international cooperation, Indonesia continues to take proactive steps toward mitigating air pollution and fostering sustainable environmental practices.

The Indonesian National Human Rights Commission has urged the judicial panel to ensure the protection of human rights for the complainant and all relevant parties, particularly the fundamental right to breathe clean air as part of a clean and healthy environment. This right is guaranteed under Article 281, Paragraph (4) of the 1945 Constitution, in conjunction with Article 71 of Law No. 39 of 1999 on Human Rights. To uphold this right, the Commission has called on the President of the Republic of Indonesia, the Minister of Environment and Forestry, the Minister of Home Affairs, and the Minister of Health to:

- a) Enhance environmental standards and improve air quality in Jakarta and nationwide, aligning with scientific research, best practices, and international guidelines;

- b) Develop and implement measurable and effective policies and programs for air pollution control;
- c) Strengthen oversight and law enforcement related to activities, programs, policies, and both state and non-state actors that contribute to or have the potential to cause air pollution;
- d) Reduce the use of private vehicles that emit pollutants, enforce vehicle emissions controls, and promote the use of environmentally friendly public transportation;
- e) Implement stricter and safer emission standards for all coal-fired power plants and accelerate the transition to clean and renewable energy sources;
- f) Foster national and international collaboration to establish, maintain, and enforce effective legal frameworks for preventing, mitigating, and addressing the effects of air pollution;
- g) Take additional measures to protect vulnerable populations from the adverse effects of air pollution;
- h) Ensure public access to information, participation, and engagement in decision-making processes related to air pollution control.

Despite these efforts, air pollution in Indonesia remains inadequately addressed. The government's policies are considered insufficient in effectively reducing the root causes of air pollution. While the government plays a critical role in air pollution mitigation, a collaborative approach involving various stakeholders—including local communities, the tourism sector, and other industries—is equally essential. To achieve meaningful reductions in air pollution, the government must continue to take proactive measures, enhance law enforcement, monitor policy effectiveness, raise public awareness, and foster cooperation across multiple sectors to achieve a shared environmental goal.

CONCLUSION

Air pollution is defined as the deterioration of air quality due to contamination by substances—whether hazardous or not—that pose a risk to human health. It is most prevalent in urban and industrial areas, where emissions often contain harmful substances that exceed safe limits. Air pollution, whether occurring directly or indirectly, has significant negative impacts on surrounding ecosystems and communities. Strict law enforcement and effective government policies play a critical role in addressing air pollution and promoting environmental sustainability. While regulations governing air pollution control are already in place, consistent enforcement and stricter oversight remain major challenges. A comprehensive approach involving the government, local communities, and the private sector is necessary to develop holistic solutions for reducing air pollution.

To achieve a sustainable environment, the government must strengthen institutional collaboration, enhance law enforcement capacity, and implement more innovative and adaptive policies that respond to technological advancements and evolving environmental conditions. Through these measures, air quality can be effectively maintained, ultimately contributing to healthier communities and a more sustainable ecosystem.

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