

# Applying *In Dubio Pro Natura* in Environmental Crime Cases: Legal Perspectives in Indonesia

**Asmarani Ramli** 

Faculty of Law, Universitas Negeri Semarang, Indonesia

**Tegar Islami Putra**  

Faculty of Law, Universitas Negeri Semarang

**Natasya Fitri Dewanti** 

Faculty of Law, Universitas Negeri Semarang

**Salisa Widyaning Kinasih** 


Faculty of Law, Universitas Negeri Semarang

**Ridwan Arifin** 

Faculty of Law, Universitas Negeri Semarang

**Siti Hafsyah Idris** 

Faculty of Law, Universiti Teknologi MARA, Malaysia

 [tegarislami44@gmail.com](mailto:tegarislami44@gmail.com)

---

## Abstract

This research aims to analyze the application of the "*in dubio pro natura*" principle in Indonesia. This principle translates as "in

doubt, for nature" and emphasizes the importance of protecting nature and the environment in making legal decisions. This scientific research uses one of the parts of the grand method, namely Library Research which is based on literature or literature. The author uses several references as legal materials to analyze the object of writing. The results show that the application of the principle of "*in dubio pro natura*" is the foundation of the application of the concept of the precautionary principle that has entered the Indonesian legal order since the enactment of Law Number 32 of 2009, this principle is in line with the principles of environmental equity, bio diversity and polluter pays principle. In addition, this principle in Indonesia still faces challenges in its application. Several factors affecting the application of this principle in Indonesia include inconsistent government policies in environmental protection, lack of public understanding and awareness of the importance of nature conservation, and shortage of human and technical resources in environmental law enforcement.

## Keywords

*In Dubio Pro Natura, Environmental Law, Protection of the Environment, Environmental Law Enforcement*

## I. Introduction

Indonesia is one of the countries with extraordinary natural wealth, ranging from tropical forests, seas, mountains, and unique biodiversity.<sup>1</sup> However, uncontrolled exploitation, land

---

<sup>1</sup> A Maddinsyah, E Kustini, and S Syakhrial, "Penyuluhan Manajemen Pemanfaatan Sumber Daya Alam Untuk Meningkatkan Perekonomian

conversion, pollution and environmental damage pose a serious threat to the sustainability of nature and the environment in Indonesia.

On the other hand, environmental degradation in Indonesia, which is increasing day by day, has become an increasingly serious and urgent issue.<sup>2</sup> The country, which is rich in biodiversity and natural resources, faces many challenges that threaten its environmental sustainability. One of the main problems is rampant deforestation. Indonesia's tropical forests, including the third largest Amazon rainforest in the world.<sup>3</sup> Indonesia's tropical forests are experiencing high deforestation rates due to land conversion for agriculture, plantations and illegal mining. In addition, forest fires that occur regularly also pose a serious threat to forest ecosystems, livelihoods, livelihoods and even impact the identity of indigenous peoples.<sup>4</sup> This results in huge losses for biodiversity and the global climate.

In addition to deforestation, water and air pollution are also serious problems in Indonesia. Industrial, agricultural and

---

Keluarga Kampung Ciboleger Lebak,” *Jurnal Pengabdian Dharma Laksana* 1, no. 1 (2018): 71–80.

<sup>2</sup> Affilia, Afnila, and Rafiqoh, “Penegakan Hukum Lingkungan Dan Tantangan Revolusi Industri,” *Proceeding Seminar 2019*, 2018, 1–19.

<sup>3</sup> N. M. Arifa, “Kebakaran Hutan Kalimantan Barat Yang Mengakibatkan Terjadinya Kabut Asap Ekstrem Di Daerah Pontianak,” *Universitas Lambung Mangkurat Banjarmasin*, 2022, 1–12.

<sup>4</sup> M Pasai, “Dampak Kebakaran Hutan Dan Penegakan Hukum,” *Jurnal Pahlawan* 3, no. 1 (2020): 36–46. See also Dekiawati, Erla Sari. “Law Enforcement of Illegal Logging in Indonesia: Problems and Challenges in Present and the Future”. *Indonesian Journal of Environmental Law and Sustainable Development* 1, no. 1 (2022): 47-68. <https://doi.org/10.15294/ijel.v1i1.56777>.

domestic activities produce waste that pollutes rivers, lakes and seas, threatening aquatic life and the health of people who depend on these water sources.<sup>5</sup>

Introduction is the first chapter of the manuscript which must contain the background, problems, and methods. Introduction, including background is a description of information in connection with the emergence of research problems. The introduction also includes the author's interest in a subject which is supported by preliminary data and a brief description of the theory relevant to the subject and uses a deductive (general-specific) pattern.

Equality before the law is contained in Article 28D paragraph (1) of the 1945 Constitution, namely that every person has the right to recognition, guarantees of protection and fair legal certainty as a form of the consequences of the State as a rule of law.<sup>6</sup> Legal aid as a service to give advice. The definition of legal assistance in the Criminal Procedure Code according to M. Yahya Harahap is covering the provision of legal aid services professionally and formally in the form of providing legal aid services for everyone involved in criminal cases, both for Free to disadvantaged communities and for those who are unable able by

---

<sup>5</sup> S. K. Khotimah and Nasruddin, "Pencemaran Sungai Martapura Akibat Perilaku Masyarakat Membuang Sampah Di Sungai, Limbah Industri Dan Pertambangan (Human Behavior Environmental Analysis)," *Jurnal Penelitian Multidisiplin* 1, no. 2 (2022): 37–41.

<sup>6</sup> Afsinawati & M.A Santosa, *Bantuan Hukum Akses Masyarakat Marjinal Terhadap Keadilan: Tinjauan Sejarah, Konsep, Kebijakan, Peneraoan, dan Perbandingan di Berbagai Negara*, Jakarta, LBH Jakarta, pp. 97-98. See also Ridwan Arifin, "Legal Services and Advocacy in the Industrial Revolution 4.0: Challenges and Problems in Indonesia". *Indonesian Journal of Advocacy and Legal Services* 1(2), 2020, pp. 159-162.

advocates by receiving rewards for services rendered.<sup>7</sup> The largest source of pollutants in Indonesia's rivers and oceans is household waste (blackwater), light household waste (graywater) comes from the water used to wash household appliances, such as tableware, clothes, and others.<sup>8</sup> Air pollution also occurs, especially in big cities, which can interfere with public health, especially for residents who live in big cities, who live in industrial areas and dense motor vehicle traffic.<sup>9</sup> Coral reef destruction has become a serious global problem because of its impact on the environment and human survival.<sup>10</sup> Coral reefs, which are one of the most productive and diverse ecosystems in the world, have been damaged by pollution, habitat-destroying fishing, and climate change.<sup>11</sup> Coral reef damage threatens marine biodiversity and fisheries resources that provide livelihoods for many coastal communities in Indonesia.

In addition, solid waste management, hazardous and toxic waste (B3), and waste management issues are also major challenges in Indonesia. Environmental management is the prevention,

---

<sup>7</sup> Yahya Harahap, *Pembahasan Permasalahan dan Penerapan KUHAP Penyidikan dan Penuntutan*, Jakarta, Sinar Grafika, p. 348.

<sup>8</sup> W. I. Saputra, M. Hasyim, and F. G. Junus, "Perspektif Media Prancis Dalam Pemberitaan Pencemaran Air Di Indonesia," *Al Munzir* 13, no. 1 (2020): 19–34.

<sup>9</sup> J. S. Murdomo, S. Raharja, and K. Nurhidayah, "Kajian Hukum Terhadap Polusi Udara Dari Emisi Gas Buang Angkutan Trans Yogyakarta.," *DHAP 2021: Seminar Nasional Diseminasi Hasil Penelitian*, 2021, 153–159.

<sup>10</sup> W PurnamaSari and R. Liliani, "Teknologi Elektrolisis Untuk Mempercepat Pembentukan Batu Kapur Dalam Pertumbuhan Terumbu Karang," *Bincang Sains Dan Teknologi* 2, no. 1 (2023): 41–47.

<sup>11</sup> E. K. Eastwood, D. G. Clary, and D. J. Melnick, "Coral Reef Health and Management on the Verge of a Tourism Boom: A Case Study from Miches, Dominican Republic," *Ocean Coast* 138 (2017): 192–204.

mitigation of damage and pollution and the restoration of environmental quality has demanded the development of various policy tools and programs and activities supported by other environmental management support systems.<sup>12</sup> Lack of infrastructure and public awareness about the importance of sustainable waste management causes environmental pollution and negatively impacts human health as well as natural ecosystems.<sup>13</sup> Environmental degradation in Indonesia is not only a threat to biodiversity and natural ecosystems, but also impacts on public health, economic sustainability, and social and political stability. Therefore, environmental protection and the application of the principle of "in dubio pro natura" become very important to ensure the sustainability of a sustainable and supportive environment for future generations in Indonesia.

Meanwhile, the environment is becoming a global issue that is increasingly urgent to be considered globally, including in Indonesia as one of the countries rich in biodiversity and natural resources. The Constitution mandates the government, businessmen, and all elements of society to protect and manage the environment, in the implementation of sustainable and environmentally sound development.<sup>14</sup> Environmental protection and management efforts are an obligation for the state, government, and all stakeholders in the implementation of

---

<sup>12</sup> T. H. S. Juan valedra sitorus, "Penerapan Undang-Undang Terhadap Permasalahan Limbah Berbahaya Dan Beracun (B3) Dalam Konteks Hukum Lingkungan Di Indonesia," *Serina Iv Untar* IV (2022): 747–754.

<sup>13</sup> S. K. Altamis, M. I., Oktari, I., & Harahap, "Upaya Penegakan Hukum Terhadap Pencemaran Air Sungai Di Taman Mercy Deli Tua," *Journal Of Social Science Research* 3 (2023): 2734–2746.

<sup>14</sup> Helmi, *Hukum Perizinan Lingkungan Hidup* (Jakarta: Sinar Grafika, 2012).

sustainable development so that the Indonesian environment can remain a source and support of life for the people of Indonesia and other living things.<sup>15</sup>

In the face of environmental protection challenges, the legal principle of "in dubio pro natura" or "in doubt, for nature" becomes relevant. This principle prioritizes the interests of nature and the environment in making legal decisions when there is doubt or uncertainty. However, although the principle of "*in dubio pro natura*" is recognized as one of the important principles of environmental law, its implementation in Indonesia still requires a more in-depth study. This is because the results of the decision will be heavily considered through laboratories. However, in this case there are still problems, including different laboratory analysis, laboratory accreditation status, expert competence, and others.<sup>16</sup> However, actors such as government policy, public awareness, and law enforcement capacity need to be analyzed to understand the extent to which this principle is applied in the Indonesian context.

Therefore, this research aims to analyze the implementation of the "in dubio pro natura" principle in Indonesia. Through a descriptive-analytical approach, this research will analyze legal documents, literature studies, and relevant policies to identify challenges and opportunities in the implementation of this principle. This research is expected to

---

<sup>15</sup> Z Anantama, A. T., & Munawir, "Pertanggung Jawaban Pidana Karyawan Korporasi Dalam Tindak Pidana Lingkungan Hidup," *Jurnal Ilmiah Hukum* 2, no. 2 (2020): 119–131.

<sup>16</sup> F. Afandi et al., "Penggunaan Bukti Ilmiah Dan Penerapan Prinsip Kehati-Hatian Dalam Putusan Perkara Pidana Materiil Lingkungan Hidup Di Indonesia Tahun 2009–2020," *Jurnal Hukum Lingkungan Indonesia* 9, no. 1 (2023): 77–120.

provide a better understanding of the application of the "*in dubio pro natura*" principle in Indonesia and provide input for policy makers in dealing with increasingly complex environmental issues.

## II. Method

Based on this background, the research questions in this study include: (1) how is the application of the principle of *in dubio pro natura* in cases of environmental damage in Indonesia (2) how is the analysis of the principle of *in dubio pro natura* in the Indonesian legal system, and (3) how are the challenges of law enforcement on environmental damage in Indonesia.

Scientific research uses one of the grand method sections, namely Library Research which is based on literature. Based on the subject of study and the type of problem, of the 3 (three) types of grand methods mentioned above, this research will use the Library Research method. Regarding this kind of research, it is also commonly called "Legal Research".<sup>17</sup> This kind of legal research does not recognize field research because what is studied is legal material so that it can be said to be library based, focusing on reading and analysis and analysis of the primary and secondary materials.<sup>18</sup>

---

<sup>17</sup> S. Soekanto, S., & Mamudji, *Penelitian Hukum Normatif Tinjauan Singkat* (Jakarta: Rajawali Press., 2006).

<sup>18</sup> Johnny Ibrahim, *Teori Dan Metodologi Penelitian Hukum Normatif* (Malang: Bayumedia Publishing, 2006).



### III. Application of the *In Dubio Pro Natura* Principle in Environmental Damage Cases in Indonesia

Environmental damage in the portrait of social order occurs due to violations of the implementation of environmental law and mistakes and / or inappropriate in managing the environment. So that preventive and repressive environmental law enforcement is very much needed when there are deviations from the environment. The many cases of pollution and environmental damage that occur in Indonesia and in other countries reflect that toxic, hazardous materials and other environmental problems are things that must be taken seriously by the government and those responsible for businesses or activities, so that a structured restriction is needed. Namely, restrictions that are regulated by positively bound legal norms through regulation by institutions that have the authority to issue legal products.<sup>19</sup> Legal products that focus on the environment have the aim of preventing the decline or deterioration of environmental quality.<sup>20</sup> The

---

<sup>19</sup> H. M. I. Hakim, "Pemantapan Dimensi Etika Dan Asas Sebagai Penguatan Sistem Hukum Lingkungan Di Indonesia," *Audito Comparative Law Journal (ACLJ)* 2, no. 3 (2021): 16.

<sup>20</sup> I. M. C Werdaya, "Kekuatan Hukum Bukti Ilmiah Dalam Sistem Pembuktian Tindak Pidana Lingkungan Hidup.," *JIM: Jurnal Ilmiah Mahasiswa Pendidikan Sejarah* 8, no. 4 (2023): 3750–3770. See also Dewantara, Antonius Mahendra, and Dika Kirana Larasati. "Implementation of Progressive Law in Enforcement of Environmental Law in Indonesia: The Current Problems and Future Challenges". *Indonesian Journal of Environmental Law and Sustainable Development* 1, no. 2 (2022): 237-264. <https://doi.org/10.15294/ijel.v1i2.58044>.

emergence of this legal product is a result of human behavior that exploits nature, then has a negative impact on the environment itself.<sup>21</sup>

The court is one of the state's tools in upholding justice, therefore careful consideration is a must in every decision.<sup>22</sup> Several environmental dispute decisions have applied the *in dubio pro natura* principle. The *in dubio pro natura* principle itself means that if in handling a case there is doubt about the evidence, the judge prioritizes environmental protection in his decision.

There is a dualism of thought in environmental law enforcement, namely the environment is viewed superficially (shallow ecology), which is influenced by thoughts, one of which is about economics in the sense that the environment can be exploited and utilized as much as possible and seen in depth (deep ecology) where this thought sees that the environment must be maintained for the sake of ecology. The principle of *in dubio pro natura* can be one of the sources of law in solving philosophical problems of a legal event in which there is an element of doubt for the judge.<sup>23</sup>

Basically, the principle of *In Dubio Pro Natura* is a derivative of the precautionary principle that was formulated in the 1992 Rio Declaration. The principle of *In Dubio Pro Natura*

---

<sup>21</sup> A. Maulana, C. J. J. Waha, and D. R. Pinasang, "(2020). Penegakan Hukum Lingkungan Pidana Terhadap Perusahaan Yang Melakukan Dumping Limbah Bahan Berbahaya Dan Beracun (Limbah B3)., 8(5), 25–33.," *Lex Administratum* 8, no. 5 (2020): 25–33.

<sup>22</sup> E. Hadrian and L Hakim, *Hukum Acara Perdata Di Indonesia: Permasalahan Eksekusi Dan Mediasi*. (Yogyakarta: Deepublish, 2022).

<sup>23</sup> B. G. Spaltani, "Penerapan Kebijakan Hakim Bersertifikat Lingkungan (Pemenuhan Hak Spiritual Hakim Dalam Mewujudkan Ekokrasi Di Indonesia)," *Law and Justice* 3, no. 2 (2019): 98–112.

is the foundation of the application of the concept of the precautionary principle. This principle has entered the Indonesian legal order since the enactment of Law No. 32 of 2009. Indeed, in deciding a case and interpreting the law, judges should be independent, but in environmental law it is expected that the interpretation is based on the environment. In handling environmental cases, judges are expected to be progressive because environmental cases are complicated and there is a lot of scientific evidence, therefore environmental judges must have the courage to apply the principles of environmental protection and management and conduct judicial activism.<sup>24</sup> In Indonesia, the Supreme Court established an environmental judge certification system so that cases can be handled by judges who have the knowledge and understanding to ensure that environmental law enforcement can run well.<sup>25</sup>

Article 33 paragraph (3) of the 1945 Constitution of the Republic of Indonesia is one of the foundations of national natural resource management. The article contains the phrases "controlled by the state" and "for the greatest prosperity of the people". This has led to the assumption that it only benefits and favors business actors, while in reality natural resources in Indonesia have not been utilized to support national food and energy sovereignty. Various cases of environmental case decisions, judges can consider several existing principles, especially the principle of *in dubio pro natura*,

---

<sup>24</sup> F. Romana Harjiyatni and M. Caroline Anthony, "Studi Komparatif Penyelesaian Sengketa Lingkungan Di Pengadilan Tata Usaha Negara Indonesia Dan Thailand," *Jurnal Hukum Ius Quia Iustum* 29, no. 2 (2022): 371–391.

<sup>25</sup> P Haryadi, *Penyelesaian Sengketa Lingkungan Melalui Gugatan Perdata*. Sinar Grafika (Jakarta: Sinar Grafika, 2022).

which is not only in civil cases, but also in criminal and administrative cases by considering environmental cases must prioritize the principle of *in dubio pro natura*. The application of this principle is not enough with a court decision, the execution of the decision is important to be guarded, so that later the government must be able to ensure that the environmental damage that occurs can be restored.<sup>26</sup> In the context of punishment, the punishment system in the environment, basically aims to maintain the existence of the environment to its sustainable function.<sup>27</sup>

However, it should be added that legal protection is not solely for humans, but also for living things such as animals and plants. Arne Naess in 1972 introduced the philosophy of ecosophy or deep ecology in 1972. Arnes stated that the current environmental crisis can only be overcome by fundamentally and radically changing the way humans view and behave towards nature. In its embodiment, there are several significant impacts on the application of the *in dubio pro natura* principle when viewed from sociological and economic aspects.

#### a. Sociological Aspects

According to Hugo Grotius as a proponent of humanism, which Hugo viewed humans as persons, recognizing that each person has certain rights in society. International Court of Justice Judge Cançado Trindade in his separate opinion for the Pulp Mills case, he argued that

---

<sup>26</sup> H Assidiq, "Analisis Putusan Pemulihan Lahan Gambut Akibat Aktivitas Pembakaran PT. Kalista Alam Di Kawasan Ekosistem Leuser," *Jurist-Diction* 5, no. 3 (2022): 917–938.

<sup>27</sup> I Sari, "Unsur-Unsur Delik Materiel Dan Delik Formil Dalam Hukum Pidana Lingkungan," *Jurnal Ilmiah Hukum Dirgantara* 10, no. 1 (2019): 64–80.

principles such as prevention and precaution are formal sources of international law under Article 38 (1) (c) of the ICJ Statute, which represents a universal juridical conscience. In Indonesia, the settlement of environmental disputes through legal channels by filing environmental lawsuits is based on Article 34 of Law Number 32 of 2009 and Article 1365 of the Civil Code regarding "compensation for unlawful acts". In reality, it is still difficult for victims to "win" their lawsuit. Therefore, the role of judges in this situation is very important because judges are independent professionals in *ijtihad*, which in terms of the environment judges have the right to be guided by the principle of in *dubio pro natura*.<sup>28</sup>

b. **Economy Aspects**

The impact of the application of the in *dubio pro natura* principle in determining judges' decisions in Indonesia in the economic scope can be based on Aristotle's view from his book entitled *The Politics* which states "plants are prepared for the benefit of animals, and animals are provided for the benefit of humans".<sup>29</sup> Based on this argument, it can be understood that living things in the form of plants and animals in the environment that are naturally lower than humans are created to meet the needs of living things that are naturally higher than them, which in this case

---

<sup>28</sup> S Baldin and S. De Vido, "The in *Dubio pro Natura* Principle: An Attempt of a Comprehensive Legal Reconstructio," *Revista General de Derecho Público Comparado* 32, no. 9 (2022): 87.

<sup>29</sup> Retno Widiastuti and Ahmad Ilham Wibowo, "Pola Pembuktian Dalam Putusan Pengujian Formil Undang-Undang Di Mahkamah Konstitusi," *Jurnal Konstitusi* 18, no. 4 (2021): 27.

are humans. So that humans are allowed to treat living things that are below them according to their desires, needs, and interests in their survival in the world. This is legitimate to do because such is the nature of life and the purpose of creation, in turn humans are tools and ready to be used according to God's will.

Based on this argument, one of the things that can be implemented that has an impact on the economy is through forest management. This forest management is intended by carrying out planned deforestation of forests that do not have stands.<sup>30</sup> Forest stands are a scale of forest ecosystem units that are identified as more homogeneous in terms of characteristics, functions, and structure of existing plants, so that for forests that do not have stands, there will be a decrease in forest function from the stand and landscape level to no function at all or until it is lost. The management in question is to create a cash transfer scheme to the regions through the regional transfer funds related to the existence

---

<sup>30</sup> N. Indah et al., "Compliance Theory: Analyzing Zero Deforestation Commitment of Government and Private Sector in South Sumatera Province," *Journal of Natural Resources and Environmental Management* 11, no. 4 (2021): 638–652. See also and compare the case in Indonesia, Kusumo, Ridwanto Ardi, and Anang Wahyu Kurnianto. "Sak Uwong Sak Uwit for Environmental Protection Based on Local Wisdom: An Environmental Law Reform in Indonesia". *Journal of Law and Legal Reform* 1, no. 1 (2020): 35-48. <https://doi.org/10.15294/jllr.v1i1.35451>; Mahardika, Ega Rijal, and Muhammad Azhary Bayu. "Legal Politics of Indonesian Environmental Management: Discourse Between Maintaining Environmental Sustainability and Economic Interests". *Indonesian Journal of Environmental Law and Sustainable Development* 1, no. 1 (2022): 1-28. <https://doi.org/10.15294/ijel.v1i1.56781>.

of forest stands or forest conversion. This scheme focuses on developing community livelihoods based on forests and non-timber forest products under the responsibility of the government so as to strengthen the movement of the business world to achieve profitable businesses that remain environmentally oriented. Enforcement of environmental management laws is currently still difficult due to the difficulty of proof and determining the standard criteria for environmental damage.<sup>31</sup>

The settlement of environmental law cases has the aim of providing legal protection for victims of environmental pollution by filing environmental dispute lawsuits in public courts to compensate for losses. According to Achmad Santosa, that to determine a person or legal entity is responsible for losses caused by environmental pollution or destruction, therefore the plaintiff is required to prove the existence of pollution, as well as the relationship between pollution and losses suffered. Proving means providing certainty to the judge of the truth of the concrete events in dispute. One of them is in a civil case in the decision of the Supreme Court of the Republic of Indonesia Number 651 K/PDT/2015 containing the principle of *in dubio pro natura* as a form of legal discovery by judges to protect the environment as a manifestation of the concept of deep ecology. Deep ecology is an approach that considers it important to understand the environment as a living unit that supports each other, so that all

---

<sup>31</sup> B Parsaulian, "Analisis Kebijakan Dalam Upaya Penegakan Hukum Lingkungan Hidup Di Indonesia," *Jurnal Reformasi Administrasi* 7, no. 1 (2020): 56–62.

elements have the same meaning and importance.<sup>32</sup> The preservation of the environment through the role of judges can be described in the case, namely between PT Kallista Alam (KA) as the Cassation Petitioner against the Minister of Environment of the Republic of Indonesia as the Cassation Respondent.

The reasoning of the Panel of Judges regarding the application of the principle of *in dubio pro natura* is further clarified as stated below:

*"...in determining the causation between the activities of the Defendant and the occurrence of land fires, between land fires and environmental losses arising at present and their consequences in the future, it must be based on the doctrine of in dubio pro natura which implies that if faced with uncertainty of causation and the amount of compensation, decision makers, both in the field of executive power and judges in civil and administrative environmental cases must give consideration or judgment that prioritizes the interests of environmental protection and restoration."*

PT KA made a cassation appeal at the Supreme Court, from this appeal the Supreme Court judges found legal findings with judges who were pro-environmental protection which created positive and good jurisprudence for environmental sustainability. The panel of judges also argued that when faced with uncertainty of cause and effect and the amount of

---

<sup>32</sup> J. Aqidah and F. Ushuluddin, "Ekofilosofi 'Deep Ecology' Pandangan Ekosentrisme Terhadap Etika Deep Ecology," *Gunung Djati Conference Series* 19 (2023): 754–761.



compensation, the judge must base his consideration on the principle of *in dubio pro natura*. Even then it was also added:

*"The use of the in dubio pro natura doctrine in the settlement of civil and administrative environmental cases is not a far-fetched consideration because it turns out that the Indonesian legal system has recognized this doctrine which is based on the principles listed in Article 2 of Law Number 32 of 2009, namely precautionary, environmental equity, bio diversity and polluter pays principle."*

The use of the *in dubio pro natura* principle is basically because the Indonesian legal system has recognized the doctrine based on Article 2 of Law Number 32 of 2009, namely precautionary, environmental equity, bio diversity and polluter pays principle.

#### **IV. Analysis of the *In Dubio Pro Natura* Principle in the Indonesian Legal System**

In Indonesia, the concept of the environment as a legal subject develops at a practical level, namely at the level of jurisprudence. In the application of domestic justice, the doctrine of *in dubio pro natura* is interpreted as "*if in handling a case, the judge has doubts about the evidence, then the judge prioritizes environmental protection in his decision*". In the 1992 Rio Declaration, the concept of *in dubio pro natura* was originally part of the precautionary principle. The precautionary principle means that decision-making officials including Judges as decision-making

State Officials in law enforcement or dispute resolution if faced with "scientific uncertainty" do not necessarily conclude that no environmental consequences or damage have occurred but instead must make decisions in the interests of environmental protection or restoration (*in dubio pro natura*) because environmental damage is latent (not immediately visible) and often irreversible. In handling environmental cases, judges are expected to be progressive because environmental cases are complicated and there is a lot of scientific evidence, therefore environmental judges must have the courage to apply the principles of environmental protection and management, including the precautionary principles and conduct judicial activism.<sup>33</sup>

The application of this principle can be done by utilizing various instruments, for example in determining the liability rule of parties suspected of polluting and/or damaging the environment. In determining liability, there are two important things to consider, namely negligence and strict liability.<sup>34</sup> In relation to negligence, the person who causes the damage is liable if he or she applies substandard precautionary principles or does not apply them properly.<sup>35</sup> Meanwhile, in terms of strict liability,

---

<sup>33</sup> B Haritia and Hartiwiningsih, "Penerapan Asas Strict Liability Dalam Tindak Pidana Kebakaran Hutan Dan Lahan Yang Dilakukan Oleh Korporasi.," *Recidive* 8, no. 2 (2019): 111–121. *See also* Dewantara, Antonius Mahendra, and Dika Kirana Larasati. "Implementation of Progressive Law in Enforcement of Environmental Law in Indonesia: The Current Problems and Future Challenges". *Indonesian Journal of Environmental Law and Sustainable Development* 1, no. 2 (2022): 237-264. <https://doi.org/10.15294/ijel.v1i2.58044>.

<sup>34</sup> Haritia and Hartiwiningsih, 2019.

<sup>35</sup> Bayu Haritia and Haritiwiningsih, "Pandangan Hukum Internasional Terhadap Pengelolaan Sumber Daya Alam Dan Akibat Hukum Bagi

the person who causes the environmental damage is responsible for compensating for the damage caused by him. Strict liability itself applies to three types of offenses, namely public nuisance (disturbance to public order, blocking the road, emitting bad odors that disturb the environment), criminal libel (slander, defamation), and contempt of court (violation of court order). Here, the social costs must be borne by the perpetrator.<sup>36</sup> To prevent the perpetrator from bearing large social costs, the perpetrator should take preventive measures. In this strict liability, the perpetrator must still be responsible even though they have optimally applied the precautionary principle.

In general, the precautionary principle requires action at an early stage in response to environmental hazards, including in situations of uncertainty. Applying this principle means giving the benefit of the doubt to the environment, which is called in dubio pro natura. This precautionary principle emphasizes on how to prevent a decrease in the quality of the environment due to pollution. Article 88 of Law No. 32/2009 explains that every person whose actions use hazardous waste, produce hazardous waste, or pose a serious threat to the environment is absolutely responsible for the losses incurred without the need to prove the element of guilt. This article is a manifestation of the principle of Strict Liability.<sup>37</sup>

---

Lingkungan Hidup,” *Jurnal Kajian Hukum Dan Pendidikan Kewarganegaraan* 3, no. 2 (2023): 190–200.

<sup>36</sup> Haritia and Haritiwiningsih, 2023.

<sup>37</sup> M. E. Darma and A. Redi, “Penerapan Asas Polluter Pay Principle Dan Strict Liability Terhadap Pelaku Pembakaran Hutan,” *Jurnal Hukum Adigama* 1, no. 1 (2018): 1–27.

In the context of Indonesian law, prudence is one of the principles in environmental protection and management as stated in letter f of Article 2 of Law No. 32 of 2009. In this case, it is then explained in Article 4 that law enforcement is one form of environmental protection and management, so it becomes clear that the judge's decision as a form of law enforcement can be oriented to the principle of prudence. As previously stated in the Rio Declaration, the concept of *in dubio pro natura* was originally part of the precautionary principle, so *in dubio pro natura* in this case is in line with this principle.

The orientation of the objectives of environmental protection and management will refer to Article 3 of Law No. 32 of 2009, the application of *in dubio pro natura* is in line with letters a, c, d, e, and j which essentially explain that environmental protection and management aims to protect the territory of the Unitary State of the Republic of Indonesia from pollution and / or environmental damage, ensure the continuity of life of living things and the preservation of ecosystems, maintain the preservation of environmental functions, achieve harmony, harmony, and environmental balance, and anticipate global environmental issues.

In environmental case decisions in Indonesia, judges consider several principles, including the principle of *in dubio pro natura* as the basis for applying the concept of the precautionary principle that has entered the Indonesian legal order since the enactment of Law Number 32 of 2009. (Risaldi et al., 2018) In the decision of the Supreme Court of the Republic of Indonesia Number 651 K/PDT/2015, it was explained that the Indonesian legal system has recognized this principle as a doctrine that originates from the principles listed in Article 2 of Law Number

32 of 2009, namely precautionary, environmental equity, bio diversity and polluter pays principle. In addition, the application of the in dubio pro natura principle in the Decree of the Chief Justice of the Supreme Court of the Republic of Indonesia No. 36/KMA/SK/II/2013 dated February 22, 2013 concerning the Application of Guidelines for Environmental Cases explains that liability in environmental pollution and/or damage is given to the party that causes pollution and/or damage to the environment and to those who cause environmental damage are obliged to compensate for the damage caused by them.

## V. Challenges of Law Enforcement on Environmental Damage in Indonesia

Environmental law includes all rules governing the behavior of individuals towards the environment, with the possibility of applying sanctions by those who have the authority to impose such rules. Environmental law enforcement is an effort to achieve compliance with regulations and requirements in generally applicable and individualized legal provisions through supervision and the application (or threat) of administrative, criminal, and civil means.<sup>38</sup> Law No. 32 of 2009 on Environmental Protection and Management, Article 76 paragraph (2), outlines the administrative sanctions that can be imposed, such as written

---

<sup>38</sup> C. P Kilapong, "Penerapan Tindak Pidana Dalam Upaya Pengelolaan Dan Pemantauan Lingkungan Perspektif Penegakan Hukum," *Lex Crimen* VII, no. 7 (2019): 92–101. *See also* Ali, Mahrus, Rofi Wahanisa, Jaco Barkhuizen, and Papontee Teeraphan. "Protecting Environment through Criminal Sanction Aggravation". *Journal of Indonesian Legal Studies* 7, no. 1 (2022): 191-228. <https://doi.org/10.15294/jils.v7i1.54819>.

warnings, coercive government actions, suspension of environmental permits, and revocation of environmental permits. In resolving environmental disputes, there are two channels available in accordance with Article 84, namely out-of-court settlement and settlement through the court.

If an environmental crime is committed by a business entity or company, criminal prosecution and criminal sanctions will be imposed on the business entity or the individual who gave the order to commit the crime or who led the action, as described in Article 116 paragraphs (1) and (2). Criminal penalties include imprisonment and fines. In addition, Article 119 of Law No. 32/2009 also allows for additional criminal or disciplinary action against the business entity. Criminal provisions are intended to protect the environment by providing the threat of criminal sanctions.<sup>39</sup> In the spectrum of environmental law enforcement, crime is considered an effort to control environmental pollution and destruction.<sup>40</sup>

The function of law as a protector of various human interests must continue to be carried out, both in normal and peaceful situations, as well as when law violations occur. The ongoing decline in environmental quality is due to the lack of good natural resource management activities. This decline is always explained by the reason that the state aims to improve the welfare of all Indonesian residents. The challenge that arises is how to

---

<sup>39</sup> E. Susanto, "Penegakan Hukum Lingkungan Indonesia Dalam Aspek Kepidanaan," *Jurnal Ilmu Hukum* 11, no. 1 (2020): 44.

<sup>40</sup> Lubis, "Kebijakan Penghapusan Sanksi Pidana Terhadap Tindak Pidana Lingkungan Hidup Dalam Undang-Undang Nomor 11 Tahun 2020 Tentang Cipta Kerja," *Jurnal Eksekusi* 3 (2021): 1–17.

carry out environmental law enforcement in the era of Revolution 4.0.<sup>41</sup>

Legal certainty provides legal protection against arbitrary actions from the state, state officials, or other parties with power. Law enforcement and implementation must provide benefits in human life, and must not create discomfort in society. In addition, law enforcement must be fair, although law is not always synonymous with the concept of justice. Because what is fair for one party is not necessarily fair for the other party.<sup>42</sup> Therefore, it is important to pay attention to and apply together these three elements in law enforcement, namely legal certainty, expediency, and justice. Law enforcement involves steps to apply the law and take legal action against individuals or groups who violate or deviate from the law, either through conventional judicial processes or through arbitration and other dispute resolution mechanisms.

A civilized nation is one that carries out its legal functions with independence and honor. Independence and honor mean that in the implementation of law, it is important to favor the principles of justice. The implementation of law can reflect the values of justice, so the application of legal functions must also be done through philosophical thinking.<sup>43</sup> In its essence, this involves the application of the following values:

---

<sup>41</sup> Affilia, Afnila, and Rafiqoh, “Penegakan Hukum Lingkungan Dan Tantangan Revolusi Industri.”

<sup>42</sup> P Ariana and Y Setyadi, “Penegakan Hukum Dalam Putusan Hakim Untuk Perkara Yang Menimpa Masyarakat Kecil,” *Journal of Law and Nation* 2, no. 2 (2023): 82–88.

<sup>43</sup> B. J. Nasution, “Kajian Filosofis Tentang Konsep Keadilan Dari Pemikiran Klasik Sampai Pemikiran Modern,” *Yustisia* 3, no. 2 (2014): 23.

1. The value of equality, which means that equality is only achieved when the same is considered equal.
2. The value of truth, which implies that truth is only recognized as true if it corresponds to reality.
3. The value of independence, which means that something is only considered independent if it is acquired independently.

Law basically consists of norms, and in every norm there must be values, so the content of the law is actually a representation of these values. In its level, this value consists of a collection of norms contained in several types of written regulations that are binding on the public and arranged into a hierarchical unit that determines its legal position and strength.<sup>44</sup> Law enforcement in a broader sense involves actions to carry out and apply the law, as well as taking legal steps against any violations or deviations from the law committed by parties subject to the law. This can occur either through judicial proceedings or through arbitration processes and other means of resolving disputes. Furthermore, it also encompasses any activity aimed at ensuring that the law, as a normative framework that regulates and binds individuals subject to the law in all aspects of social and political life, is actually respected and faithfully executed.<sup>45</sup>

In its implementation, law enforcement against environmental damage in Indonesia has not been fully effective,

---

<sup>44</sup> N Irfani, "Asas Lex Superior, Lex Specialis, Dan Lex Pesterior: Pemaknaan, Problematika, Dan Penggunaannya Dalam Penalaran Dan Argumentasi Hukum.," *Jurnal Legislasi Indonesia* 17, no. 3 (2020): 305–325.

<sup>45</sup> J Riskiyono, "Partisipasi Masyarakat Dalam Pembentukan Perundang-Undangan Untuk Mewujudkan Kesejahteraan," *Aspirasi: Jurnal Masalah-Masalah Sosial* 6, no. 2 (2015): 159–76.



where in its development there are challenges that affect environmental law enforcement, among others:

1. Government policies that have not been consistent in environmental protection, one of which is found in the issuance of Law No. 32 of 2009. The issuance of the regulation is certainly aimed at improving the planning aspects and improving previous policies, but in its arguments and application there are still gaps that result in inconsistencies between the purpose of the issuance of the law and its application, namely the absence of articles and paragraphs that allude to the commitment of interest enforcers to manage the direction of the rate of environmental damage.<sup>46</sup> Furthermore, in the aspect of licensing, government policies provide greater opportunities for the development of environmental problems than limiting them. Where Article 36 of Law Number 32 of 2009 can still be easily bypassed by entrepreneurs, especially if the permit in question is given by the Ministry of Industry after a company is ready

---

<sup>46</sup> B Haritia and Hartiwiningsih, "Penerapan Asas Strict Liability Dalam Tindak Pidana Kebakaran Hutan Dan Lahan Yang Dilakukan Oleh Korporasi," *Recidive* 8, no. 2 (2019): 111–121. See also Putro, Widodo Dwi, and Adriaan W. Bedner. "Ecological Sustainability from a Legal Philosophy Perspective". *Journal of Indonesian Legal Studies* 8, no. 2 (2023): 595-632. <https://doi.org/10.15294/jils.v8i2.71127>; Wardani, Winda Indah. "How Can the Law Protect the Forest?". *Journal of Law and Legal Reform* 2, no. 4 (2021): 527-538. <https://doi.org/10.15294/jllr.v2i4.48757>; Yuliyanto, Eko, Maftukhatul Muna Alatiqoh, and Ahmad Husain Alfaruq. "Inter-Correlation Between Human Rights and Environmental Justice: A Discourse of Right to a Good and Healthy Environment in Indonesia". *Indonesian Journal of Environmental Law and Sustainable Development* 1, no. 2 (2022): 213-236. <https://doi.org/10.15294/ijel.v1i2.58045>.

to produce. Legal policy consistency is an important aspect in a country's legal system to achieve justice, stability, and predictability, which is also in line with the Theory of Legal Integration. The theory emphasizes the importance of integrating the various elements of law in a legal system so that they are aligned and consistent. This involves harmonizing between various laws, regulations, and jurisprudence so that there are no conflicts or inconsistencies in the law.

2. Low public understanding and awareness of the importance of nature conservation. The low interest and skills in conservation have caused Indonesia's environmental conditions to experience gaps in the existence, availability, and sustainability of resources.<sup>47</sup> Environmental problems that have occurred so far are mostly caused by human actions that are not responsible for the preservation of the environment.<sup>48</sup> In the continuity of sustainable human life, nature conservation is the responsibility of all levels of society, where nature conservation itself is a community effort in maintaining, preserving and continuing the process of greening nature itself. Everyone must make efforts to save the environment around us according to their respective

---

<sup>47</sup> E Syarif and A Saputro, "Pemberdayaan Putra-Putri Desa Sebagai Role Model Duta Konservasi," *Jurnal Masyarakat Mandiri* 6, no. 5 (2022): 3572–3579.

<sup>48</sup> T. B Sembiring, "Cermin Kecamatan Tanjung Pura Kabupaten Langkat Desa Pantai Cermin Merupakan Desa Binaan Prodi Ilmu Hukum Universitas Pembangunan Panca Budi," *Prosiding Seminar Nasional & Expo II Hasil Penelitian Dan Pengabdian Masyarakat 2019*, 2019.

capacities.<sup>49</sup> One proof of the lack of understanding and awareness of the community regarding the importance of environmental conservation can be seen in the case of excessive use of pesticides that occurred in the Brebes area, West Java, this is in accordance with the statement of the Brebes Agriculture Office which states that Brebes is one of the areas with the highest use of pesticides in Southeast Asia, especially on Red Onion crops so that it tends to cause environmental pollution. This environmental pollution occurs not only due to the excessive use of pesticides but also due to natural factors that can damage the ecosystem of human life, animals and plants.<sup>50</sup> Community Legal Awareness of the Environment Obedience and compliance with environmental laws and regulations are indicators of community legal awareness. According to the environmental management law, community participation is an important component, in addition to law enforcement, in achieving legal objectives through law enforcement tools in the environmental field.

3. Lack of human and technical resources in environmental law enforcement. Many environmental cases are stalled because the number of professional law enforcement officers capable of handling such cases is still very limited. In addition, it seems impossible to expect law enforcers to master various aspects of

---

<sup>49</sup> Akmal Ibrahim, "Kearifan Lokal Terhadap Konservasi Lahan Mangrove Di Gampong Lam Ujong Kecamatan Baitussalam Kabupaten Aceh Besar," *In Prosiding Seminar Nasional Biotik*, 2018.

<sup>50</sup> Hartoyo, "Potensi Bawang Merah Sebagai Tanaman Herbal Untuk Kesehatan Masyarakat Desa Jemasih Kec. Ketanggungan Kab. Brebes," *Jurnal Ilmiah Indonesia* 5, no. 10 (2020): 1109–1120.

the environment.<sup>51</sup> Environmental issues cover a wide and complex range of disciplines. Limited knowledge and understanding of environmental aspects by law enforcement officials is a dominant obstacle in achieving a common understanding in handling environmental cases. Furthermore, resource facilities function as a tool to achieve the objectives of environmental law enforcement. The absence or limitation of supporting facilities and resources (including funding) greatly affects the success of environmental law enforcement. In practice, handling environmental cases often involves sophisticated technological devices (laboratory equipment) that require expertise and large operational costs.

Legal awareness of environmental issues in a society stems from its perception of the environment. If an individual's perception of the environment is negative, meaning that they do not understand or appreciate the importance of environmental sustainability for life and livelihood, they tend to be indifferent to the environment. Limited legal awareness of the environment is often caused by a lack of public understanding of environmental aspects and the consequences of environmental pollution and degradation.

People's perception of the environment and their awareness of environmental issues can be nurtured and improved through efforts such as education, guidance, role models, and community involvement in addressing environmental issues. Therefore, increased law enforcement activities with educative,

---

<sup>51</sup> F. N Laily and F. U. Najicha, "Penegakan Hukum Lingkungan Sebagai Upaya Mengatasi Permasalahan Lingkungan Hidup Di Indonesia," *Wacana Paramarta: Jurnal Ilmu Hukum* 21, no. 2 (2022): 17–26.

persuasive and preventive dimensions need and should be promoted.

## VI. Conclusion

Finally, this study concluded that the *in dubio pro natura* principle can be one of the sources of law in solving philosophical problems of a legal event in which there is an element of doubt for the judge. In its implementation, there are several significant impacts on the application of the *in dubio pro natura* principle when viewed from sociological and economic aspects. In addition, the orientation of the objectives of environmental protection and management will refer to Article 3 of Law No. 32 of 2009, the application of *in dubio pro natura* is in line with letters a, c, d, e, and j which essentially explain that environmental protection and management aims for environmental protection. Furthermore, the study also highlighted that the challenge of law enforcement on environmental damage in Indonesia is related to the substance of the legislation that does not contain articles or paragraphs that allude to the commitment of the enforcers of interests to manage the direction of the rate of environmental damage, low public understanding and awareness of the importance of nature conservation.

## VII. References

Afandi, F., D. Adiarto, P. Listiningrum, and M. W. Lovina. "Penggunaan Bukti Ilmiah Dan Penerapan Prinsip Kehati-hatian Dalam Putusan Perkara Pidana Materiil Lingkungan Hidup Di Indonesia Tahun 2009–2020." *Jurnal Hukum*

- Lingkungan Indonesia* 9, no. 1 (2023): 77–120.
- Affilia, Afnila, and Rafiqoh. “Penegakan Hukum Lingkungan Dan Tantangan Revolusi Industri.” *Proceeding Seminar 2019*, 2018, 1–19.
- Ali, Mahrus, Rofi Wahanisa, Jaco Barkhuizen, and Papontee Teeraphan. “Protecting Environment through Criminal Sanction Aggravation”. *Journal of Indonesian Legal Studies* 7, no. 1 (2022): 191-228.  
<https://doi.org/10.15294/jils.v7i1.54819>.
- Altamis, M. I., Oktari, I., & Harahap, S. K. “Upaya Penegakan Hukum Terhadap Pencemaran Air Sungai Di Taman Mercy Deli Tua.” *Journal Of Social Science Research* 3 (2023): 2734–2746.
- Anantama, A. T., & Munawir, Z. “Pertanggung Jawaban Pidana Karyawan Korporasi Dalam Tindak Pidana Lingkungan Hidup.” *Jurnal Ilmiah Hukum* 2, no. 2 (2020): 119–131.
- Aqidah, J., and F. Ushuluddin. “Ekofilosofi ‘Deep Ecology’ Pandangan Ekosentrisme Terhadap Etika Deep Ecology.” *Gunung Djati Conference Series* 19 (2023): 754–761.
- Ariana, P, and Y Setyadi. “Penegakan Hukum Dalam Putusan Hakim Untuk Perkara Yang Menimpa Masyarakat Kecil.” *Journal of Law and Nation* 2, no. 2 (2023): 82–88.
- Arifa, N. M. “Kebakaran Hutan Kalimantan Barat Yang Mengakibatkan Terjadinya Kabut Asap Ekstrem Di Daerah Pontianak.” *Universitas Lambung Mangkurat Banjarmasin*, 2022, 1–12.
- Assidiq, H. “Analisis Putusan Pemulihan Lahan Gambut Akibat Aktivitas Pembakaran PT. Kalista Alam Di Kawasan Ekosistem Leuser.” *Jurist-Diction* 5, no. 3 (2022): 917–938.
- Baldin, S, and S. De Vido. “The in Dubio pro Natura Principle: An Attempt of a Comprehensive Legal Reconstructio.” *Revista General de Derecho Público Comparado* 32, no. 9 (2022): 87.
- Darma, M. E., and A. Redi. “Penerapan Asas Polluter Pay

- Principle Dan Strict Liability Terhadap Pelaku Pembakaran Hutan.” *Jurnal Hukum Adigama* 1, no. 1 (2018): 1–27.
- Dekiwati, Erla Sari. “Law Enforcement of Illegal Logging in Indonesia: Problems and Challenges in Present and the Future”. *Indonesian Journal of Environmental Law and Sustainable Development* 1, no. 1 (2022): 47-68. <https://doi.org/10.15294/ijel.v1i1.56777>.
- Dewantara, Antonius Mahendra, and Dika Kirana Larasati. “Implementation of Progressive Law in Enforcement of Environmental Law in Indonesia: The Current Problems and Future Challenges”. *Indonesian Journal of Environmental Law and Sustainable Development* 1, no. 2 (2022): 237-264. <https://doi.org/10.15294/ijel.v1i2.58044>.
- Eastwood, E. K., D. G. Clary, and D. J. Melnick. “Coral Reef Health and Management on the Verge of a Tourism Boom: A Case Study from Miches, Dominican Republic.” *Ocean Coast* 138 (2017): 192–204.
- Hadrian, E., and L Hakim. *Hukum Acara Perdata Di Indonesia: Permasalahan Eksekusi Dan Mediasi*. Yogyakarta: Deepublish, 2022.
- Hakim, H. M. I. “Pemantapan Dimensi Etika Dan Asas Sebagai Penguatan Sistem Hukum Lingkungan Di Indonesia.” *Audito Comparative Law Journal (ACLJ)* 2, no. 3 (2021): 16.
- Haritia, B, and Hartiwiningsih. “Penerapan Asas Strict Liability Dalam Tindak Pidana Kebakaran Hutan Dan Lahan Yang Dilakukan Oleh Korporasi.” *Recidive* 8, no. 2 (2019): 111–121.
- Haritia, Bayu, and Haritiwiningsih. “Pandangan Hukum Internasional Terhadap Pengelolaan Sumber Daya Alam Dan Akibat Hukum Bagi Lingkungan Hidup.” *Jurnal Kajian Hukum Dan Pendidikan Kewarganegaraan* 3, no. 2 (2023): 190–200.
- Hartoyo. “Potensi Bawang Merah Sebagai Tanaman Herbal Untuk Kesehatan Masyarakat Desa Jemasih Kec.

- Ketanggungan Kab. Brebes.” *Jurnal Ilmiah Indonesia* 5, no. 10 (2020): 1109–1120.
- Haryadi, P. *Penyelesaian Sengketa Lingkungan Melalui Gugatan Perdata*. Sinar Grafika. Jakarta: Sinar Grafika, 2022.
- Helmi. *Hukum Perizinan Lingkungan Hidup*. Jakarta: Sinar Grafika, 2012.
- Ibrahim, Akmal. “Kearifan Lokal Terhadap Konservasi Lahan Mangrove Di Gampong Lam Ujong Kecamatan Baitussalam Kabupaten Aceh Besar.” *In Prosiding Seminar Nasional Biotik*, 2018.
- Ibrahim, Johnny. *Teori Dan Metodologi Penelitian Hukum Normatif*. Malang: Bayumedia Publishing, 2006.
- Indah, N., H. Purnomo, D. Hero, Y., Okarda, B., Puspitaloka, and M. Sanjaya. “Compliance Theory: Analyzing Zero Deforestation Commitment of Government and Private Sector in South Sumatera Province.” *Journal of Natural Resources and Environmental Management* 11, no. 4 (2021): 638–652.
- Irfani, N. “Asas Lex Superior, Lex Specialis, Dan Lex Pesterior: Pemaknaan, Problematika, Dan Penggunaannya Dalam Penalaran Dan Argumentasi Hukum.” *Jurnal Legislasi Indonesia* 17, no. 3 (2020): 305–325.
- Juan valedra sitorus, T. H. S. “Penerapan Undang-Undang Terhadap Permasalahan Limbah Berbahaya Dan Beracun (B3) Dalam Konteks Hukum Lingkungan Di Indonesia.” *Serina Iv Untar* IV (2022): 747–754.
- Khotimah, S. K., and Nasruddin. “Pencemaran Sungai Martapura Akibat Perilaku Masyarakat Membuang Sampah Di Sungai, Limbah Industri Dan Pertambangan (Human Behavior Environmental Analysis).” *Jurnal Penelitian Multidisiplin* 1, no. 2 (2022): 37–41.
- Kilapong, C. P. “Penerapan Tindak Pidana Dalam Upaya Pengelolaan Dan Pemantauan Lingkungan Perspektif Penegakan Hukum.” *Lex Crimen* VII, no. 7 (2019): 92–101.



- Kusumo, Ridwanto Ardi, and Anang Wahyu Kurnianto. "Sak U Wong Sak Uwit for Environmental Protection Based on Local Wisdom: An Environmental Law Reform in Indonesia". *Journal of Law and Legal Reform* 1, no. 1 (2020): 35-48. <https://doi.org/10.15294/jllr.v1i1.35451>.
- Laily, F. N, and F. U. Najicha. "Penegakan Hukum Lingkungan Sebagai Upaya Mengatasi Permasalahan Lingkungan Hidup Di Indonesia." *Wacana Paramarta: Jurnal Ilmu Hukum* 21, no. 2 (2022): 17–26.
- Lubis. "Kebijakan Penghapusan Sanksi Pidana Terhadap Tindak Pidana Lingkungan Hidup Dalam Undang-Undang Nomor 11 Tahun 2020 Tentang Cipta Kerja." *Jurnal Eksekusi* 3 (2021): 1–17.
- Maddinsyah, A, E Kustini, and S Syakhrial. "Penyuluhan Manajemen Pemanfaatan Sumber Daya Alam Untuk Meningkatkan Perekonomian Keluarga Kampung Ciboleger Lebak." *Jurnal Pengabdian Dharma Laksana* 1, no. 1 (2018): 71–80.
- Mahardika, Ega Rijal, and Muhammad Azhary Bayu. "Legal Politics of Indonesian Environmental Management: Discourse Between Maintaining Environmental Sustainability and Economic Interests". *Indonesian Journal of Environmental Law and Sustainable Development* 1, no. 1 (2022): 1-28. <https://doi.org/10.15294/ijel.v1i1.56781>.
- Maulana, A., C. J. J. Waha, and D. R. Pinasang. "(2020). Penegakan Hukum Lingkungan Pidana Terhadap Perusahaan Yang Melakukan Dumping Limbah Bahan Berbahaya Dan Beracun (Limbah B3)., 8(5), 25–33." *Lex Administratum* 8, no. 5 (2020): 25–33.
- Murdomo, J. S., S. Raharja, and K. Nurhidayah. "Kajian Hukum Terhadap Polusi Udara Dari Emisi Gas Buang Angkutan Trans Yogyakarta." *DHAP 2021: Seminar Nasional Diseminasi Hasil Penelitian*, 2021, 153–159.
- Nasution, B. J. "Kajian Filosofis Tentang Konsep Keadilan Dari

- Pemikiran Klasik Sampai Pemikiran Modern.” *Yustisia* 3, no. 2 (2014): 23.
- Parsaulian, B. “Analisis Kebijakan Dalam Upaya Penegakan Hukum Lingkungan Hidup Di Indonesia.” *Jurnal Reformasi Administrasi* 7, no. 1 (2020): 56–62.
- Pasai, M. “Dampak Kebakaran Hutan Dan Penegakan Hukum.” *Jurnal Pahlawan* 3, no. 1 (2020): 36–46.
- PurnamaSari, W, and R. Liliani. “Teknologi Elektrolisis Untuk Mempercepat Pembentukan Batu Kapur Dalam Pertumbuhan Terumbu Karang.” *Bincang Sains Dan Teknologi* 2, no. 1 (2023): 41–47.
- Putro, Widodo Dwi, and Adriaan W. Bedner. “Ecological Sustainability from a Legal Philosophy Perspective”. *Journal of Indonesian Legal Studies* 8, no. 2 (2023): 595-632. <https://doi.org/10.15294/jils.v8i2.71127>.
- Riskiyono, J. “Partisipasi Masyarakat Dalam Pembentukan Perundang-Undangan Untuk Mewujudkan Kesejahteraan.” *Aspirasi: Jurnal Masalah-Masalah Sosial* 6, no. 2 (2015): 159–76.
- Romana Harjiyatni, F., and M. Caroline Anthony. “Studi Komparatif Penyelesaian Sengketa Lingkungan Di Pengadilan Tata Usaha Negara Indonesia Dan Thailand.” *Jurnal Hukum Ius Quia Iustum* 29, no. 2 (2022): 371–391.
- Saputra, W. I., M. Hasyim, and F. G. Junus. “Perspektif Media Prancis Dalam Pemberitaan Pencemaran Air Di Indonesia.” *Al Munzir* 13, no. 1 (2020): 19–34.
- Sari, I. “Unsur-Unsur Delik Materiel Dan Delik Formil Dalam Hukum Pidana Lingkungan.” *Jurnal Ilmiah Hukum Dirgantara* 10, no. 1 (2019): 64–80.
- Sembiring, T. B. “Cermin Kecamatan Tanjung Pura Kabupaten Langkat Desa Pantai Cermin Merupakan Desa Binaan Prodi Ilmu Hukum Universitas Pembangunan Panca Budi.” *Prosiding Seminar Nasional & Expo II Hasil Penelitian Dan Pengabdian Masyarakat 2019*, 2019.

- Soekanto, S., & Mamudji, S. *Penelitian Hukum Normatif Tinjauan Singkat*. Jakarta: Rajawali Press., 2006.
- Spaltani, B. G. “Penerapan Kebijakan Hakim Bersertifikat Lingkungan (Pemenuhan Hak Spiritual Hakim Dalam Mewujudkan Ekokrasi Di Indonesia).” *Law and Justice* 3, no. 2 (2019): 98–112.
- Susanto, E. “Penegakan Hukum Lingkungan Indonesia Dalam Aspek Kepidanaan.” *Jurnal Ilmu Hukum* 11, no. 1 (2020): 44.
- Syarif, E, and A Saputro. “Pemberdayaan Putra-Putri Desa Sebagai Role Model Duta Konservasi.” *Jurnal Masyarakat Mandiri* 6, no. 5 (2022): 3572–3579.
- Wardani, Winda Indah. “How Can the Law Protect the Forest?”. *Journal of Law and Legal Reform* 2, no. 4 (2021): 527-538. <https://doi.org/10.15294/jllr.v2i4.48757>.
- Werdaya, I. M. C. “Kekuatan Hukum Bukti Ilmiah Dalam Sistem Pembuktian Tindak Pidana Lingkungan Hidup.” *JIM: Jurnal Ilmiah Mahasiswa Pendidikan Sejarah* 8, no. 4 (2023): 3750–3770.
- Widiastuti, Retno, and Ahmad Ilham Wibowo. “Pola Pembuktian Dalam Putusan Pengujian Formil Undang-Undang Di Mahkamah Konstitusi.” *Jurnal Konstitusi* 18, no. 4 (2021): 27.
- Yuliyanto, Eko, Maftukhatul Muna Alatiqoh, and Ahmad Husain Alfaruq. “Inter-Correlation Between Human Rights and Environmental Justice: A Discourse of Right to a Good and Healthy Environment in Indonesia”. *Indonesian Journal of Environmental Law and Sustainable Development* 1, no. 2 (2022): 213-236. <https://doi.org/10.15294/ijel.v1i2.58045>.

### **Acknowledgment**

None

### **Funding Information**

This research funded by Universitas Negeri Semarang

### **Conflicting Interest Statement**

There is no conflict of interest in the publication of this article.

### **Publishing Ethical and Originality Statement**

All authors declared that this work is original and has never been published in any form and in any media, nor is it under consideration for publication in any journal, and all sources cited in this work refer to the basic standards of scientific citation.