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Rooting the Health Impact of Air Pollution: A Review of Human and Constitutional Rights

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Abstract

This research aims to explore the impact of air pollution on human health, emphasizing a perspective rooted in human rights and constitutional principles. The study employs a literature review method, gathering data and information from relevant sources on the topic. Researchers will utilize books and journals as data sources, employing a normative juridical method with a focus on the law to identify significant air pollution impacts that explicitly violate human rights and constitutional principles. Journal findings underscore the urgency of addressing air pollution as a primary priority in safeguarding these rights. The research implications assert that air pollution is not just a public health issue but also undermines fundamental human rights principles. In this context, the study indicates the need for concrete policies and actions to address air pollution in line with human rights and constitutional norms. These efforts are expected to create a healthy environment, ensuring the respect and protection of individuals' basic rights according to applicable legal foundations. The implementation of these solutions is not only a moral imperative but also supports efforts to uphold the integrity of human rights. Therefore, addressing air pollution is not solely the responsibility of public health but also an obligation to ensure that society lives in an environment that supports their basic rights. Thus, tackling air pollution becomes a tangible step in supporting overall well-being and human rights.

Keywords: air pollution; impact; health; human rights

Abstrak

Penelitian ini bertujuan untuk mengeksplorasi dampak polusi udara terhadap kesehatan manusia dengan penekanan pada perspektif hak asasi manusia dan konstitusional. Penelitian ini menggunakan metode studi literatur, dilakukan melalui pengumpulan data dan informasi dari literatur-literatur yang relevan dengan topik penelitian. Peneliti akan menggunakan buku dan jurnal, sebagai sumber data dalam penelitian dan menggunakan metode yuridis normatif dengan pendekatan pada Undang-undang untuk mengidentifikasi dampak signifikan polusi udara yang secara tegas melanggar hak asasi manusia dan konstitusional. Temuan jurnal menyoroti urgensi menangani polusi udara sebagai prioritas utama dalam melindungi hak-hak tersebut. Implikasi penelitian menegaskan bahwa polusi udara tidak hanya menjadi isu kesehatan publik, melainkan juga merusak prinsip-prinsip dasar hak asasi manusia. Dalam konteks ini, penelitian menunjukkan perlunya kebijakan dan tindakan konkret untuk mengatasi polusi udara, sejalan dengan norma-norma hak asasi manusia dan konstitusional. Upaya ini diharapkan mampu menciptakan lingkungan yang sehat dan memastikan bahwa hak-hak dasar setiap individu dihormati dan dilindungi sesuai dengan landasan hukum yang berlaku. Penerapan solusi ini tidak hanya menjadi suatu keharusan moral, tetapi juga mendukung upaya menjaga integritas hak asasi manusia. Oleh karena itu, mengatasi polusi udara bukan sekadar tanggung jawab kesehatan publik, melainkan juga kewajiban untuk memastikan bahwa masyarakat hidup dalam lingkungan yang mendukung hak-hak dasar mereka. Dengan demikian, penanganan

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polusi udara menjadi sebuah langkah konkret dalam mendukung kesejahteraan dan hak asasi manusia secara keseluruhan.

Kata Kunci: *polusi udara; dampak; Kesehatan; hak asasi manusia; konstitusional*

A. Introduction

Every year, air pollution continues to persist and becomes a significant health issue. Consequently, the air, which is a source of life for humans, will be contaminated and can cause health problems.¹ In principle, there are two types of air pollution sources, namely stationary sources and mobile sources. Stationary sources can be factories or industries, while mobile sources include all transportation vehicles that use fossil fuels. The activities of an industry play a potentially significant role in generating air pollutants. With technological advancements, air pollution from motor vehicles is increasing. In Indonesia, the number of motorcycles has shown a very significant increase. Therefore, mass transportation is needed to reduce the number of pollutants that contaminate the environment, especially the air. Poor air quality will have negative effects on human health. Motor vehicle emissions are dominated by carbon monoxide, particulate matter, nitrogen dioxide, and hydrocarbons, while ozone is a secondary pollutant produced by primary pollutants reacting with sunlight in the atmosphere.²

Furthermore, Indonesia, as a densely populated country (ranking fourth globally with a total population of 268 million people in 2019) and with a thriving industrial sector (evident in the Gross Domestic Product at current prices for the fourth quarter of 2019 reaching Rp. 4,018.84 trillion, with the Manufacturing Industry sector contributing the largest share to the Gross Domestic Product at 19.63 percent), is undoubtedly susceptible to air pollution.³

Air pollution is an escalating environmental issue that has negative impacts on human health. Consequently, it leads to respiratory problems, triggering respiratory diseases such as asthma, bronchitis, and pneumonia. Moreover, air pollution affects the fetal development of pregnant women. Pregnant women exposed to air pollution are at risk of complications during pregnancy, premature birth, and fetal developmental disorders. Additionally, air pollution contributes to chronic diseases such as lung cancer and chronic obstructive pulmonary disease. On the other hand, a decline in lung function occurs because children and

¹ Evita Della Ertiana, "Dampak Pencemaran Udara Terhadap Kesehatan Masyarakat: Literatur Review," *Jurnal Ilmiah Permas: Jurnal Ilmiah STIKES Kendal* 12, no. 2 (2022): 287–96.

² Mukono. (2011). *Aspek Kesehatan Pencemaran Udara*. Surabaya : Pusat Penerbitan Dan Percetakan Unair.

³ Urgensi Pengetatan et al., "Urgensi Pengetatan Baku Mutu Ambien Indonesia (Studi Kasus Gugatan Pemulihan Udara DKI Jakarta)" 8 (2020): 99–110.



the elderly are more vulnerable to air pollution. Long-term exposure to pollution can result in decreased lung function in children and worsen the health conditions of the elderly.⁴

The main causes and effects of air pollution are always linked to human activities. Humans are the primary and largest source of air pollution, and it is also humans who experience the impacts caused by such pollution. As defined in Article 1, Number 12 of Law No. 23 of 1997, it is the "Introduction or inclusion of living beings, substances, energy, and/or other components into the environment by human activities, causing its quality to decrease to a certain level that renders the environment unable to function according to its intended purpose." The purpose of this article serves as a reminder of the consequences of pollution, highlighting that addressing and mitigating these consequences are the responsibility of all parties involved.⁵

One of human rights is to have a good and healthy environment. According to this statement, the government of a country is responsible for safeguarding and regulating the management of the environment. Human rights to a decent and safe environment must be protected and managed. This includes the protection and management of clean air. As a result, it is crucial to consider the impact of air pollution on human health from a human rights and constitutional legal perspective. In this journal, the author will discuss the effects of air pollution on human health and its connection to human rights and the constitution.

B. Literature Review

Air pollution typically occurs in densely populated urban areas and industrial regions that emit gases exceeding reasonable standards, disrupting and contaminating air quality with various substances, including those harmful to human health.

Air pollution can have adverse effects on human health and is associated with human rights and constitutional principles. According to the right to a good and healthy environment, it is regulated in the Constitution of the Republic of Indonesia Year 1945 and Law Number 32 of 2009 concerning Environmental Protection and Management. Article 28h, Paragraph 1 of the Constitution UUD 1945 states that every person has the right to live a prosperous life, both physically and mentally, to have a place to live, to obtain a good and healthy environment, and to receive health services. Referring to the content of this article, every citizen, without exception, has the right to receive their rights as stipulated in the constitution of Indonesia. The state's obligation to protect the rights of every citizen includes implementing a system for the protection and management of the environment.

⁴ D A N Cara and Meminimalkan Risikonya, "DAMPAK BURUK POLUSI UDARA BAGI KESEHATAN," *Ecocentrism* 3 (n.d.): 47–58.

⁵ United Nations and Sumber Daya Alam, "LINGKUNGAN MENURUT ISLAM DAN UNDANG-UNDANG NO 23 TAHUN 1997 DALAM" 12 (2011).



Air pollution can lead to various diseases. According to the World Health Organization (WHO), air pollution is a major issue in environmental contamination. The presence of air pollution has detrimental effects on human health. Air pollution can impact human rights related to health. This study indicates that air pollution can cause various health problems, such as respiratory diseases, cancer, and other health issues. This can affect human rights concerning health. According to Article 65, Paragraph 1 of Law Number 32 of 2009 concerning Environmental Protection and Management, it states: "Every person has the right to a good and healthy environment as part of human rights".

C. Method

The research conducted using the literature study method is a secondary data collection method carried out through gathering data and information from relevant literature on the topic. In this study, the researcher utilized books, journals, and legal documents as data sources⁶, employing a normative juridical method with an approach to the law to identify the significant impacts of air pollution that explicitly violate human rights and constitutional principles.

Literature review is crucial in research as it helps researchers identify gaps in existing studies and provides inspiration for data collection. Additionally, literature review aids researchers in saving time and costs during data collection.

To conduct literature research, researchers must select literature relevant to the research topic and ensure that the information they acquire is valid and reliable. After collecting the data, the next step is to analyze it. Data analysis is a process involving the collection, processing, exploration, and utilization of information to discover patterns and additional insights.

In this research, a normative juridical method is also employed with an approach to the law to identify the significant impacts of air pollution that explicitly violate human rights and constitutional principles. The normative juridical method is a legal research method conducted by examining applicable legal regulations. In this case, the researcher will use the law as a data source to identify the significant impacts of air pollution that violate human rights and constitutional principles. Thus, this research will contribute to addressing the current global issue of air pollution.

D. Results and Discussion

Air pollution, commonly known as air contamination, is a situation where air quality is disrupted and contaminated by various substances, including those harmful to human

⁶ Annisa Nur Awaliyah Amri and Ali Muhtarom, "Implementasi Nilai Pendidikan Multikultural Dalam PAI (Telaah Buku Teks PAI Dan Budi Pekerti Terbitan Kemendikbud 2017)" 8, no. 1 (2021): 61–82.



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health. Typically, air pollution occurs in densely populated urban areas and industrial regions that emit gases exceeding reasonable standards.

Air pollution, according to the Government Regulation of the Republic of Indonesia Number 41 of 1999 concerning air pollution control in Article 1, Paragraph 1, is the introduction of substances, or energy, and/or other components into the ambient air due to human activities, causing a decrease in the quality of ambient air to a certain level that renders it unable to fulfill its function. According to Mukono (2006), air pollution refers to the increase of physical or chemical substances into the normal air environment, reaching a certain amount that can be detected by humans and has adverse effects on humans, animals, vegetation, and materials due to human activities (man-made).⁷ From these three definitions of air pollution, it encompasses the presence of foreign substances that disrupt the normal composition of air and pose a threat to humans, animals, plants, and the environment as a whole. There are two categories of air pollution: first, Primary Pollutants are directly emitted from specific sources. Primary pollutants can take the form of gases or particles. Gases include carbon compounds such as hydrocarbons, oxygenated hydrocarbons, and carbon dioxide (CO or CO₂), sulfur compounds like sulfur dioxide, nitrogen compounds like nitrogen dioxide, and halogen compounds like fluorine, chlorine, and bromine.⁸ Then, the second one, Secondary Pollutants, are pollutants formed in the atmosphere through photolytic, hydrolytic, or oxidative reactions, such as the formation of ozone and peroxyacetyl nitrate.⁹

Regarding air pollution, there are various types of air pollution sources, specifically, there are seven types of air pollution sources. First, carbon monoxide (CO), In this case the most dominant concentration of carbon monoxide gas (Environmental Agency 2014). The majority of carbon monoxide gas concentration is produced by motor vehicles, waste incineration, industrial activities, and others. The impact of carbon monoxide is highly hazardous to health, including long-term damage to the heart (Environmental Agency 2019).¹⁰ Second, Nitrogen Dioxide (NO₂) is the most toxic gas. Due to its lower solubility in water compared to SO₂, NO₂ can penetrate deeper into the respiratory system.¹¹ Third, Sulfur Dioxide (SO₂) is a colorless gas that becomes noticeable at concentrations of 0.3 ppm,

⁷ Siburian, Saidal. (2020). *Pencemaran Udara Dan Emisi Gas Rumah Kaca*. Jakarta Selatan: Penerbit Kreasi Cendekia Pustaka.

⁸ Ni Nyoman et al., "Hubungan Antara Pencemaran Udara Dalam Ruang Dengan Kejadian Pneumonia Balita," 2014, 392–403.

⁹ Jurusan Teknik Mesin et al., "Kaji Eksperimental Pengaruh Pembebanan Terhadap Emisi Debu Partikulat Pada Motor Bensin," *Jurnal Rekayasa Kimia Dan Lingkungan* 8, no. 2 (2011).

¹⁰ Prediksi Indeks et al., "Prediksi Indeks Standar Pencemaran Udara Di Kota Surabaya Berdasarkan Konsentrasi Gas Karbon Monoksida" 2, no. November (2021).

¹¹ Ni Putu et al., "DAMPAK PENCEMARAN UDARA TERHADAP KUALITAS UDARA DI" 2, no. 2 (2020).



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producing a strong odor at levels greater than 0.5 ppm. SO₂ is a gas that can be absorbed by the nasal mucosa and respiratory tract. High concentrations of SO₂ gas and H₂SO₄ (aq) can damage the lungs. The impact of SO₂ pollutants on humans is respiratory system irritation. Some studies indicate throat irritation occurs at SO₂ levels of 5 ppm or higher, and in some sensitive individuals, irritation occurs at levels of 1-2 ppm. SO₂ is considered a harmful pollutant to health, especially for the elderly and individuals with chronic respiratory and cardiovascular diseases (Department of Health, 2007).¹² Fourth, Chlorofluorocarbon (CFC) are human-made gases that can cause ozone depletion, leading to a gradual decrease in global ozone levels.¹³ With the depletion of the ozone layer (O₃) due to human-made chemicals, particularly chlorofluorocarbons (CFCs) widely used in the production of foam rubber, aerosols, and for cooling appliances such as refrigerators and air conditioners, more ultraviolet rays can enter the troposphere. In small amounts, these rays are beneficial for the body as they aid in the formation of vitamin D. However, the effects of these rays on health, at specific spectrums or wavelengths, can result in conditions such as redness, sunburn, blistering, corneal discomfort, and even skin cancer.¹⁴ Fifth, Hydrocarbons (HC) In the field of chemistry, hydrocarbons are compounds consisting of carbon (C) and hydrogen (H) elements. Hydrocarbons can cause irritation to the eyes, coughing, and skin rashes.¹⁵ Sixth, Lead (Pb) is a highly hazardous metal and is toxic to humans¹⁶ Lead (Pb) can poison the red blood cell formation system, leading to disruptions in the production of red blood cells, anemia, high blood pressure, and a reduction in kidney function. The impact on children includes a decrease in brain function and intelligence.¹⁷ Seventh, Particulate Matter (PM₁₀), the impact of Particulate Matter (PM₁₀) on human health and living organisms is as follows: there is no effect when the Air Quality Index (AQI) category is good (0-50). In the range of 51-100, categorized as moderate, particulate matter starts to cause a decrease in visibility. In the AQI range of 101-199, it is categorized as unhealthy, where particulate matter significantly reduces visibility, and dust pollution occurs everywhere. When categorized as very unhealthy in the range of 200-299, particulate matter increases sensitivity in patients

¹² Waluyo Eko Cahyono, "Kajian Tingkat Pencemaran Sulfur Dioksida Dari Industri Di Beberapa Daerah Di Indonesia" 12, no. 4 (2011): 132–37.

¹³ Putu et al., "DAMPAK PENCEMARAN UDARA TERHADAP KUALITAS UDARA DI."

¹⁴ Timoticin Kwanda, "Pembangunan Permukiman Yang Berkelanjutan Untuk Mengurangi Polusi Udara" 31, no. 1 (2003): 20–27.

¹⁵ Joko Winarno et al., "STUDI EMISI GAS BUANG KENDARAAN BERMESIN BENSIN PADA" 4, no. 1 (2014).

¹⁶ Julice Sopiti et al., "KADAR TIMBAL (Pb) DALAM URINE TERHADAP LAMANYA PEDAGANG KAKI LIMA BERJUALAN DI PASAR 45 KOTA MANADO TIMBAL LEVELS (Pb) IN URINE ON THE LONG TIME OF FIVE TRADERS TRADING IN THE MARKET 45 MANADO CITY," n.d., 87–92.

¹⁷ Winarno et al., "STUDI EMISI GAS BUANG KENDARAAN BERMESIN BENSIN PADA."

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with asthma and bronchitis. With an AQI value above 300, or in the hazardous category, exposure to particulate matter (PM10) is dangerous for the entire population.¹⁸

Air Quality Index (AQI) is a measuring tool that assesses the extent of air quality on a scale from 0 to 500. The higher the AQI value, the worse the air quality. The air quality range based on AQI, as explained by Putri (2022), provides a fairly clear picture that Air quality is considered healthy when it falls within the range of 0-50 on the scale. In this range, the air quality is satisfactory and poses no risk of air pollution. Air quality is considered moderate when it falls within the range of 51-100 on the scale. In this range, the air quality is still generally acceptable, but it may pose a risk to a small number of people with specific health conditions. In the range of 101-150 on the scale, the air quality is considered unhealthy for sensitive individuals. It is particularly potentially hazardous for individuals with respiratory and heart conditions, as well as those more susceptible to ozone exposure. In the range of 151-200 on the scale, the air quality is deemed unhealthy for all individuals. The impacts of air pollution begin to be felt by everyone, but they are most severe for those who are sensitive. Air quality in the range of 201-300 on the scale is considered very unhealthy. At this level, the air quality can lead to serious health disturbances for all groups of individuals. Finally, the air quality becomes extremely hazardous in the range of 301-500 on the scale. At this level, the air quality is highly dangerous and has reached an emergency stage. The impacts of air pollution can affect the entire population in that area.¹⁹

The World Health Organization (WHO) states that air pollution is a major issue in environmental pollution.²⁰ Air pollution is a serious problem that significantly impacts human health. According to the World Health Organization (WHO), its effects involve various organ systems, ranging from respiratory irritation to serious risks like lung cancer.²¹ Air pollution can also trigger asthma, one of the diseases caused by air pollution is asthma.²² Especially occurs in individuals who have a history of asthma. Subsequently, it can trigger lung cancer. Air pollution can increase the risk of lung cancer. In this case, both indoor and outdoor air pollution contribute to the occurrence of lung cancer.²³ According to WHO, hazardous

¹⁸ ALgustal Kurnialwaln, "PENGUKURALN PALRALMETER KUALLITALS UDALRAL" 7 (2017): 1-13.

¹⁹ Calral alnd Risikonyal, "DALMPALK BURUK POLUSI UDALRAL BALGI KESEHALTALN."

²⁰ Muhalmmald ALddin Rizalldi et all., "Literalture Review : Dalmpalk Palpalraln Gals Kalrbon Monoksidal Terhaldalp Kesehaltaln Malsyalralkalt Yalng Rentaln Daln Berisiko Tinggi" 21, no. 3 (2022): 253-265.

²¹ Msy Rosyidalh, "Polusi Udalral Daln Kesehaltaln Pernalfalsaln" 1 (2014): 2.

²² Palncal Talufik Kuralhmaln et all., "PENYEBALRALN ALSMAL MENGGUNALKALN METODE MALTEMALTIKAL" 4, no. 2 (2023): 1058-1066.

²³ Raldon Daln, Polusi Udalral, alnd Sebalgali Falktor, "RESIKO KALNKER PALRU PALDAL PEREMPUALN BUKALN PEROKOK ALSbestos , Raldon alnd ALir Pollution als Lung Calncer Risk Falctors in Non-Smoking Women Pandalhualn Kalnker Merupalkaln Sualtu Penyalkit Kegalnalsaln Yalng Terjalldi ALkibalt Sel-Sel Dallalm Menurut Daltal WHO Menyebutkaln Balhwal " 8, no. 1 (2022).

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substances in polluted air trigger lung cancer, which is a leading cause of cancer-related deaths in the United States. Furthermore, air pollution also affects children, causing lung infections and even influencing the development of their lungs and brains. Air pollution also has an impact on pregnant women. Exposure to air pollution during pregnancy can increase the risk of Low Birth Weight and infant mortality. Additionally, poor air particles can lead to inflammation and weaken the fetal placenta. This condition can result in premature birth and an increased risk of miscarriage.²⁴ The next impact is the most common effect on respiratory disturbances, such as coughing, shortness of breath, and wheezing. Shortness of breath is a condition of struggling to breathe, where individuals experiencing it often complain of shortened breath or a feeling of being choked.²⁵ Next, it can lead to Chronic Obstructive Pulmonary Disease (COPD). The disease is a respiratory disease mainly caused by environmental factors such as air pollution. It is characterized by progressive airflow limitation and is a major cause of morbidity and mortality worldwide. Other respiratory diseases include bronchitis, pneumonia, and respiratory infections.²⁶ Then, it can trigger heart disease, stroke, and premature death. All of these indicate that air pollution is not only a threat to physical health but also affects mental health.²⁷ Protection of human rights and constitutional rights related to health and the environment becomes crucial in responding to this crisis. Given the hazards posed to the respiratory system and overall health, air pollution poses a serious threat to human health. In this regard, the impacts of air pollution carry significant implications for human rights and constitutional rights related to a healthy life and a good environment. The importance of protecting these rights demands concrete actions in mitigating air pollution to ensure the well-being of the community and environmental sustainability, in line with the principles of human rights and the constitution.

From the exposition on air pollution, it is evident that air pollution can pose a threat to human health. Therefore, the author needs to examine this from the perspective of Human Rights and Constitutional principles. Human Rights, often referred to as HAM, constitute a set of inherent rights bestowed upon each individual as a gift from the Almighty. Therefore, the fulfillment, protection, and assurance of these rights must be provided by the state to prevent any acts of deprivation of this set of rights.²⁸ Human Rights are the rights possessed by humans solely because they are human. People have them not because they are granted by

²⁴ Calral alnd Risikonyal, "DALMPALK BURUK POLUSI UDALRAL BALGI KESEHALTALN."

²⁵ Mukhamad Aria Laksana et al., "Faktor – Faktor Yang Berpengaruh Pada Timbulnya Kejadian Sesak Napas Penderita Asma Bronkial Factors - Factors Influencing the Incidence of Genesis Shortness of Breath Bronchial Asthma Sufferers," 2008.

²⁶ Khalida Akmatul Arsyad and Yana Priyana, "Studi Kausalitas Antara Polusi Udara Dan Kejadian Penyakit Saluran Pernapasan Pada Penduduk Kota Bogor , Jawa Barat , Indonesia" 02, no. 06 (n.d.): 462–72.

²⁷ Cara and Risikonya, "DAMPAK BURUK POLUSI UDARA BAGI KESEHATAN."

²⁸ Nuansa Maqhasid et al., "Nuansa Maqhasid Al-Syariah Dalam Undang-Undang Nomor 39 Tahun 1999 Tentang Hak Asasi Manusia," 1999.

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society or based on positive law, but solely based on their dignity as human beings. In this sense, even though everyone is born with different skin colors, genders, languages, cultures, and citizenships, they still have these rights. This is what is referred to as universal human rights.²⁹

In Article 1, Paragraph 1 of Law Number 39 of 1999 Concerning Human Rights, it states that Human Rights are "a set of rights inherent in the nature and existence of humans as creatures of Almighty God and are His gift that must be respected, upheld, and protected by the state, the law, the Government, and every person, for the honor and protection of the dignity and worth of humans".³⁰ As rights inherent to humans, these rights are considered a gift from Allah. They must be respected by everyone for the honor and protection of human dignity. Human rights are commonly understood as fundamental rights bestowed by Allah. The term "human rights" consists of two words, where "rights" mean something that must be fulfilled, and "Inherent" means fundamental. Therefore, human rights are fundamental rights that must be fulfilled. Human rights typically react when various actions threaten human life, even though these rights are inherent in every individual. Hence, the constitutional guarantee is essential as a form of the state's recognition of human rights.³¹ As beings created by God with high dignity, Human Rights exist and are inherent in every human. Therefore, they are universal, meaning human rights apply everywhere.³² and for anyone and cannot be taken away by anyone. Furthermore, Human Rights are believed to have universal value. Universal value means it recognizes no boundaries of space and time. This universal value is then translated into various national legal instruments in different countries to protect and uphold human values.³³

In the perspective of Human Rights, the right to a clean and healthy environment is considered one of the human rights.³⁴ Then, in the law, it is stated that a healthy environment is the right of every citizen. Article 65 Paragraph 1 of Law Number 32 of 2009 Concerning

²⁹ Alston, Philip Dan Franz Magnis-Suseno. (2008). " *Hukum Hak Asasi Manusia*". Yogyakarta: Pusat Studi Hak Asasi Manusia Universitas Islam Indonesia.

³⁰ Undang-Undang Nomor 39 Tahun 1999 Tentang Hak Asasi Manusia (Lembaran Negara Republic Indonesia Tahun 1999 Nomor 165, Tambahan Lembaran Negara Republic Indonesia Nomor 3886), Diundangkan Di Jakarta 23 September 1999.

³¹ Bersenjata Kkb and D I Papua, "KEWAJIBAN PEMERINTAH INDONESIA TERHADAP PELANGGARAN HAM YANG DILAKUKAN OLEH KELOMPOK KRIMINAL" 9, no. 3 (2021): 854–69.

³² Elsa Aulia Fadhilah, Dinie Anggraeni Dewi, and Yayang Furi Furnamasari, "Hak Asasi Manusia Dalam Ideologi Pancasila" 5, no. 1215 (2021): 7811–18.

³³ Ketut Arianta et al., "E-Journal Komunitas Yustitia Universitas Pendidikan Ganesha PERLINDUNGAN HUKUM BAGI KAUM ETNIS ROHINGYA DALAM PERSPEKTIF HAK ASASI MANUSIA INTERNASIONAL Universitas Pendidikan Ganesha e-Journal Komunitas Yustitia Universitas Pendidikan Ganesha Jurusan Ilm" 3, no. 2 (2020): 166–76.

³⁴ Pengelolaan Lingkungan, Hidup Dalam, and Perspektif Otonomi, "Good Governance" VII, no. April 2008 (2014): 33–44.



Environmental Protection and Management states: "Every person has the right to a good and healthy environment as part of human rights." In the above article, it is clear that everyone deserves a good and healthy environment for a better future and ensured health.³⁵ Recognizing these human rights is directed towards vulnerable groups, as air pollution itself is a violation of human rights. Air pollution can affect vulnerable groups such as children, where poor air quality can impact their growth and lead to health problems such as acute respiratory infections, hypertension, and an increased risk of cancer. This group should receive protection to prevent diseases that can disrupt growth and development or even lead to death.³⁶ In this context, there is a Human Right for children to grow and develop healthily. An essential component of individual well-being is health, particularly for the elderly. As defined in Law Number 13 of 1998, the elderly are individuals who have reached old age, specifically 60 years or older.³⁷ The elderly are a vulnerable group highly affected by air pollution. They are more susceptible to health issues such as heart disease, stroke, and cancer. Another vulnerable group is pregnant women. Air pollution can affect the health of both the pregnant woman and the fetus. Poor air quality can lead to health issues such as premature birth, low birth weight, and respiratory problems in infants. From the above description regarding vulnerable groups, it is clear that air pollution is highly dangerous to human health. Therefore, in this matter, the state has an obligation to protect human rights from environmental harm and enhance efforts to ensure their people have access to a clean, healthy, and sustainable environment. Access to a safe, clean, healthy, and sustainable environment is a fundamental aspect of human rights.³⁸

From a constitutional perspective, it is stated in the constitution of Indonesia that every citizen has the right to a good and healthy environment, as regulated in Article 28H paragraph (1) of the 1945 Constitution, which states, "Every person has the right to live prosperous physically and spiritually, reside, and obtain a good and healthy living environment and has the right to obtain health services".³⁹ Referring to the content of that article, every citizen, without exception, has the right to receive their rights as stipulated in the constitution of Indonesia. The state's duty to protect the rights of every citizen includes

³⁵ Yudianto. Era Yudistira., Dan Atika Lusi Tania. (2019). *Pengelolaan Sampah Pengabdian Pedampingan Di Kota Metro*. Metro. : Lembaga Penelitian Dan Pengabdian Masyarakat Institute Agama Islam Negeri Metro Bekerja Sama Dengan Sai Wawai Publishing.

³⁶ Yulis Marita, Yulis Marita, and Wiwiet Susan Amelia, "FAKTOR-FAKTOR PENCEMARAN UDARA DALAM RUMAH DENGAN BASUKIKABUPATEN OKU TIMUR" 12, no. 2 (2023): 94–101.

³⁷ ALnalndal Lutfial ALnaisal, Orchideal Khoirun, alnd Nisal Taltik, "Fenomenal Healthh Consciousness Paldal Lalnsial" X, no. 1 (2021): 147–154.

³⁸ Nathaniel E Helwig, Sungjin Hong, and Elizabeth T Hsiao-wecksler, "Hak Masyarakat Atas Lingkungan Hidup Yang Baik Dan Sehat" 9, no. 1 (2013).

³⁹ ALmallial Yunial Ralhmalwalti, "Nalskalh ALkaldemik Daln Ralperdal Penyelenggalralaln Rumalh Kos Kalbupalten Kulon Progo," no. July (2020): 1–23.

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the establishment of a system for the protection and management of the environment.⁴⁰ With the guarantee of the right to a healthy environment in the legislation, the state has a legal obligation to safeguard and uphold that right. Therefore, the state is required to take necessary actions, including reducing and controlling air pollution, to ensure the fulfillment of this right.⁴¹

In the teachings of Islam, the Quran is considered the primary guide for life, containing directives on environmental protection and the responsible use of natural resources. The Quran addresses the concept of human responsibility as stewards of the Earth, signifying a crucial role in preserving and caring for the environment. According to Djuned (2016), humans act as subjects in the environment and simultaneously bear the responsibility of managing nature in this world (QS. Al-Baqarah/2:30, Fathir/35:39, Al-An'am/6:165, and Hud/11:61), implying that humans play a vital role in safeguarding the environment, just as God cares for His servants⁴². Therefore, to create a clean environment and healthy air, the role of the community is crucial in reducing the impact of air pollution on human health. By involving the community in efforts to raise awareness about air pollution, it is possible to foster more responsible behavior. Through proper education on the impacts of air pollution and preventive measures that can be taken, the public will become more conscious of the importance of maintaining clean air quality. Increased community awareness will also encourage active participation in air pollution mitigation efforts.⁴³ The role of the community in mitigating the impact of air pollution is crucial for human health. Some of the community roles that need to be undertaken to reduce the impact of air pollution include, the primary role of the community is to increase awareness that a clean environment and air are crucial for the sustainability of living beings, especially humans. The next role is to plant green trees. This is beneficial for air quality and public health. It will help communities breathe cleaner air due to the presence of green trees producing better oxygen. Planting trees is a more effective effort to reduce air pollution. Additionally, green trees can enhance the aesthetic value of the surrounding environment.⁴⁴ Then, enhance the utilization of public transportation. The community can utilize public transportation services such as buses or trains to reduce the use

⁴⁰ Helwig, Hong, and Hsialo-wecksler, "Halk Malsyalralkalt ALtals Lingkungan Hidup Yalng Balik Daln Sehat."

⁴¹ Palulus Lalw Journall and Lingkungan Hidup, "Halk ALSalsi Malnusia Daln Perlindungan Lingkungan Hidup," Palulus Lalw Journall 1 (2020): 48–58.

⁴² Muchammad Hafish Kamal and Reno Aditya Nasa Saputra, "Relevansi Ajaran Al- Qur ' an Terhadap Penyelesaian Polusi Udara Dan Kerusakan Lingkungan" 10, no. 2 (2023): 171–87.

⁴³ Dipal Dieng Balnjalmegalral, "Upalyal Malsyalralkalt Dallalm Penalnggulaingaln Polusi Udalral ALKibalt ALSalp Palbrik Geo Dipal Dieng Balnjalmegalral," inovals daln pengalbdialn kepalda malsyalralkalt 2 (2023): 612–622.

⁴⁴ Journall Pendidikaln et al., "Upalyal Malsyalralkalt Dallalm Penalnggulaingaln Polusi Udalral Pg Mertjaln Kotal Kediri," UDALRAL PG MERITJALN KOTAL KEDIRI Proqram Studi S1 Sosiologi , e-Journall Journall Pendidikaln Sosiologi Undikshal 5 (2023): 30–38.

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of motor vehicles that emit emissions. These forms of land transportation can significantly contribute to air pollution reduction.⁴⁵ The next role is to use bicycles or walk. By using bicycles or walking, it can reduce the use of motor vehicles and emissions. The use of active transportation modes such as walking and cycling has numerous benefits, including health benefits, congestion reduction, and, most importantly, preserving the environment from air pollution.⁴⁶ The next community role in reducing the impact of air pollution is by purchasing recycled products. In this regard, the community can buy recycled products to reduce waste and the pollution it causes. Recycling is the process of turning useless materials into new materials with market value.⁴⁷ "By purchasing recycled products, the community can help reduce the amount of waste generated and decrease the use of raw materials required to make new products. This can contribute to mitigating the negative impact of production and consumption on the environment, such as air pollution. The next role is reducing the use of motor vehicles. The increase in motor vehicles is currently perceived to have many negative impacts, especially on the environment. Air pollution is the result of exhaust gases from motor vehicles, which have adverse effects on public health. Motor vehicle emissions contain harmful carbon monoxide that poses health risks.⁴⁸ In this regard, to reduce the impact of air pollution, the community can occasionally use efficient and sufficient motor vehicles to minimize emissions. The final role that the community needs to undertake is by planting vegetables and fruits. To mitigate the effects of air pollution, it has become popular to cultivate fruits and vegetables at home.⁴⁹ The community can cultivate vegetables and fruits to maintain air quality and reduce waste. By taking these steps, the public can contribute to reducing the impact of air pollution and preserving environmental health.

E. Conclusion

Air pollution poses a serious threat to human health, with risks to the respiratory system and overall well-being. The presence of air pollution is a violation where individuals

⁴⁵ Jurnal Administrasi Publik, "PENTINGNYAL TRALNSPORTALSI UMUM UNTUK KEPENTINGALN PUBLIK," administrasi publik 12, no. April (2015): 19–34.

⁴⁶ Alrif Budimaln, Balmbalng Halri Wibisono, alnd Ogalwal Keiichi, "PROGRALM SEPEDAL GRALTIS UNTUK SISWAL SMP NEGERI DI KOTAL BLITALR , PROVINSI JALWAL TIMUR , INDONESIAI EFFECTIVENESS OF BIKE TO SCHOOL POLICY FOR JUNIOR HIGH SCHOOL STUDENTS IN BLITALR MUNICIPALITY , PROVINCE OF EALST JALVAL , INDONESIAI" 8, no. 3 (2020): 205–220.

⁴⁷ Local Binary Pattern, K-fold Cross Validation, and Support Vector, "Klasifikasi Sampah Daur Ulang Menggunakan Support Vector Machine DENGAN Fitur Local Binary Pattern" 1, no. 1 (2020): 78–90.

⁴⁸ Gusti Muhammad Seprihadaniansyah, Anton Kuswoyo, and Marlia Adriana, "Modifikasi Knalpot Menggunakan Katalitik Konvereter Dan Arang Akasia Guna Mengurangi Emisi Buang Gas Kendaraan," *Elemen* 5 (2018): 11–19.

⁴⁹ Jurnal Ilmiah and Teknologi Informasi, "Otomasi Greenhouse Berbasis Mikrokomputer," *Jurnal Ilmiah Teknologi Informasi Asia* 13, no. 2 (2019): 115–24.



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are denied their right to clean and healthy air. In this context, it is crucial to emphasize that the right to a good and healthy environment is considered a fundamental human right, as stated in the Indonesian Environmental Protection and Management Law. Article 65, Paragraph 1 asserts that every citizen has an integral right to a good and healthy environment as part of human rights. It is important to raise awareness that an environment supporting a better future and guaranteed health is a fundamental right that should be advocated by everyone. Furthermore, every citizen's right to a good and healthy environment is regulated in Article 28 H, Paragraph 1 of the 1945 Constitution of Indonesia. This article states that every person has the right to live prosperously, obtain a good and healthy environment, and receive health services. The Constitution affirms that every citizen has these rights without exception, and the state has the obligation to protect these rights through an environmental protection and management system. With the guarantee of the right to a healthy environment in legislation, the state has a legal obligation to take necessary actions, including efforts to reduce and control air pollution, to ensure the fulfillment of these rights.

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