



Reforming Environmental Criminal Law: A Comparative Study of the United States, the Netherlands, India, and Indonesia

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Industrial pollution and environmental destruction are now worldwide problems that call for a strong criminal justice system. To manage pollution and environmental damage, several nations have adopted different environmental punishment methods. To offer suggestions for enhancing Indonesia's environmental legal system, this study intends to examine the variations in environmental criminal law procedures in the US, the Netherlands, India, and Indonesia. Normative juridical study using a comparative legal perspective is the methodology employed. According to research findings, the US has stringent laws governing law enforcement that are founded on the Deferred Prosecution Agreement (DPA) and strict responsibility. While India has the National Green Tribunal to expedite the handling of environmental complaints, the Netherlands enforces the Environmental Management Act through a combination of administrative and criminal fines. The application of criminal penalties, which are typically ineffective, continues to present difficulties for Indonesia. To improve the efficacy of environmental law enforcement, this study suggests that Indonesia establish a special environmental court and implement an environmental recovery mechanism based on the polluter pays principle.

Keywords: Criminal justice reform, Comparative Law, Environmental Law

I. Introduction

Until now, both industrialized and developing nations' media coverage has been increasingly skewed by sustainable environmental challenges. The environment has become a hot topic due to people's growing knowledge of the value of environmental services and their sustainability. As is well known, the quality of the current environment is inversely correlated with economic development, which is the aim of the majority of nations worldwide. Environmental effects of economic development are frequently more detrimental than beneficial. Environmental deterioration results from the growing demand for energy, land, and natural resources brought on by economic expansion. Information on the environment is necessary for environmental managers to conduct environmental monitoring. This data is intended to

document the state of the environment at a specific point in time, including the extent of damage, the repairs that have been completed, and the actions that must be taken to provide input for future environmental planning.¹

Geographically, Indonesia is 1,892,410.09 km² (one million eight hundred ninety-two thousand four hundred ten point zero nine square kilometers), with the Indian Ocean to the west, Australia, East Timor, and the South China Sea to the south, Papua New Guinea and the Pacific Ocean to the east, and Malaysia, Singapore, Vietnam, the Philippines, Thailand, Palau, and the South China Sea to the north. Of Indonesia's 17,001 (seventeen thousand one) islands, 70% (seventy percent) are in the ocean and 30% (thirty percent) are on land. In order to collect, store, and naturally flow water from rainfall to lakes or seas, Indonesia has a large number of River Basin Areas (DAS), which are united land areas with rivers and their tributaries.²

In administrative terms, Indonesia has 38 (thirty-eight) provinces as of 2024. Out of the 34 (thirty-four) provinces that were previously there, four (four) new provinces have been added: Mountain Papua Province, South Papua Province, Central Papua Province, and Southwest Papua Province.³

From 2018 to 2023, Indonesia's Environmental Quality Index (IKLH) increased, as the table below illustrates:

Tabel 1 IKLH Indonesia 2018-2023

Year	IKLH	Explanation
2018	65,14	Initial improvement, focus on sustainable environmental management
2019	66,55	Improvement in air pollution control and water quality
2020	70,27	Positive trend despite the pandemic COVID-19
2021	71,45	Focus on pollution control and land restoration
2022	72,42	Efforts to improve the quality of water, air, and land
2023	72,54	Slight improvement, consistency in environmental management

Source: Ministry of Environment and Forestry of the Republic of Indonesia 2023

In the image, it shows that Indonesia's IKLH has indeed been continuously improving. In 2018, Indonesia's IKLH scored 65.1 (sixty-five point one) points and rose to 66.5 (sixty-six point five) points in 2019. In 2020, the figure increased by 70.3 (seventy point three) points and in 2021 it rose to 71.5 (seventy-one point five) points. In 2022, Indonesia's IKLH was at 72.4 (seventy-two point four) points, an increase of 0.9 (zero point nine) points compared to 2021. The calculation of Indonesia's IKLH is accumulated based on monitoring from 7,331 (seven thousand three hundred thirty-one) water quality monitoring locations, 3,076 (three thousand seventy-six) air quality monitoring locations, and 970 (nine hundred seventy) sea water quality monitoring locations throughout Indonesia.

Analysis of the IKLH trend each year shows that the IKLH has experienced a relatively stable increase. This improvement is influenced by efforts to control pollution, reforestation, and better waste management. The government emphasizes air quality, waste management, and natural resource conservation. Although there has been improvement, issues such as forest fires, marine pollution, and waste management still pose serious challenges. The improvement of the IKLH requires consistency in the implementation of environmental policies across all regions of Indonesia. This data shows significant progress, but continuous efforts are still needed to ensure environmental sustainability in Indonesia.

Forest and land burning (karhutla) is one of the most serious environmental issues in Indonesia. This activity, whether intentional or not, has caused widespread impacts on the environment, human health, and the economy. The impacts of the forest fires that occur, among others:

¹ Direktorat Statistik Ketahanan Sosial, Statistik Lingkungan Hidup Indonesia 2024 (Indonesia: Badan Pusat Statistik RI, 2024). Hlm. 3.

² Badan Pusat Statistik Indonesia, "Statistik Indonesia 2024," n.d. diakses pada 14 Desember 2024

³ Badan Pusat Statistik Indonesia.

1. Ecosystem Damage and Loss of Biodiversity; Forest fires destroy natural ecosystems and disrupt environmental balance. Habitats for rare species such as orangutans, Sumatran tigers, and Sumatran elephants are also lost due to the fires. Many flora and fauna are threatened with extinction because the forests that are their homes have been completely burned.
2. Air Pollution and Haze; The thick smoke produced from forest burning contains harmful particles (PM_{2.5}), carbon monoxide (CO), and other toxic substances. Haze causes visibility disturbances, hindering air and ground transportation activities. Air pollution causes health issues such as Acute Respiratory Infections (ARI), asthma, and chronic lung diseases.
3. Greenhouse Gas Emissions and Climate Change; Forest burning releases large amounts of carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) into the atmosphere. Indonesia has become one of the largest contributors to carbon emissions in the world due to forest fires. This exacerbates global warming and accelerates global climate change.
4. Soil Degradation and Loss of Land Fertility; Fires cause the loss of fertile soil layers and disrupt soil structure. Burned soil becomes more susceptible to erosion and loses its ability to support plant growth.
5. Clean Water Crisis; Ash and fire residue particles can contaminate surface and groundwater sources. River flows are often contaminated due to residues from burned materials.
6. Increasing Natural Disaster Risk; The loss of vegetation cover due to fires increases the risk of floods and landslides, especially in areas with high rainfall. Burned vegetation can no longer absorb water optimally.
7. Social and Economic Impact; Economic activities, such as agriculture and tourism, are disrupted due to forest fires and haze. Many communities affected have lost their livelihoods due to the damage to productive land. The cost of fire mitigation and its health impacts burden the national budget.

Overall, forest burning in Indonesia has caused ecosystem damage, widespread air pollution, land degradation, and health and economic crises. Therefore, an integrated approach involving the government, private sector, and society is essential to prevent and address this issue sustainably. However, environmental issues in Indonesia are not limited to deforestation. Other factors such as increased industrial activity and the exploitation of natural resources also contribute to pollution and ecosystem damage. The imbalance between economic growth and environmental sustainability often leads to detrimental impacts, both in terms of public health and ecological stability. Therefore, more effective law enforcement efforts are needed to control these negative impacts and ensure that environmental policies are not only reactive but also preventive and sustainable.

Environmental contamination has been greatly impacted by the growth of industry and the depletion of natural resources. To combat environmental crimes, a number of nations have created distinct criminal justice systems. To improve the efficacy of its environmental legislation, Indonesia, a developing nation with complicated environmental issues, must research and implement best practices from other nations. To identify the best methods for Indonesian environmental law enforcement, this study examines environmental criminalization in the US, the Netherlands, India, and Indonesia.

II. Research Problems

Based on the background above, the problems in this study are:

1. How do the United States and Indonesia compare in terms of environmental law enforcement?
2. How do the Netherlands and Indonesia compare in terms of environmental law enforcement?
3. How does the enforcement of environmental laws in India and Indonesia compare?

III. Research Methods

This study employs a comparative legal approach and a normative juridical method. Legislation and court decisions are examples of primary legal materials. Academic journals, books, and policy papers are examples of secondary legal materials from which data were gathered. To determine the advantages and disadvantages of each nation's criminal systems, a descriptive-comparative analysis was carried out.

IV. Result and Discussion

1. Comparison of environmental law enforcement between Indonesia and the United States

The United States, as one of the developed countries, has an industry that is rapidly growing. The development of industry in the United States is supported by abundant resources such as wood, coal, oil, iron ore, and so on, along with the support of technological advancements that facilitate production and distribution pathways. In the 19th century, the United States had four main basic industries that played a very important role, namely: food, textiles, wood, and iron-steel. These four industries dominated the American market, accounting for 54% (fifty-four percent) of the total industrial variety, and then evolved into many other varieties over time and with technological advancements, making the United States an industrial and economic giant in the world.⁴

Companies operating in the industrial sector make a very important contribution to the economy of the United States. This can be seen from the revenue generated by the industrial sector, which accounts for one-fifth of the GDP of the United States, as well as its absorption of the workforce.⁵ However, on the other hand, the increase in contributions from companies in the industrial sector is also accompanied by an increase in fuel consumption to meet production, which ultimately results in waste and emissions.

Industry in the United States contributes nearly one-third of the country's annual emissions, and the numerous cases of waste pollution generated by industrial companies have caused environmental problems in the United States. In response, the United States Government established a special agency to address environmental issues called the Environmental Protection Agency (EPA) in 1970 as a result of the National Environmental Protection Act congress. EPA has a mission to protect human health and the environment. In carrying out its mission, the EPA is granted the authority to: enforce regulations and create implementing regulations of environmental laws enacted by Congress; identify and solve environmental problems; collaborate with other stakeholders; allocate budgets for environmental recovery programs; educate the public about protecting the environment; including taking legal action against environmental pollution.⁶

In terms of efforts to protect the environment, the United States shares similarities with Indonesia, namely the use of codified criminal law instruments in the form of statutes (written law). This is intended to address environmental pollution, both through preventive measures and law enforcement.

Initially, the legal system in the United States largely originated from the common law of the English legal system that was in effect during the American Revolutionary War (1775-1783). Although the United States inherited the common law tradition from the English legal system, English common law has the characteristic of judicial precedent/*stare decisis*, where the law is formed and developed by judges through the application of legal principles to the facts of the case at hand. Judges are required to apply *ratio decidendi*, which is the consideration in making decisions based on rulings from higher courts within the same hierarchy. However, American

⁴ Graebner White Fite, *A History of American People*, (New York: Mc. Hill Book Company, 1970). Hlm. 660

⁵ United States Environmental Protection Agency, "Environmental Topics," n.d., <https://www.epa.gov/>. diakses pada tanggal 30 Oktober 2023.

⁶ United States Environmental Protection Agency.

law tends to have uniqueness and characteristics in many respects. The American legal system was severed from the English legal system since the end of the American Revolutionary War, so in practice, the American legal system grew and developed independently. The legal system of the United States also recognizes the existence of written legal sources (laws) which, in principle, are characteristic of the civil law legal system, just like in Indonesia. Such practices are already common between the common law and civil law systems, not only resulting in divergence but also convergence, where there is a blending that mutually utilizes concepts from other legal systems.

Therefore, there are four sources of law in the United States, namely: the Constitution, administrative law, statutes/laws, and common law. The Constitution is the highest and most important source of law in the United States legal system, and no legal product may contradict the Constitution of the United States. In addition, the United States Constitution serves as a guideline for Congress to enact a law.⁷

Under the authority granted by the United States Constitution, Congress enacted several laws as a form of environmental protection, one of which is the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) codified in 42 the United States Code Chapter 103 (1980) and has been amended several times, most recently in 2018. The presence of CERCLA is a response to the growing national concern over the disposal of hazardous waste into the environment. Through CERCLA, the EPA is authorized to take legal enforcement actions to hold accountable those who have posed threats to public health and safety and the environment by disposing of hazardous waste, and to ensure their cooperation in cleaning it up.⁸

CERCLA places the position of corporations as one of the subjects of criminal law as mentioned in Subchapter 1, Section 9601, Subsection 21, namely:⁹

“The term “person” means an individual, firm, corporation, association, partnership, consortium, joint venture, commercial entity, United States Government, State, municipality, commission, political subdivision of a State, or any interstate body”

The provision indicates that the term "any person" in CERCLA has a very broad scope, including: individuals, firms, associations, partnerships, consortiums, joint ventures, commercial entities, the United States Government, States, municipalities, political subdivisions of a State, or interstate bodies, including corporations.

CERCLA specifically mentions corporations and distinguishes them from firms, associations, partnerships, consortia, joint ventures, and commercial entities. In addition, CERCLA also includes state agencies (including the State) as subjects of criminal law. The fundamental difference with the PPLH Law is that corporations are not specifically mentioned but fall within the scope of legal entities or non-legal entities, whereas the PPLH Law does not include state agencies as criminal law subjects.

In terms of criminal liability, CERCLA, Subchapter I, Section 9607 regulates:¹⁰

- (a) Covered persons; scope; recoverable costs and damages; interest rate; "comparable maturity" date.
- (b) Notwithstanding any other provision or rule of law, and subject only to the defenses set forth in subsection (b) of this section:
 - (1) the owner and operator of a vessel or a facility
 - (2) any person who at the time of disposal of any hazardous substance owned or operated any facility at which such hazardous substances were disposed of.
 - (3) any person who by contract, agreement, or otherwise wrranged for disposal or treatment, or arranged with transporter for transport for disposal or ireatment, of hazardous substances owned or possessed by such person, by any other party or entity,

⁷ Wikipedia, "Hukum Amerika Serikat," n.d. diakses pada tanggal 30 Oktober 2023

⁸ Compensation and Liability Act (CERCLA)., "Comprehensive Environmental Response," n.d., <https://www.law.cornell.edu>. diakses 30 Oktober 2023

⁹ CERLA42, "Hazardous Substances Releases, Liability, Compensation" (n.d.).

¹⁰ CERLA42.

- at any facility or incineration vessel owned or operated by another party or entity and containing such hazardous substances, and
- (4) any person who accepts or accepted any hazardous substances for transport to disposal or treatment facilities, incineration vessels or sites selected by such person, from which there is a release, or a threatened release which causes the incurrence of response costs, of a hazardous substance, shall be liable for:
 - (a) all costs of removal or remedial action incurred by the United States Government or a State or an Indian tribe not inconsistent with the national contingency plan;
 - (b) any other necessary costs of response incurred by any other person consistent with the national contingency plan;
 - (c) damages for injury to, destruction of, or loss of natural resources, including the reasonable costs of assessing such injury, destruction, or loss resulting from such a release; and
 - (d) the costs of any health assessment or health effects study carried out under section 9604(i) of this title.

The amounts recoverable in an action under this section shall include interest on the amounts recoverable under subparagraphs (a) through (d). Such interest shall accrue from the later of (i) the date payment of a specified amount is demanded in writing, or (ii) the date of the expenditure concerned. The rate of interest on the outstanding unpaid balance of the amounts recoverable under this section shall be the same rate as is specified for interest on investments of the Hazardous Substance Superfund established under subchapter A of chapter 98 of title 26. For purposes of applying such amendments to interest under this subsection, the term "comparable maturity" shall be determined with reference to the date on which interest accruing under this subsection commences.

There shall be no liability under subsection (a) of this section for a person otherwise liable who can establish by a preponderance of the evidence that the release or threat of release of a hazardous substance and the damages resulting therefrom were caused solely by:

- (1) an act of God;
- (2) an act of war;
- (3) an act or omission of a third party other than an employee or agent of the defendant, or than one whose act or omission occurs in connection with a contractual relationship, existing directly or indirectly, with the defendant (except where the sole contractual arrangement arises from a published tariff and acceptance for carriage by a common carrier by rail), if the defendant establishes by a preponderance of the evidence that (a) he exercised due care with respect to the hazardous substance concerned, taking into consideration the characteristics of such hazardous substance, in light of all relevant facts and circumstances, and (b) he took precautions against foreseeable acts or omissions of any such third party and the consequences that could foreseeably result from such acts or omissions; or
- (4) any combination of the foregoing paragraphs"

Referring to Section 9607, corporate criminal liability under CERCLA adheres to the doctrine of Strict Liability for producers and transporters of hazardous waste. The purest form of the Strict Liability doctrine is in environmental cases where the perpetrator (corporation) has caused pollution or environmental damage, such as endangering the community with hazardous or toxic waste.

The legal substance that distinguishes it from Indonesia is that in the United States, it regulates the Deferred Prosecution Agreement/DPA mechanism, whereas in Indonesia, there is no regulation regarding DPA at all. DPA is a form of agreement made between the Public Prosecutor and the corporate defendant or its legal representative to defer prosecution in handling corporate misconduct, provided that the corporation fulfills several obligations as a

consequence of the crime it committed.¹¹ The DPA mechanism consists of 3 (three) stages, namely:¹²

First, the negotiation stage conducted during the indictment process. The Public Prosecutor will present the legal facts and then offer a deferred prosecution to the corporate defendant or their legal representative, on the condition that the corporation acknowledges the crime it committed and agrees to pay a fine, as well as other previously determined conditions (restitution, compensation for damages, restitution, corporate compliance programs, appointment of corporate monitors or advisors, and/or mechanisms to prevent similar actions in the future).

Second, the approval stage. At this stage, the Public Prosecutor will request an independent judge to assess the DPA clause, whether it reflects justice, rationality, and proportionality.

Third, the implementation stage. At this stage, if all the requirements in the DPA have been met by the corporate defendant, the charges will be dismissed through a court order. On the other hand, if the Public Prosecutor finds that the corporate defendant has not fulfilled the requirements, the Public Prosecutor will request the judge to continue the prosecution.

Currently, DPA has become the standard method in the United States legal system for resolving certain types of crimes committed by corporations, including environmental crimes. This is marked by the issuance of the Thompson Memorandum, which has undergone several changes and is now included in the United States Attorney's Manual.¹³

The DOJ of the United States also provides guidelines by explaining the provisions in the DPA, as follows:¹⁴

- a. Reading of the alleged criminal act and/or confession of guilt.
- b. Promise to cooperate with the Public Prosecutor.
- c. Promise to conduct business activities in accordance with applicable regulations.
- d. Setting aside legal restrictions.
- e. Waiving the rights to a trial.
- f. Acknowledgment that the agreement is not binding on other federal agencies.
- g. Acknowledgment that the agreement is open to the public.
- h. The provision stating that the statements of corporate employees or agents will not contradict the agreement.
- i. The provision stating that a violation will be grounds for continuing prosecution and the statement of facts in the agreement justifying the error will be accepted.
- j. DPA also often includes community service, criminal fines, corporate monitoring, and waiving special rights.

One example of the application of DPA in environmental crime cases in the United States is the case of United States of America vs. Sheffield Pharmaceuticals through Case No. 16 CR 225. The court ruling is an application of the DPA mechanism implemented by Sheffield Pharmaceuticals (a pharmaceutical and beauty product manufacturer) and is valid for a period of 7 (seven) years. Sheffield Pharmaceuticals from April 2004 to May 2011, has disposed of industrial waste without permission into the environment, and has not adhered to wastewater treatment systems in accordance with federal and state laws. This case was filed publicly in the District Court of Connecticut, United States. In accordance with the substance outlined in the DPA for the specified period, there are several actions that Sheffield Pharmaceuticals must undertake, including: paying a fine of 1 (one) million US Dollars; complying with the applicable

¹¹ Polly Sprenger, *Deferred Prosecution Agreement: The Law and Practice of Negotiated Corporate Criminal Penalties* (London: Sweet & Maxwell, 2014). Hlm. 77.

¹² Michael Bisgrove and Mark Weekes, "Deferred Prosecution Agreements: A Practical Consideration," *Criminal Law Review* 2014, no. 1 (2014): 416–38. Hlm. 428-429

¹³ D. L. Block, J. G., & Feinberg, "Look Before You Leap: DPA, NPAs, And the Environmental Criminal Case," *ALI-ABA Business Law Course Materials Journal*, 2010, 7–24. Hlm. 8.

¹⁴ Block, J. G., & Feinberg. Hlm. 9.

regulations to install a wastewater treatment system before discharging waste to the landfill in New London.¹⁵

Criminalization in environmental cases in the United States (US) and Indonesia differs in aspects of regulation, law enforcement, types of sanctions, and implementation effectiveness. The legal basis in the United States for enforcing laws in environmental cases includes the Clean Air Act (CAA), Clean Water Act (CWA), Resource Conservation and Recovery Act (RCRA), and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The environmental legal system in the US has specific and strong regulations, with agencies like the Environmental Protection Agency (EPA) authorized to enforce environmental laws.

Meanwhile, in Indonesia, the legal umbrella for enforcing laws in environmental cases is Law No. 32 of 2009 on Environmental Protection and Management (UUPPLH). This law regulates administrative, civil, and criminal sanctions in environmental management. Law enforcement is carried out by the Ministry of Environment and Forestry (KLHK) together with other law enforcement agencies.

Types of Legal Sanctions in the United States; Administrative Sanctions: Large administrative fines may be imposed, Civil Sanctions: Compensation for environmental damage and recovery costs, Criminal Sanctions: Imprisonment for individuals or companies that violate regulations, as well as very high fines. Meanwhile, in Indonesia, the types of sanctions imposed include administrative sanctions: written warnings, government coercion, suspension of environmental permits, up to permit revocation. civil sanctions: lawsuits for environmental damage, criminal sanctions: imprisonment and fines, but their implementation is often not optimal and tends to be weak in execution.

In addition to criminal penalties, the United States implements a concept where companies that pollute the environment are required to restore ecosystems and pay compensation to affected communities (application of the polluter pays principle) and focus on strict and transparent law enforcement to provide a deterrent effect. Whereas in Indonesia, there is a greater tendency towards rehabilitative and repressive approaches. The principle of *ultimum remedium* (punishment as a last resort) still dominates in the resolution of environmental cases. Often, resolutions are carried out through administrative mechanisms rather than criminal prosecution.

Environmental laws in the United States tend to be effective due to strong oversight and consistent enforcement. The Environmental Protection Agency (EPA) in the United States has significant authority to investigate and prosecute violators of environmental laws. They work together with the Department of Justice (DOJ) to ensure that offenders are punished fairly. Indonesia can strengthen the role of the Ministry of Environment and Forestry (KLHK) and collaborate with the Attorney General's Office to address environmental cases more effectively. In Indonesia, law enforcement still faces challenges such as impunity for large companies and weak oversight in remote areas. The lengthy legal process and convoluted bureaucracy often weaken the enforcement of environmental criminal law. It can be seen in the example In Indonesia, cases of Forest and Land Fires by large palm oil companies are only subject to administrative sanctions, while criminal penalties are rarely applied optimally. Meanwhile, in the case of the Exxon Valdez Oil Spill (1989) in the United States, which caused damage to the marine ecosystem in Alaska, Exxon was imposed with a large fine and an obligation for environmental restoration.

The United States has a whistleblower reward system, where individuals who report environmental crimes can receive financial compensation if their reports are proven true. Indonesia could adopt this system to encourage the public to be more active in reporting pollution and environmental crimes.

¹⁵ Anindytha Arsa Prameswari, Gerhard Mangara, and Rifdah Rudi, "Deferred Prosecution Agreement: Mekanisme Pertanggungjawaban Tindak Pidana Korporasi Terhadap Perusakan Lingkungan Melalui Paradigma Restorative Justice," *Jurnal Hukum Lex Generalis* 2, no. 12 (2021): 1200–1222, <https://doi.org/10.56370/jhlg.v2i12.154>. Hlm. 12

2. Comparison of environmental law enforcement between Indonesia Netherlands

The Netherlands is a country located in Northwestern Europe with additional island territories in the Caribbean. This country covers an area of 16,040 (sixteen thousand forty) square miles and has a population of approximately 17 (seventeen) million people. Geographically, the Netherlands is a low-lying country, with approximately 30% (thirty percent) of its area and 31% (thirty-one percent) of its population below sea level, and 50% (fifty percent) of its land less than one meter above sea level.¹⁶

As one of the developed countries, the Dutch economy is rapidly growing, ranking as the seventeenth largest in the world. In 2017 alone, the Swiss International Institute for Management Development ranked the Netherlands as the fifth most competitive economy in the world. This country also has a high level of economic freedom. According to the Economic Freedom Index, the level of economic freedom in the Netherlands ranks thirteenth as the largest free-market capitalist economy in the world and is one of the top 10 leading exporters in the world.¹⁷

The industrial sector plays a very important role in the economic growth of the Netherlands. Industrial activities account for approximately 17.9% (seventeen point nine percent) of the Dutch GDP and also absorb a significant amount of labor. Some industrial sectors in the Netherlands include: food processing, petrochemicals, metallurgy, manufacturing, transportation equipment, and electronics. The World Bank estimates that the manufacturing industrial sector alone contributes 11% (eleven percent) to the Netherlands' GDP.¹⁸

The growth of the industrial production index in the Netherlands increased by 2.6% (two point six percent) in September 2022. The value increased compared to the previous period, which was August 2022 at only 1.9% (one point nine percent). Overall, the average growth of the Dutch industrial production index was 0.7% (zero point seven percent) from January 2001 to September 2022. The highest increase occurred in April 2010, at 14.8% (fourteen point eight percent), but the industry in the Netherlands experienced a significant decline of -19.3% (minus nineteen point three percent) in April 2009.¹⁹

On one hand, the growth of the industrial sector significantly contributes to the Dutch economy, while on the other hand, it has the potential to pose threats to pollution and environmental damage. However, the Netherlands has succeeded in managing and protecting the sustainability of its environment.²⁰ This is supported by several factors, including: First, the implementation of waste management that utilizes technology. Waste management in the Netherlands is among the best in the world; currently, no less than 64% (sixty-four percent) of the waste generated is recycled, and the rest is incinerated to produce electrical energy. Second, the legal awareness and compliance of industrial companies in managing hazardous waste generated from production activities. Third, adequate political and legal support regarding environmental management regulations in the Netherlands.²¹

In terms of regulations regarding environmental management, the Netherlands has a legal system similar to Indonesia, namely civil law with the characteristic of a codification system that makes laws resulting from legislative products the primary legal reference. Therefore, the Netherlands uses a legislative and criminal law approach to regulate the management and protection of the environment.

Initially, environmental laws in the Netherlands were based on the Nuisance Act of 1875. Legislation regarding environmental protection only began in the 1960s, while sectoral laws were enacted afterwards, namely the Act on Chemical Waste 1976, the Noise Nuisance Act 1976, and the Act on Waste 1977, each with different procedures. To ensure procedural uniformity, the Provisions on Environmental Health were established in 1979, which have been amended several times, with the latest amendment on January 18, 1990, Stb.45. In its development, the law was

¹⁶ Wikipedia, "Belanda," n.d. diakses pada tanggal 30 Oktober 2023

¹⁷ Jenny Graham, "Industri Terbesar Di Netherlands," n.d., <http://www.vabru-nv.com/>. diakses pada tanggal 30 Oktober 2023

¹⁸ Jenny Graham., "Sektor Industri Barang Dan Jasa Negara Belanda," n.d. diakses pada tanggal 30 Oktober 2023

¹⁹ "Belanda Pertumbuhan Indeks Produksi Industri," n.d. diakses pada tanggal 30 Oktober 2023

²⁰ Tessa Sitorini, "Manajemen Limbah Belanda: Salah Satu Terbaik Di Dunia," n.d., [hups://www.kompasiana.com](https://www.kompasiana.com). diakses pada tanggal 30 Oktober 2023

²¹ Tessa Sitorini.

eventually adopted as the Environmental Management Act in 1993 and has been updated in 2004, so it is currently regulated under the Environmental Management Act 2004. In addition, the Economic Offences Act (*Wet op de Economische Delicten*) also regulates environmental crimes.²²

Almost all national environmental legislation in the Netherlands is incorporated into the Environmental Management Act. The law establishes an integrated approach to environmental management in the Netherlands and provides a legal framework by defining the roles of the national, provincial or regional, and municipal governments. In the regulation of environmental management, the scope of the Environmental Management Act includes several aspects, among others:²³

First, environmental plans, such as the national waste management plan, which regulates the collection, disposal, and permits for the shipment of hazardous waste. Second, environmental quality criteria for emissions and disposal of hazardous substances such as greenhouse gases and heavy metals into the air, water, and soil. Third, an environmental impact assessment (Amdal) becomes a requirement for the construction of major infrastructure such as oil refineries, power plants, chemical factories, roads, railways, and oil and gas pipelines. Fourth, licensing that allows community members and companies to use transparent procedures in applying for permits to a competent authority for activities that impact the physical environment. Large companies such as chemical factories are required to obtain environmental permits that set limits on the disposal of hazardous substances to the environment. Fifth, environmental reporting aimed at encouraging companies to engage in cleaner and more environmentally friendly production. For example, companies engaged in the metal processing and chemical production sectors are required to publish annual environmental reports, and the relevant ministries ensure that reporting requirements are met. In the report, the company needs to prepare data on waste and air emissions. Sixth, law enforcement through the Human Environment and Transport Inspectorate, which is responsible for ensuring the provisions of the Environmental Management Act are enforced. In addition, law enforcement is also the duty and responsibility of the city government, police, and the judicial system.

The fundamental difference with Indonesia is that environmental crimes in Indonesia are specifically regulated outside the Criminal Code (*lex specialist*) through the UUPPLH. Meanwhile, in the Netherlands, environmental crimes are not only specifically regulated under the Environmental Management Act but are also governed by general criminal provisions, namely in the Dutch Criminal Code (in English) or *Wetboek van Strafrecht* (in Dutch), or the Dutch Penal Code. Several environmental crimes regulated in the Dutch Criminal Code include:²⁴

Section 161 : "Any person who intentionally destroys, renders unusable or damages any water defence, water disposal, gas or water pipeline or sewerage infrastructure facilities, shall be liable to:

- 1°. a term of imprisonment not exceeding six years or a fine of the fifth category, if such act is likely to cause a risk of flooding or generally endanger property;*
- 2°. a term of imprisonment not exceeding nine years or a fine of the fifth category, if such act is likely to endanger the life of another person;*
- 3°. a term of imprisonment not exceeding fifteen years or a fine of the fifth category, if such act is likely to endanger the life of another person and the offence results in the death of a person".*

Section 172 : "1. Any person who intentionally and unlawfully introduces any substance into a drinking water supply installation or a water supply pipe shared by or with others, or frustrates the production of drinking water in or the supply of drinking water from the public drinking water supply shall be liable to:

²² Michael G. Faure and Gunter Heine, *Environmental Criminal Law in the European Union*, Edition lu (Strafrecht, 2000). Hlm. 236

²³ Government of the Netherland, "Environmental Management Act," n.d., <https://www.government.nl/>. diakses pada tanggal 30 Oktober 2024

²⁴ "Dutch Criminal Code" (n.d.), <https://www.ejin.eu>. diakses pada tanggal 30 Oktober 2023.

- 1°. a term of imprisonment not exceeding twelve years or a fine of the fifth category, if such act is likely to endanger another person;
- 2°. a term of imprisonment not exceeding fifteen years or a fine of the fifth category, if such act is likely to endanger the life of another person or the offence results in the death of a person.
 2. Any person who intentionally damages or renders unusable any public drinking water supply facility, causes the defective functioning or operation of such facility or frustrates a safety measure taken in respect of such system, shall be liable to a term of imprisonment not exceeding one year or a fine of the fourth category, if such act is likely to interfere with or disrupt the public drinking water supply".

Section 173 : "1. Any person who, through negligence, causes the unlawful introduction of a substance into a drinking water supply installation or a water supply pipe shared by or with others shall be liable:

- 1°. to a term of imprisonment not exceeding one year or a fine of the fourth category, if such act is likely to endanger the life of another person;
- 2°. to a term of imprisonment not exceeding two years or a fine of the fourth category, if such act is likely to endanger the life of another person and the offence results in the death of another person.
 2. Any person who, through negligence, causes any public drinking water supply facility to be destroyed, damaged or rendered unusable, which results in the defective functioning or operation of such facility, or causes a safety measure taken in respect of such facility to be frustrated, shall be liable, if such act interferes with or disrupts the public drinking water supply, to a term of imprisonment not exceeding six months or a fine of the fourth category".

Section 173a : "Any person who intentionally and unlawfully releases a substance onto or into the soil, into the air or into the surface water shall be liable to:

- 1°. a term of imprisonment not exceeding twelve years or a fine of the fifth category, if such act is likely to endanger public health or the life of another;
- 2°. a term of imprisonment not exceeding fifteen years or a fine of the fifth category if such act is likely to endanger the life of another person and the offence results in the death of a person".

Section 173b : "Any person who, through negligence, causes a substance to be unlawfully released onto or into the soil, into the air or into the surface water, shall be liable:

- 1°. to a term of imprisonment not exceeding one year or a fine of the fourth category, if such act is likely to endanger public health or the life of a person;
- 2°. to a term of imprisonment not exceeding two years or a fine of the fourth category, if such act is likely to endanger the life of another person and the offence results in the death of a person".

Regarding the subject of criminal law, when the Dutch Penal Code came into effect in 1886, the lawmakers held the view that crimes could only be committed by humans (*natuurlijke persoon*) with the paradigm that legal entities (*rechts persoon*) could not commit crimes. Therefore, before 1976, both in the Dutch Penal Code and in criminal regulations outside the Dutch Penal Code, it was determined that if a crime occurred in the context of a corporation, the criminal liability would be demanded from the controlling personnel of the corporation.²⁵In 1976, the Netherlands adopted corporate criminal liability through the law dated June 23, 1976 Stb.377, which came into effect on September 1, 1976. The Netherlands amended Article 51 of the Dutch Penal Code with a meaning that was completely different from the previous provisions. The amendment to Article 51 of the Dutch Penal Code has legal consequences that corporate criminal liability is not only imposed on individuals but can also be imposed on legal entities (corporations).²⁶

²⁵ Erik Gritter Berend F. Keulen, "Corporate Criminal Liability in the Netherlands," *Ius Gentium: Comparative Perspectives on Law and Justice* 09 (2010). Hlm. 178-179

²⁶ Jan Rimmelink, *Hukum Pidana: Komentar Atas Pasal-Pasal Terpenting Dalam Kitab Undang-Undang Hukum Pidana Belanda Dan Padananya Dalam Kitab Undang-Undang Hukum Pidana Indonesia* (Jakarta: Gramedia Pustaka Utama, 2003). Hlm. 102

Article 51 of the Dutch Penal Code after revision (English version) states:

- “ 1. Criminal offences can be committed by natural persons and legal persons.*
- 2. If a criminal offence is committed by a legal person, criminal proceedings may be instituted and such punishments and measures as prescribed by law, where applicable, may be imposed:*
 - 1° on the legal person; or*
 - 2° on those persons who have ordered the commission of the criminal offence, and on those persons who actually directed the unlawful acts; or*
 - 3° on the persons referred to in 1° and 2° jointly.*
- 3. In the application of the preceding subsections, the following shall be considered as equivalent to the legal person: the unincorporated company, the partnership, the shipping company and the special purpose fund”.*

The provisions of Article 51 of the Dutch Penal Code were then followed by criminal regulations outside the Dutch Penal Code, including the Environmental Management Act. Even in 2003, the Dutch Supreme Court suggested that a corporation could be held criminally liable when the crime committed by the corporation was either a commission or an omission in a reasonable manner. In order for this doctrine to be applied concretely, the Dutch Supreme Court provided a principle for guidelines regarding "reasonable attribution," namely:²⁷

“The attribution of certain (illegal) conduct to the corporation may under certain circumstances be reasonable if the (illegal) conduct took place within the ‘scope’ of the corporation”.

The Dutch Supreme Court then affirmed that there are four situations in which a behavior can be said to be carried out within the scope of a corporation, namely: ²⁸

- a. The conduct concerned fits the everyday “normal business” of the corporation.*
- b. The corporation gained profit from the conduct concerned.*
- c. The course of action was at the “disposal” of the corporation, and the corporation has “accepted” the conduct.*
- d. Acceptance including the failure to take reasonable care to prevent the conduct from being performed.*

Corporate criminal liability regulated in the Dutch Penal Code differs from that in Indonesia. This is because the legal subject in the Indonesian Penal Code (KUHP) is individuals and does not yet recognize corporate legal subjects. The legal subject of corporations in Indonesia is only regulated for criminal offenses outside the Criminal Code, one of which is the Environmental Protection and Management Law (UU PPLH).

In the context of corporate criminalization in the field of environmental law, there is a similarity between the Netherlands and Indonesia, namely the application of principal and additional penalties. Referring to Article 9 of the Dutch Penal Code, it establishes types of criminal sanctions, which consist of:

- a. Principal punishments: (1) Imprisonment; (2) Detention; (3) Community service; (4) Fine.
- b. Additional punishment: (1) Disqualification from certain rights; (2) Confiscation; (3) Publication of the judgment.

Based on the doctrine of criminal law in the Netherlands, the main penalty applied to corporations is only a fine, which the Dutch Penal Code categorizes into 6 (six) categories of fines. Whereas the Indonesian Penal Code does not regulate the categorization of fines at all. There are 6 (six) categories of criminal fines in the Dutch Penal Code, namely: Category I amounting to €390 (three hundred ninety euros); Category II amounting to €3,900 (three thousand nine hundred euros); Category III amounting to €7,800 (seven thousand eight hundred euros); Category IV amounting to €19,500 (nineteen thousand five hundred euros); Category V amounting to €78,000 (seventy-eight thousand euros); and Category VI amounting to €780,000 (seven hundred eighty thousand euros). The Dutch Penal Code provides guidelines for applying fine categories to corporations, namely:²⁹

²⁷ Sutan Remy Sjahdeini, *Ajaran Pidanaan: Tindak Pidana Korporasi & Seluk-Beluknya* (Jakarta: Grafiti Pers, 2006). Hlm.78-79

²⁸ Sutan Remy Sjahdeini.

²⁹ Dutch Criminal Code. Lihat Section 23 (4) & (7), diakses pada tanggal 30 Oktober 2023.

“In the case of conviction of a legal person, a fine up to the maximum of the next highest category may be imposed if the fine category specified for the offence does not provide for an appropriate punishment”.

Meanwhile, in the *Wet op de Economische Delicten*, there is also room for the application of additional criminal sanctions to corporations, such as: full or partial closure of the company; administrative orders; and/or the obligation for the company to repair the damage caused and restore the situation as if the crime had not occurred.

The Netherlands has a well-established environmental legal system, but still faces challenges in the enforcement of environmental criminal law, such as the weak deterrent effect of sanctions. The Netherlands tends to prioritize administrative sanctions (such as fines, revocation of permits) over criminal sanctions. Criminal prosecution is considered an *ultimum remedium* (last resort) and is rarely used, except for very serious environmental violations. The administrative approach sometimes does not provide enough deterrent effect for offenders who repeatedly violate environmental regulations. Criminal penalties for environmental violations in the Netherlands are often not proportional to the damage caused. Large companies tend to see fines as part of their operational costs rather than as serious sanctions. Prison sentences for environmental offenders are rarely imposed. The limited capacity of law enforcement agencies, the complexity of regulations, and the economic influence of large industries. The solutions to this problem include strengthening the capacity of law enforcement agencies, imposing stricter sanctions, and enhancing coordination with the European Union and other countries in addressing cross-border environmental crimes. With this step, the Netherlands can enhance the effectiveness of environmental law enforcement and ensure environmental sustainability in the future.

Environmental law enforcement in the Netherlands is carried out by the Independent Institute for Environmental and Transport Inspection (ILT), which has strong authority to investigate and take action against environmental violations. They work together with prosecutors to ensure that offenders receive fair sanctions. Indonesia can strengthen the role of KLHK and ensure the existence of an independent institution that can act without political or economic intervention.

In the Netherlands, companies that cause pollution are required to bear all the costs of environmental restoration. This principle makes companies more careful in their operations. Indonesia could implement a similar principle so that companies are not only fined but also held responsible for repairing the damage they cause. The Netherlands has courts that specifically handle environmental cases, making the judicial process faster and more focused. Indonesia could consider the establishment of an environmental court to handle pollution cases more effectively.

3. Comparison of environmental law enforcement between Indonesia and India

India is one of the countries with very rapid economic growth in recent decades, even experiencing its best moment in history. Almost all of its macroeconomic indicators have experienced positive growth with quite high figures, making India's economy the fifth largest in the world today.³⁰

Post-Covid-19 pandemic, India's economy grew by 13.5% (thirteen point five percent) in the April-June 2022 quarter. The growth figure is the highest since India recorded an economic expansion of 20.1% (twenty point one percent) in the same period in 2021. Although the achievement in that quarter fell short of the expectations set by the Reserve Bank of India (RBI), India remains the fifth-largest economy in the world and the third-largest in Asia.³¹

India's GDP growth was reported at 6.3% (six point three percent) in September 2022. India's GDP growth data averaged 7.3% (seven point three percent) from June 2005 to September

³⁰ Edwin Shri Bimo, “India Kini Jadi Ekonomi Terbesar Ke-5 Dunia, Salip Bekas Penjajahannya Inggris,” n.d., <https://www.kompas.tv/>. diakses pada tanggal 30 Oktober 2023.

³¹ Happy Amanda Amalia, “Ekonomi India Di Bawah Ekspektasi Walaupun Tumbuh 13,5%,” n.d., <https://investor.id/>. diakses pada tanggal 25 Juni 2024.

2022, reaching a peak of 20.1% (twenty point one percent) in June 2021 and a record low of -23.8% (minus twenty-three point eight percent) in June 2020. This growth is supported by the increase in the industrial sector in India, such as mining, manufacturing, construction, and agriculture.³²

The increase in the industrial sector on one hand correlates positively with India's economic growth, but on the other hand, it also contributes to pollution and environmental degradation. Some environmental issues in India include air pollution, water pollution, illegal waste within the country, and natural environmental pollution.

The population density in India reaches one billion people living in urban and rural areas. Urban areas are characterized by poor air quality and river pollution due to the disposal of untreated waste, as well as industrial waste that is directly dumped into the environment. Meanwhile, in rural areas, air pollution and soil degradation also occur due to the widespread use of chemical fertilizers and pesticides.

Air pollution in India is caused by factories around the city of Delhi that recycle electronic devices using strong hydrochloric acid to clean and process metals, thus becoming part of the air pollution problem in India. Another pollutant that binds at the same time as chloride particles comes from plastic burning, which is one of the causes of about half of the smog incidents in Delhi. In addition, vehicle emissions, coal and wood burning, and forest fires also contribute to air pollution in India, including in rural areas that heavily rely on wood fuel.³³

Hazardous waste produced by industries also causes river and groundwater pollution. Most rivers in India become polluted due to corporations directly dumping hazardous waste into the river flows, such as the pollution of the Ganges River from toxic waste from industrial factories. The Ganges River has become a religious site, an industrial hub, an irrigation and agricultural center, as well as a center of spiritual life and a water source for the Indian community. However, since it became polluted by toxic waste, many people have fallen ill after drinking and bathing in the waters of the Ganges.³⁴ In fact, the Regional Minister in India fell ill after drinking the river water.³⁵

Pollution and environmental degradation in India have impacted public health and also affected economic activities. Meanwhile, air pollution in India has caused an economic loss of 95 (ninety-five) billion US dollars. The losses due to pollution and environmental damage, it turns out, occur every year in India.³⁶ This is due to the weak enforcement of environmental crime laws by corporations, which is only based on fines.

In the Constitution of India, there is an obligation for the state in environmental protection, namely Article 48A: *"The State shall endeavour to protect and improve the environment and to safeguard the forests and wild life of the country"*; serta Pasal 51A (g): *"It shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers, and wild life, and to have compassion for living creatures"*.³⁷ Both articles of the Constitution emphasize that the state and society have a joint obligation and responsibility to protect and restore the environment.

India has a poor track record in environmental protection. The Union Carbide case (Bhopal) that occurred on December 3, 1984, witnessed the world's most devastating chemical disaster, resulting in the deaths of at least 8,000 (eight thousand) workers and nearby residents within the first three days after the gas leak incident at the Union Carbide India Limited factory. In addition, it also affected animals and caused extensive damage to crops.³⁸

Another environmental crime case caused by industrial activities is the Oleum Gas Leak case. The Supreme Court of India has issued a ruling in favor of public interest by imposing

³² Happy Amanda Amalia.

³³ Rosy Dewi Arianti Saptoyo, "Studi Ini Menunjukkan Fakta Pencemaran Udara Di India Akibat Plastik," n.d., <https://www.kompas.com/>. diakses pada tanggal 25 Juni 2024.

³⁴ CNN Indonesia, "Derita Sungai Gangga Situs Suci Yang Kini Tercemar & Beracun," n.d., <https://www.cnnindonesia.com/>. diakses pada tanggal 25 Juni 2024

³⁵ Detik, "Mentri India Masuk RS Usai Minum Langsung Air Sungai Suci," n.d., <https://news.detik.com/>. diakses pada tanggal 25 Juni 2024

³⁶ Yoair, "Dampak Isu Lingkungan Di India Dan Solusinya," n.d., <https://www.yoair.com/>.

³⁷ Ministry of Law and Justice of India, "The Constitution of India," n.d., <https://legislative.gov.in/>. diakses pada tanggal 25 Juni 2024

³⁸ Andi Hamzah, *Penegakan Hukum Lingkungan* (Jakarta: Sinar Grafika, 2008). Hlm. 20.

sanctions on the corporation that caused the environmental pollution by requiring them to pay compensation.³⁹

Various environmental crime cases that have occurred do not mean that the Indian Government does not regulate the right to enjoy a healthy environment for all its citizens. After the Union Carbide India Limited case, the Government of India enacted environmental laws, namely The Environmental (Protection) Act, 1986, which regulates the prevention of pollution and environmental damage, including strict supervision of hazardous substances. In Article 16 of The Environmental (Protection) Act, 1986, it is stated that India provides special regulations regarding environmental crimes committed by companies (corporations).⁴⁰

The Supreme Court of India in the cases of *Maneka Gandhi vs. Union of India*, AIR 1978 SC 597 and *M.C. Mehta vs. Union of India*, AIR 1987 SC 1086 (Oleum Gas Leak Case), [1] as well as the High Court in the case of *T. Damodar Rao vs. S.O Municipal Corporation* AIR 1987, [2] mandated corporations to participate in environmental protection while conducting business activities in India.

Another provision regarding environmental protection is also included in Article 166 (2) of The Company Act 2013, which requires directors to base their actions on good faith in achieving corporate goals for the benefit of members, employees, shareholders, society, and environmental protection. The article states that every action taken by the corporate director is not solely based on profit but must also accommodate environmental protection. In addition, Article 1355 of The Company Act 2013 related to Corporate Social Responsibility states that corporations have an obligation to allocate a certain amount of funds for the purpose of ensuring environmental sustainability.⁴¹

Although India has a fairly comprehensive environmental legal framework and the presence of the National Green Tribunal (NGT) as a specialized environmental court, environmental law enforcement in India still faces various challenges. Some of the main issues in environmental law enforcement in India, despite the existence of the National Green Tribunal (NGT) which handles environmental disputes more quickly, the number of cases filed often exceeds the court's capacity. Resolving environmental cases in regular courts tends to take years, resulting in delays in the implementation of sanctions. Criminal sanctions against environmental offenders are often mild and do not have a deterrent effect. Environmental violators that are large companies tend to choose to pay fines rather than make environmental repairs. Many good rules exist in India's environmental law, but their implementation is often ineffective. Existing regulations often overlap between national and state laws. Large industries often use economic and political influence to evade responsibility for environmental damage. There are practices where companies manipulate environmental data to avoid legal sanctions.

Indonesia can learn from some environmental law enforcement practices in India, especially in terms of environmental restoration after environmental crimes have occurred. India has a unique and progressive approach to environmental law enforcement. What can be taken from India and applied in Indonesia to strengthen environmental law enforcement with a focus on environmental restoration is the establishment of specialized Environmental Courts, such as the National Green Tribunal (NGT) in India, to expedite the resolution of environmental cases, the implementation of the principles of Strict Liability and Absolute Liability, so that polluting companies are held accountable without the excuse of negligence, the requirement for companies to pay an Environmental Restoration Fund used to rehabilitate damaged ecosystems, and the application of recovery-based sanctions and progressive fines to ensure companies truly make environmental improvements. If Indonesia can adopt these approaches, then environmental law

³⁹ Sri Wartini and Jamaludin Ghafur, "Perbandingan Kebijakan Hukum Terhadap Tanggung Jawab Transnasional Corporations Atas Pelanggaran Hak Menikmati Lingkungan Yang Sehat Di Beberapa Negara," *Jurnal Hukum Ius Quia Iustum* 22, no. 3 (2015): 346–72, <https://doi.org/10.20885/iustum.vol22.iss3.art2>. Hlm. 361.

⁴⁰ Government of India, "The Environment (Protection) Act 1986 (Act No. 29 of 1986)," n.d., <https://www.indiacode.nic.in/>. diakses pada tanggal 25 Juni 2024

⁴¹ Wartini and Ghafur, "Perbandingan Kebijakan Hukum Terhadap Tanggung Jawab Transnasional Corporations Atas Pelanggaran Hak Menikmati Lingkungan Yang Sehat Di Beberapa Negara."

enforcement will not only focus on punishment but also on the restoration of damaged ecosystems, as has been effectively implemented in India.

V. Conclusion

The United States of America can teach Indonesia a lot about environmental law enforcement, particularly about how to recover environmental damage following environmental crimes. Examples of what Indonesia can do include strengthening the "Polluter Pays" principle, which requires companies to pay all of the costs associated with environmental restoration, and increasing law enforcement against corporations, including criminal sanctions for company executives who commit environmental crimes.

By bolstering the function of the Ministry of Environment and Forestry (KLHK) and guaranteeing the presence of autonomous institutions capable of acting without political or financial interference, Indonesia can learn from the Netherlands. Similar guidelines could be adopted in Indonesia, where businesses would be held accountable for fixing any harm they do in addition to facing fines. The Netherlands' courts are dedicated to handling environmental cases, which speeds up and narrows down the judicial process. To deal with pollution complaints more efficiently, Indonesia should think about setting up an environmental court.

India has a number of environmental law enforcement strategies that Indonesia can adopt, particularly with regard to environmental restoration following environmental crimes. India's approach to environmental law enforcement is distinct and forward-thinking. The creation of specialized Environmental Courts, like the National Green Tribunal (NGT) in India, to speed up the resolution of environmental cases, the application of the concepts of Strict Liability and Absolute Liability, which hold polluting companies accountable without the need for negligence, the requirement that companies pay an Environmental Restoration Fund used to repair damaged ecosystems, and the use of recovery-based sanctions and progressive fines to ensure that companies actually restore the environment are some steps that Indonesia can take to strengthen environmental law enforcement with an emphasis on environmental restoration. As has been successfully done in India, environmental law enforcement in Indonesia will concentrate on both punishing offenders and repairing harmed ecosystems if it can adopt these strategies.

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