Abstract

This study explores the critical question of whether the environment should be prioritized in situations of uncertainty, encapsulated by the Latin phrase “In Dubio Pro Natura” (In Doubt, For Nature). Focusing on the context of Indonesia, the discourse navigates the complex terrain of environmental justice. The study delves into the multifaceted challenges faced by Indonesia, considering economic development, social equity, and ecological sustainability. By examining cases of environmental degradation, resource exploitation, and their societal implications, the study aims to shed light on the ethical dimensions of decision-making in the face of environmental uncertainties. Drawing on diverse perspectives, including indigenous knowledge and international frameworks, the discourse advocates for a nuanced approach that balances economic growth with environmental stewardship and social justice. Ultimately, this study outlines the necessity of reevaluating priorities, fostering sustainable practices, and ensuring equitable environmental policies for the well-being of present and future generations in Indonesia.

Keywords: Environmental Justice, In dubio pro natura, Environmental Protection
A. Introduction

The intricate interplay between human development and environmental preservation has emerged as a paramount concern, especially in regions grappling with the complexities of economic progress, social justice¹, and ecological sustainability. This paper embarks on a nuanced exploration of the pivotal question encapsulated by the Latin adage “In Dubio Pro Natura” (When in Doubt, Favor Nature)² within the context of Indonesia. As this archipelagic nation stands at the crossroads of rapid industrialization, social transformation, and ecological fragility, the discourse seeks to unravel the intricate tapestry of environmental justice.³


² “In Dubio Pro Natura” is a Latin phrase that translates to “When in Doubt, Favor Nature” in English. The phrase encapsulates a guiding principle or maxim that suggests a preference for nature or the environment in situations of uncertainty or doubt. In ethical and decision-making contexts, it implies erring on the side of caution and choosing courses of action that are more favorable to the preservation and protection of the natural world. The principle is often invoked in discussions related to environmental ethics and the precautionary principle. It underscores the idea that when faced with uncertainty regarding the potential harm to the environment, it is prudent to prioritize nature and take precautionary measures to prevent or mitigate potential ecological damage. In essence, it advocates for a proactive and protective stance toward the environment, especially when the consequences of certain actions are unclear or disputed. “In Dubio Pro Natura” aligns with the broader environmental conservation and sustainability efforts, emphasizing the importance of considering long-term ecological impacts and promoting a responsible approach to decision-making in the face of environmental uncertainties.

Against the backdrop of Indonesia’s diverse ecosystems, rich cultural tapestry, and pressing economic imperatives, we delve into the ethical quandaries that arise when deciding the primacy of environmental concerns amid uncertainty. With a focus on environmental justice, this study endeavors to dissect the multifaceted challenges arising from environmental degradation, resource exploitation, and their consequential societal impacts. By scrutinizing case studies and drawing upon a spectrum of perspectives, including indigenous wisdom and global sustainability frameworks, our exploration aims to illuminate the ethical dimensions that underpin decision-making in the face of environmental uncertainties.

This discourse endeavors not only to unravel the complexities inherent in the Indonesian context but also to contribute to the broader global conversation on sustainable development and environmental stewardship. As we navigate through the intricacies of prioritizing environmental concerns amidst uncertainty, this study advocates for a balanced and inclusive approach that harmonizes economic developments.
opment with ecological preservation and social equity. The synthesis of perspectives presented herein seeks to inspire thoughtful reconsideration of priorities and the formulation of equitable environmental policies, ultimately fostering a sustainable and just future for Indonesia and beyond.

However, the application of the principle “In Dubio Pro Natura” faces a formidable challenge in the current environmental landscape of Indonesia. The nation, blessed with unparalleled biodiversity and abundant natural resources, is grappling with an escalating crisis of environmental degradation that demands immediate attention. The escalating environmental damage, intensifying day by day, poses a severe threat to the country’s ecological sustainability.\(^5\)

Foremost among the myriad challenges is the rampant deforestation plaguing Indonesia, particularly its tropical forests, which rank as the third largest globally, following the Amazon rainforest. The alarming rates of deforestation primarily result from land conversion for agriculture, expansive plantations, and illegal mining activities. This relentless exploitation of natural resources not only jeopardizes the delicate ecological balance but also undermines the resilience of Indonesia’s environment.\(^6\)

Compounding the issue, recurrent forest fires further exacerbate the environmental plight, posing a grave menace to forest


ecosystems, livelihoods, and the very identity of indigenous communities. The adverse effects of these fires extend beyond national borders, causing significant losses to global biodiversity and exacerbating climate change. Consequently, the urgent need to address these multifaceted challenges underscores the imperative of applying the “In Dubio Pro Natura” principle in Indonesia’s decision-making processes. As the nation stands at a critical juncture, navigating the delicate balance between economic development and environmental preservation becomes increasingly vital to secure a sustainable future for Indonesia and contribute positively to global environmental well-being.\(^7\)

Furthermore, beyond deforestation, Indonesia grapples with severe issues of water and air pollution, intensifying the environmental crisis. Industrial, agricultural, and domestic activities contribute to the proliferation of waste, contaminating rivers, lakes, and seas. This pollution poses a dire threat to aquatic life and the well-being of communities reliant on these water sources. Household waste, particularly blackwater, emerges as the primary pollutant of rivers and oceans, while greywater from domestic activities further compounds the environmental strain.\(^8\)

Air pollution, particularly prevalent in urban centers and industrial zones, poses a significant risk to public health. Residents in densely populated cities, industrial areas, and amidst heavy vehicular traffic face the detrimental consequences of deteriorating air qual-


ity. Furthermore, the degradation of coral reefs, crucial ecosystems known for their productivity and biodiversity, has evolved into a global concern. Pollution, habitat destruction, overfishing, and climate change collectively jeopardize marine life and the fisheries crucial to the livelihoods of coastal communities in Indonesia.\(^9\)

The challenges extend to solid waste management, hazardous and toxic waste (B3), and broader waste management issues, presenting significant hurdles in Indonesia. Despite efforts to develop policies, programs, and support systems for environmental management, the lack of infrastructure and public awareness hinders sustainable waste practices. This gap results in environmental pollution, adversely impacting both human health and natural ecosystems.\(^10\)

Environmental damage in Indonesia transcends ecological concerns; it directly affects public health, economic sustainability, and social and political stability. Recognizing the urgent need for comprehensive protection, the application of the “In Dubio Pro Natura” principle becomes crucial. Upholding environmental integrity is not only crucial for preserving biodiversity and natural ecosystems but is also intrinsic to ensuring the well-being of current and future generations. In light of these challenges, concerted efforts towards sustainable practices and heightened awareness are imperative to forge a


path towards a resilient and supportive environment in Indonesia.\textsuperscript{11}

In the current global environmental landscape, Indonesia, renowned for its diverse biodiversity and abundant natural resources, is confronted with pressing environmental issues. These challenges stem from both industrial activities and various investment ventures, leading to deforestation and the depletion of natural resources. According to the Central Statistics Agency (BPS) report, Indonesia experienced a decline of 956,258 hectares (ha) in forest cover from 2017 to 2021, equivalent to 0.5% of the country’s total land area. In fact, the constitutional framework emphasizes collective responsibility for environmental preservation and management. It mandates the government, entrepreneurs, and all segments of society to adopt sustainable and environmentally friendly development practices.\textsuperscript{12}

In the face of burgeoning environmental challenges, the legal doctrine of “\textit{in dubio pro natura}” assumes heightened relevance. This doctrinal tenet advocates for the primacy of nature and environmental interests in legal adjudications marked by ambiguity or uncertainty. Despite its acknowledged significance as a cornerstone in environmental jurisprudence, the effective implementation of this doctrine in Indonesia warrants a more comprehensive examination.\textsuperscript{13}

Decision-making processes, intricately linked to laboratory analyses,
contend with challenges emanating from divergent methodologies, varying laboratory accreditation statuses, and the nuanced expertise of professionals involved.

This study aims to thoroughly examine how the *in dubio pro natura* principle is applied in the Indonesian legal system. Using a detailed descriptive and analytical approach, the research will investigate relevant legal documents, existing literature, and policy frameworks to understand the challenges and opportunities related to the principle’s application. The analysis will focus on government policies, public awareness, and the effectiveness of law enforcement in incorporating the principle into Indonesian environmental governance.

Therefore, the research endeavors to furnish a nuanced and comprehensive comprehension of the application of the “*in dubio pro natura*” principle within the Indonesian context. The resultant insights are poised to furnish valuable inputs for policymakers contending with the intricate contours of contemporary environmental issues. In its ultimate trajectory, this research aspires to contribute substantively to informed decision-making and the formulation of efficacious policies aimed at addressing the intricate challenges posed by environmental indeterminacy, thereby fostering sustainable environmental practices within the Indonesian domain.

B. Beyond Doubt: Unraveling the Challenges in Applying *In Dubio Pro Natura* Principles to Environmental Damage Cases in Indonesia

Environmental degradation within the framework of societal structure stems from violations of environmental laws and inherent inadequacies in environmental management. Robust enforcement of both preventive and punitive environmental laws becomes imperative in the wake of deviations from established environmental norms. The escalating prevalence of pollution and environmental degradation, not only in Indonesia but also on a global scale, underscores the pressing need for a meticulous and structured regulatory framework. This necessitates legally mandated constraints, institutionally gov-
cerned, to curtail the proliferation of toxic materials and hazardous practices, placing responsibility squarely on the shoulders of governmental bodies and entities overseeing industrial operations.\(^{14}\)

The surge in environmental legal frameworks primarily aims to preempt the decline or deterioration of environmental quality. These legal mechanisms evolve as responses to human behaviors that exploit nature, invariably resulting in deleterious impacts on the environment itself.\(^{15}\) The emergence of these legal instruments’ serves as a testament to the imperative of instituting stringent measures that reconcile human activities with ecological integrity.

In the similar context, it is highlighted that the notable surge in the development of environmental legal frameworks signifies a heightened awareness and proactive response to the escalating challenges posed by human activities that exploit the natural environment. These legal measures are not merely reactionary but are strategically designed to preemptively address and prevent the decline or deterioration of environmental quality. They emerge as direct responses to a spectrum of human behaviors, ranging from industrial practices to resource extraction, which have been identified as deleterious to the environment. The imperative behind the evolution of these legal instruments lies in their capacity to institute stringent measures that regulate and guide human activities, ensuring they align with principles of ecological integrity. The emergence of these legal frameworks serves as a testament to the collective acknowledgment of the necessity to reconcile human activities with the impera-

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tive goal of sustaining ecological health and balance.\textsuperscript{16}

Meanwhile, to ensuring environmental justice with the legal instruments, the judiciary, as an important arm of the state instrumental in upholding justice, assumes a critical role in the resolution of environmental disputes. Each judicial decision necessitates scrupulous examination, particularly given the gravity of environmental implications.\textsuperscript{17} Notably, certain environmental dispute rulings have adopted the “in dubio pro natura” principle, reflecting a commitment to prioritizing environmental protection in the face of evidentiary uncertainties.\textsuperscript{18}


17 Wibisana, Andri Gunawan. “Keadilan dalam satu (Intra) generasi: Sebuah pengantar berdasarkan taksonomi keadilan lingkungan.” \textit{Mimbar Hukum} 29.2 (2017): 292-307; Purwendah, Elly Kristiani. “Konsep Keadilan Ekologi Dan Keadilan Sosial dalam Sistem Hukum Indonesia Antara Idealisme Dan Realitas.” \textit{Jurnal Komunikasi Hukum (JKH)} 5.2 (2019): 139-151; Wibisana, Andri G. “Perlindungan Lingkungan Dalam Perspektif Keadilan Antar Generasi: Sebuah Penelusuran Teoritis Singkat.” \textit{Masalah-Masalah Hukum} 46.1 (2017): 9-19. Furthermore, it is highlighted that intergenerational justice within the context of environmental law underscores the ethical imperative that current generations bear a responsibility to safeguard the environment for the benefit of those yet to come. This principle hinges on the notion that the choices made today, in terms of resource utilization and environmental management, profoundly impact the well-being of future generations. Emphasizing sustainable development, intergenerational justice calls for a balanced approach that meets present needs without compromising the ability of future generations to fulfill their own requirements. Central to this concept is the conservation of natural resources, advocating for responsible usage to prevent irreversible damage to ecosystems. Legal frameworks, both national and international, incorporate these principles, embedding provisions for sustainable resource management, pollution control, and the protection of biodiversity. Recognizing the interconnectedness of generations, intergenerational justice underscores the stewardship role of the current generation in ensuring a healthy and sustainable environment for those that follow, thereby weaving a temporal dimension into the fabric of environmental governance.

18 Nicholson, David. \textit{Environmental Dispute Resolution in Indonesia}. (Leiden:
It is further explained that one key aspect of environmental dispute resolution in Indonesia is the legal framework, which includes environmental laws and regulations. The country has enacted specific environmental laws that outline standards, procedures, and penalties related to environmental protection. These laws provide a basis for resolving disputes through administrative channels, such as environmental permits and licenses, as well as through judicial processes in the courts. Administrative avenues for dispute resolution often involve government agencies responsible for environmental management and natural resource conservation. These agencies play a crucial role in overseeing compliance with environmental regulations, mediating disputes, and imposing sanctions for non-compliance. Additionally, environmental impact assessments (EIAs) are conducted for certain projects to assess potential environmental impacts, and disputes may arise during the approval or implementation phases of these assessments. In the judicial realm, environmental disputes can be brought before the courts. Indonesia has established environmental courts to specifically handle cases related to environmental law violations. These courts are equipped to hear cases involving environmental damage, pollution, and other offenses against the environment. The judicial process provides a formal and legal avenue for parties to seek redress and resolution of environmental conflicts. Alternative dispute resolution (ADR) methods, such as mediation and arbitration, are also gaining recognition in the Indonesian context. These methods offer more flexible and collaborative approaches to resolving environmental disputes outside of the traditional court system. Mediation, for example, involves a neutral third-party facilitating negotiations between conflicting parties to reach a mutually acceptable resolution. Despite these mechanisms, challenges persist in ensuring effective environmental dispute resolution in Indonesia. These challenges include issues related to the enforcement of environmental laws, the capacity of regulatory bodies, and the need for increased public awareness and participation in environmental governance. As Indonesia continues to grapple with environmental issues, an integrated and multi-stakeholder approach to dispute resolution becomes crucial, involving government bodies, the private sector, non-governmental organizations, and local communities to foster sustainable and equitable solutions to environmental conflicts. See also Hapsari, Dwi Ratna Indri, Aditya Aji Syuhadha Ilmiawan, and Echaib Samira. “Non-litigation as An Environmental Dispute Resolution Mechanism in Indonesia.” *Indonesia Law Reform Journal (ILREJ)* 2.1 (2022): 55-66; Akhmadadhian, Suwari. “Discourse on Creating a Special Environmental Court in Indonesia to Resolve Environmental Disputes.” *Bestuur* 8.2 (2020): 129-138; Prihandono, Iman, R. K. Dewanti, and Esty Hayu. “Litigating Cross-border Environmental Dispute in Indonesian Civil Court: the Montara Case.” *Indonesia Law Review* 5.1 (2015): 14-32; Purwadi, Ari, Cita Yustisia Serfiyani, and Suhandi Suhandi. “The Government’s Lawsuit Rights on the Environment Disputes in Indonesia.” *International Conference on Science, Technology & Environment (ICoSTE)*. 2019; Kusuma, Lalu Aria Nata. “Environmental
This legal principle operates as a significant directive within the context of legal instruments. Specifically, when doubts cast shadows over the veracity of evidence in environmental cases, the principle mandates a judicial predisposition toward decisions that favor ecological preservation. In this manner, legal instruments, whether statutes or precedents, serve as conduits for the integration of the “in dubio pro natura” principle into the fabric of environmental jurisprudence. These instruments become the vehicles through which the judiciary manifests its commitment to environmental protection, ensuring that even in situations of doubt, legal decisions align with the imperative of ecological integrity. Thus, the careful consideration exercised within the legal realm extends beyond the courtroom, shaping the very legal instruments that underpin the nation’s commitment to environmental justice and sustainability.

However, environmental law enforcement grapples with a dichotomy of perspectives, delineated by a contrast between superficial and profound ecological considerations. The superficial lens, aligned with shallow ecology, is predisposed to ideas influenced by economic interests, perceiving the environment as a resource to be


19 “Shallow ecology” refers to an environmental perspective that primarily focuses on the superficial or surface aspects of ecological issues. This term is often used to describe approaches to environmentalism that prioritize human interests and economic considerations over the intrinsic value of ecosystems. Shallow ecology tends to view the environment as a resource to be exploited for human benefit and economic gain. In the context of shallow ecology, the emphasis is often on addressing environmental problems without fundamentally challenging or altering existing social and economic structures. This perspective may support measures such as conservation and pollution control but might not delve into deeper questions about the interconnectedness of ecosystems, the intrinsic value of nature, or the need for systemic changes in human behavior and societal structures. Critics of shallow ecology argue that it tends to offer solutions that treat symptoms rather than addressing the root causes of environmental issues. In contrast, “deep ecology” represents a more holistic and interconnected view of nature, emphasizing the intrinsic value of all living beings and ecosystems, and advocating for significant changes in human values and practices to achieve environmental sustainability.

Fundamentally, the bedrock of the In Dubio Pro Natura principle traces its origins to the precautionary principle enshrined in the Rio Declaration of 1992.\footnote{The precautionary principle, as enshrined in Principle 15 of the Rio Declaration on Environment and Development (1992), is a pivotal environmental guideline. It advocates for a proactive and cautious approach in situations where there is scientific uncertainty regarding potential environmental risks. This principle asserts that lack of full scientific certainty should not impede the adoption of cost-effective preventive measures when there are threats of serious or irreversible environmental damage. States are encouraged to widely apply the precautionary approach, taking into account their capabilities, and international cooperation is envisaged for collective action. The principle underscores a commitment to environmental protection, emphasizing the need for timely and effective measures to address potential harm, even in the absence of complete scientific certainty. See Wibisana, Andri G. “The development of the precautionary principle in international and Indonesian environmental law.” *Asia Pacific Journal of Environmental Law* 14.1-2 (2011): 169-202; Wibisana, Andri G. *Three Principles of Environmental Law: The Polluter-Pays Principle, The Principle of Prevention, and the Precautionary Principle*. (Northampton, UK: Edward Elgar, 2006); Triatmodjo, Marsudi. “Shifting the paradigm of international environmental law: The precautionary principle from a developing country perspective.” *Legitimacy, Legal Development and Change: Law and Modernization Reconsidered* 437 (2012).} Serving as the underpinning foundation
for the practical application of the precautionary principle, *In Dubio Pro Natura* has been formally integrated into Indonesia’s legal framework with the enactment of Law No. 32 of 2009. While judicial independence is a cornerstone in legal adjudication, the nuanced landscape of environmental law calls for a distinctive approach. In this context, judges are expected to wield their independence judiciously, grounding their interpretations in environmental considerations.22

Within the realm of environmental cases, the judiciary is urged to adopt a progressive stance due to the intricate nature of such cases, often steeped in complex scientific evidence. Environmental judges are thus tasked with the bold responsibility of applying principles of environmental protection and management, engaging in judicial activism when necessary. Recognizing the specialized demands of environmental cases, the Indonesian Supreme Court has instituted a certification system for environmental judges. This system ensures that adjudicators possess the requisite knowledge, affirming their competence and understanding. As underscored by many scholars, this certification mechanism serves as a crucial mechanism to guarantee the effective enforcement of environmental laws in Indonesia.23

The 1945 Constitution of the Republic of Indonesia, specifically Article 33 paragraph (3), serves as a fundamental pillar for the management of national natural resources. This constitutional provision emphasizes that these resources are to be “controlled by the state” with

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the overarching objective of securing “the greatest prosperity of the people.” However, a notable discrepancy arises, as the prevailing assumption leans toward favoring business interests rather than aligning with national priorities, particularly in achieving food and energy sovereignty. This incongruity becomes pronounced when examining environmental cases, wherein judges play a crucial role in considering principles such as *in dubio pro natura*.

Not confined solely to civil cases, the principle *in dubio pro natura* extends its relevance to criminal and administrative proceedings involving environmental matters. Its application underscores the imperative to prioritize environmental considerations, given the intricate nature of these cases. Nevertheless, the efficacy of this principle necessitates not just court decisions but also meticulous execution and oversight to ensure the restoration of environmental damage. In this regard, the government assumes a pivotal role in guaranteeing that critical decisions translate into tangible actions that contribute to environmental rehabilitation.

In the realm of penalties, the environmental penal system fundamentally seeks to preserve the environment’s existence and sustain its functional integrity. This orientation aligns with the broader goal of upholding environmental sustainability. Thus, the constitutional foundation, coupled with the application of principles like *in dubio pro natura*, highlights the urgent need for an integrated and comprehensive approach to natural resource management that prioritizes national interests and environmental well-being over narrow economic considerations.

In the same discussion, it is imperative to emphasize that legal protection extends beyond human entities to encompass the broader spectrum of living beings, including animals and plants. Arne Naess

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introduced *ecosophy*\textsuperscript{25} or deep ecology in 1972, positing that the contemporary environmental crisis necessitates profound and radical shifts in human perspectives and behavior towards nature. This philosophical paradigm advocates a holistic understanding of the interconnectedness of all life forms and emphasizes the intrinsic value of the environment. The application of the principle *in dubio pro natura*, as highlighted by some studies, manifests several significant impacts, particularly when scrutinized through sociological and economic lenses.\textsuperscript{26}

1. Sociological Aspects

Grounded in the humanistic perspective advocated by Hugo Grotius,

\textsuperscript{25} “Ecosophy” is a term coined by Norwegian philosopher Arne Naess in 1972, blending “ecology” and “philosophy.” It represents a comprehensive and philosophical approach to ecological and environmental concerns, aiming to address the limitations of existing environmental philosophies. Ecosophy, as envisioned by Naess, surpasses traditional environmentalism by advocating for a deeper understanding of the intricate relationship between humans and the natural world. At its core, ecosophy embraces the concept of “deep ecology,” challenging anthropocentric views and promoting the intrinsic value of all living entities and ecosystems. It urges a shift in human consciousness, encouraging individuals to recognize the interconnectedness of all life forms and the environment. This philosophy operates on the principle of self-realization, positing that the well-being of the planet is intricately linked with the flourishing of all living beings. Ecosophy takes a biocentric perspective, acknowledging the inherent value of all life forms, not solely human life. It advocates for sustainable living practices that prioritize the long-term health and vitality of the planet, prompting a reevaluation of consumption patterns, resource use, and societal values. Additionally, it fosters a sense of global citizenship, recognizing the global interconnectedness of environmental issues and encouraging individuals to transcend national and cultural boundaries in addressing ecological challenges. Influence by ecosophy, particularly deep ecology, has permeated environmental thought and activism, inspiring a transformative approach to address the complex and interconnected challenges of environmental sustainability.

who regards individuals as possessing inherent rights within society, it is affirmed that each person is entitled to certain rights. In a global context, International Court of Justice Judge Cançado Trindade, in his separate opinion on the Pulp Mills case, contends that principles like prevention and prudence serve as formal sources of international law under Article 38(1)(c) of the ICJ Statute, embodying a universal juridical conscience. In Indonesia, the legal recourse for resolving environmental disputes through litigation rests on Law Number 32 of 2009, Article 34, and Civil Code Article 1365, addressing “compensation for unlawful acts.” Despite the legal framework, victims encounter challenges in prevailing in lawsuits. Consequently, the pivotal role of judges in these circumstances cannot be overstated. Judges, being independent professionals engaging in *ijtihad*, hold the authority to be guided by principles such as *in dubio pro natura*, particularly in environmental matters, contributing significantly to the quest for justice.

In the pursuit of effective environmental protection and management, judges play a crucial role in upholding the principles of law, certainty, and justice through their decisions. While the responsibility for legal certainty lies with the state, particularly concerning the use of natural resources for the well-being of the people, the application of the principle *in dubio pro natura* in judicial decisions indirectly safeguards the rights of citizens, both present and future generations. The constitutional regulation of natural resource control in Indonesia underscores the state’s commitment to ensuring a positive impact on the people’s welfare, as articulated in Article 28H of the 1945


Constitution, affirming the right of everyone to a prosperous life in a good and healthy environment with access to health services.\textsuperscript{29}

This commitment is further reinforced by the application of the principle \textit{in dubio pro natura}, as advocated by many scholars. By doing so, human rights to a favorable living environment are preserved, and the genuine purpose of the law—to dispense justice—is emphasized, countering the potential for oversight fueled by greed. In essence, the judiciary, through the application of these principles, acts as a safeguard for human rights, ensuring that environmental decisions contribute to a just and equitable society.\textsuperscript{30}

\textbf{2. Economic Aspects}

The application of the principles \textit{in dubio pro natura}, influencing judicial decisions in Indonesia, particularly in the economic context, finds a philosophical underpinning in Aristotle’s perspective as articulated in his work “\textit{The Politics}.” Aristotle’s assertion that \textit{“plants are prepared for the benefit of animals, and animals are provided for the benefit of humans”} serves as a foundational premise. According to this viewpoint, the natural hierarchy implies that living beings, whether plants or animals, exist to fulfill the needs of entities naturally higher in the hierarchy—in this case, humans. Therefore, humans are deemed justified in managing the living beings below them in accordance with their desires, necessities, and interests for survival in the world.\textsuperscript{31}

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\textsuperscript{31} Furthermore, Aristotle’s assertion that \textit{“plants are prepared for the benefit of animals, and animals are provided for the benefit of humans”} encapsulates his hierarchical view of the natural world and the interdependence among
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This perspective contends that such treatment is not only lawful but also aligns with the inherent nature of life and the purpose of creation. It posits that humans, as instruments, are designated to utilize lower life forms according to the divine will. This philosophical framework offers a justification for the economic decisions guided by the principles *in dubio pro natura*, particularly as they relate to the utilization of natural resources and environmental considerations within the context of Indonesia’s legal and economic landscape.

Building upon this argument, a tangible economic intervention lies in forest management, particularly directed at forests lacking stands. Forest stands, being homogeneous units within the forest ecosystem, encompass distinct characteristics, functions, and plant structures. In the absence of stands, there is a notable decline in the forest’s functionality, rendering the landscape dysfunctional and susceptible to complete deterioration. Proposed management entails the establishment of a cash transfer scheme to regions via regional transfer funds, contingent upon the presence of forest stands or the prevention of forest conversion.

This scheme places a deliberate emphasis on uplifting the livelihoods of communities reliant on forests and promoting the sustainable utilization of non-timber forest products. As a government responsibility, the focus is on fortifying the business sector’s commitment to environmentally conscious practices, fostering profitability while preserving ecological integrity. Given the existing challenges

different forms of life. This statement reflects Aristotle’s teleological perspective, which suggests that there is a purpose or end goal inherent in the structure and functioning of living organisms. In this context, Aristotle posits a hierarchy where each level serves the needs or benefits of the one above it. According to Aristotle’s worldview, plants are seen as existing to serve the benefit of animals, and animals, in turn, exist for the benefit of humans. This hierarchical perspective was rooted in Aristotle’s teleological belief that the natural world was purposefully designed to fulfill certain functions. While this worldview may seem anthropocentric (human-centered) by contemporary standards, it reflects the prevailing philosophical and scientific ideas of Aristotle’s time. It also laid the groundwork for later philosophical and ethical discussions about humanity’s relationship with the environment and the ethical considerations of resource use.
in enforcing environmental management laws, particularly the intricacies of proving and establishing standardized criteria for environmental damage, this proactive economic approach seeks to reconcile economic interests with environmental sustainability.

C. Unrevealing Supreme Court Decision Number 651 K/PDT/2015: An Examination of In Dubio Pro Natura in Practice

The resolution of environmental law cases serves the overarching objective of affording legal safeguards to individuals adversely affected by environmental pollution, achieved through the initiation of environmental dispute lawsuits within the broader judicial framework to seek redress for incurred losses. According to Achmad Santosa, the determination of culpability for losses resulting from environmental pollution or degradation necessitates the plaintiff’s substantiation of the existence of pollution, along with the establishment of a causal link between the pollution and the resultant harm endured. The act of substantiation, in this context, entails presenting evidence that imparts a certainty of veracity to the adjudicating judge regarding the specific events under dispute.

A pertinent illustration of these legal principles is evident in a civil case adjudicated by the Supreme Court of the Republic of Indonesia, documented in Decision Number 651 K/PDT/2015. This case encapsulates the application of the “in dubio pro natura” principle, which signifies a legal mechanism employed by judges to uphold environmental protection, thereby embodying the ethos of deep ecology. Deep ecology, as a conceptual framework, underscores the imperative of perceiving the environment as an interconnected living entity wherein all constituent elements possess equivalent significance and relevance. The judiciary’s role in fostering environmental sustainability is elucidated through a specific legal dispute involving PT. Kallista Alam (hereinafter as PT. KA) as the Cassation Applicant and the State Minister of Environment of the Republic of Indonesia as the Cassation Respondent. This case exemplifies the judiciary’s potential to contribute to environmental sustainability through the
discernment and adjudication of complex environmental matters.

The Judge’s Assembly deliberation on the invocation of the “*in dubio pro natura*” principle requires elucidation for enhanced clarity, as articulated below:

“... in determining the cause and effect between the activities of the Defendant and the occurrence of land fires, between land fires and environmental losses arising now and their consequences in the future must indeed be based on the doctrine of *in dubio pro natura* which means that if faced with uncertainty of cause and effect and the amount of compensation, then decision makers, both in the field of executive power and judges in civil cases and environmental administration It must provide consideration or assessment that prioritizes the interests of environmental protection and restoration.”

PT. KA pursued cassation proceedings in the Supreme Court, and through these legal endeavors, the panel of chief justices rendered legal conclusions aligned with judges advocating for environmental protection. This establishment of positive and commendable jurisprudence contributes significantly to the cause of environmental sustainability. The panel of judges emphasized that when confronted with uncertainties regarding causation and the quantification of damages, judicial deliberations should be anchored in the principle of “*in dubio pro natura*.” Furthermore, it was stated that:

“The use of the doctrine in dubio pro natura in the settlement of environmental, civil and administrative 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 stated in Article 2 of Law Number 32 of 2009, namely precautionary, environmental equity, biodiversity and polluter pays principle.”

Within the intricacies of Indonesia’s legal framework, the application of the “*in dubio pro natura*” principle assumes important significance, drawing its foundation from the substantive doctrines delineated in Article 2 of Law Number 32 of 2009. This legal apparatus articulates four cardinal principles that underpin environmental jurisprudence: the Precautionary Principle, Environmental Justice, Biodiversity, and the Polluter Pays Principle.

The Precautionary Principle, emerges as an insightful guide in negotiating domains characterized by wavering scientific certitude. It advocates for a circumspect approach, endorsing anticipatory mea-
sures to forestall potential environmental harm latent in uncertainties. Meanwhile, Environmental Justice, firmly entrenched in legal doctrine, epitomizes an unwavering commitment to impartiality in the distribution of environmental benefits and burdens. This principle assumes the role of a societal covenant, ensuring equitable distribution and precluding any community from bearing disproportionate environmental adversities.

On the other hand, the recognition of Biodiversity underscores an acute awareness of nature’s intricate tapestry, emphasizing the intrinsic value of diverse ecosystems. It posits the preservation of this ecological richness as paramount, recognizing that the vitality of ecosystems is intricately linked to the well-being of current and future generations.

In the further discussion, embedded within the legal fabric, the Polluter Pays Principle unequivocally posits that those accountable for environmental degradation must assume the financial responsibility for remediation. Beyond financial restitution, this principle operates as a deterrent, manifesting a resolute stance against impunity in the face of environmental transgressions.

In the adjudication arena, the convergence of the “in dubio pro natura” principle with these established doctrines harmonizes the pursuit of environmental justice, prudence, biodiversity conservation, and accountability within the expansive scope of Indonesian environmental law. This convergence orchestrates a discerning and vigilant approach to environmental challenges, portraying the law as a steadfast guardian of nature.

D. Exploring the Pertinence of the “In Dubio Pro Natura” Principles in the Indonesian Legal System

In Indonesia, the conceptualization of the environment as a legal entity has evolved pragmatically, specifically within the realm of jurisprudence. Within the domestic court system, the doctrine known as “in dubio pro natura” is construed as follows: “when a judge encounters uncertainties about the evidence in a case, the priority lies in favor of envi-
ronmental protection in the final decision.” The genesis of the “in dubio pro natura” concept in the Rio Declaration of 1992, initially stemmed from the precautionary principle. This principle, entails that decision-makers, including judges as pivotal figures in legal enforcement or dispute resolution, when confronted with “scientific uncertainty,” should not interpret it as an absence of environmental consequences or damage. Instead, they are obliged to make decisions in the interest of environmental protection or restoration (in dubio pro natura). This imperative arises from the realization that environmental damage is often latent, not immediately discernible, and frequently irreversible.

In the adjudication of environmental cases, the judiciary is expected to adopt a progressive stance due to their inherent complexity and the abundance of scientific evidence. Consequently, environmental judges are called upon to courageously apply principles such as environmental protection, management, the precautionary principle, and engage in judicial activism. This entails a proactive role in safeguarding the environment, acknowledging its intricate nuances, and making decisions that resonate with the imperatives of sustainable ecological preservation.

Essentially, the precautionary principles advocate for early intervention when faced with potential environmental hazards, especially in situations marked by uncertainty. The application of this principle involves affording the benefit of doubt to the environment, a concept encapsulated in the term “in dubio pro natura.” Fundamentally, the precautionary principle emphasizes the critical need to prevent a deterioration in environmental quality caused by pollution.

Article 88 of Law No. 32 of 2009 elucidates that individual engaging in activities involving hazardous and toxic materials (B3), those responsible for their production, or those posing a serious threat to the environment bear an absolute responsibility for resultant losses. Crucially, this legal provision operates as a manifestation of the principle of strict liability, indicating that accountability is not contingent upon establishing culpable intent but is absolute in the face of environmental harm.

Within the legal framework of Indonesia, precautionary prin-
ciple emerges as fundamental principle in environmental protection and management, as delineated in Article 2, letter f of Law No. 32 of 2009. The subsequent elucidation in Article 4 establishes law enforcement as a tangible manifestation of environmental protection and management. Consequently, it becomes evident that the judicial decisions, as a form of law enforcement, can be aligned with the precautionary principle. As initially articulated in the Rio Declaration, the concept of “in dubio pro natura” was inherently intertwined with the precautionary principle. Hence, in the present context, “in dubio pro natura” is inherently in harmony with this overarching principle.

The alignment of objectives in environmental protection and management is guided by the provisions of Article 3 of Law No. 32 of 2009. The utilization of the “in dubio pro natura” principle harmonizes seamlessly with the stipulations in letters a, c, d, e, and j. These provisions essentially articulate the overarching goals of environmental protection and management, encompassing the safeguarding of the territory of the Unitary State of the Republic of Indonesia from pollution and/or environmental damage, ensuring the survival of living organisms and the preservation of ecosystems, maintaining the functionality of the environment, fostering harmony, and balance in the environment, and proactively addressing global environmental challenges.

In adjudicating environmental cases in Indonesia, judges consider a myriad of principles, with the “in dubio pro natura” principle serving as a cornerstone for the application of the precautionary concept, which has been integrated into the Indonesian legal framework since the enactment of Law Number 32 of 2009. The Supreme Court of the Republic of Indonesia, in its decision Number 651 K/PDT/2015, expounded on the recognition of this principle within the Indonesian legal system. It is acknowledged as a doctrine derived from the principles encapsulated in Article 2 of Law Number 32 of 2009, which includes the precautionary principle, environmental equity, biodiversity, and the polluter pays principle.

Furthermore, the application of the “in dubio pro natura” principle is elucidated 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 Implementation of Environmental Case Guidelines. This decree articulates that accountability for pollution and/or environmental damage is attributed to the parties responsible for causing such harm. Moreover, those found culpable for environmental damage are obligated to provide compensation for the ensuing harm.

E. Law Enforcement Challenges for Environmental Damage in Indonesia

Environmental law includes all the rules governing the behavior of individuals towards the environment, with the possibility of the application of 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 legal provisions and individuals through the supervision and application (or threat) of administrative, criminal, and civil means. 32 Law No. 32 of 2009 concerning Environmental Protection and Management, Article 76 paragraph (2), outlines administrative sanctions that can be imposed, such as written reprimands, coercive government actions, freezing of environmental permits, and revocation of environmental permits. In resolving environmental disputes, there are two routes 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 charges 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 act, as described in Article 116 paragraphs (1) and (2). Criminal threats include imprisonment and fines. In addition, Article 119 of Law No.

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32 of 2009 also allows for additional criminal or disciplinary actions against business entities. Criminal provisions are intended to protect the environment by providing the threat of criminal sanctions. ³³ In the spectrum of environmental law enforcement, crime is considered an effort to control pollution and environmental destruction. ³⁴

The role of law as a guardian of diverse human interests is imperative, extending its function to both ordinary, tranquil circumstances and instances of legal transgressions. The persistent deterioration in environmental quality attributed to inadequate natural resource management has been consistently justified by the state’s pursuit of enhancing the well-being of all Indonesian citizens. However, a formidable challenge emerges in navigating the enforcement of environmental laws amid the era of Revolution 4.0. This digital age presents a distinct set of complexities that necessitate innovative approaches to ensure effective compliance and regulation in safeguarding the environment while addressing the evolving needs and dynamics of society.

In another context, legal certainty provides legal protection against arbitrary actions of the state, state officials, or other parties who have power. The enforcement and enforcement of the law must provide benefits in human life, and must not create discomfort in society. In addition, law enforcement must be fair, although the law is not always synonymous with the concept of justice. Because it is fair that is felt for one party, it is not necessarily fair to the other party. ³⁵ 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 measures 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 performs its legal functions with independence and honor. Independence and honor mean that in the execution of the law, it is important to side with the principle of justice. The implementation of law can reflect the values of justice, so the application of legal functions must also be carried out through philosophical thinking. In essence, it involves the application of the following values:

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.

At its core, law comprises normative principles, wherein each norm inherently embodies certain values. These values, encapsulated within legal content, serve as a representation of the principles shaping the legal system. The legal framework, manifested through various written regulations, forms a hierarchical structure, delineating the position and legal potency of these norms, which collectively bind the general populace.

Expanding the scope, law enforcement encompasses a comprehensive array of activities geared toward the implementation and application of legal principles. It involves initiating legal measures against any infractions or deviations committed by entities subject

to the law. This enforcement may transpire through judicial proceedings, arbitration processes, and alternative dispute resolution mechanisms. Additionally, law enforcement extends to activities designed to guarantee the genuine adherence and conscientious execution of the law as the normative framework governing individuals across diverse realms of social and political life.

In its implementation, law enforcement against environmental damage in Indonesia has not been fully effective, where in its development there are challenges that affect the enforcement of environmental laws, including:

1. Government policies that have not been consistent in environmental protection, one of which is contained in the issuance of Law No. 32 of 2009. The issuance of the regulation is certainly intended to improve aspects of planning and refinement of previous policies, but in its postulates and implementation there are still gaps that result in inconsistency between the purpose of the issuance of the law and its implementation, namely the absence of articles or paragraphs that offend the commitment of enforcers to manage the direction of environmental damage. 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 passed by entrepreneurs, especially if the permit in question is given by the Ministry of Industry after a company is ready 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, this theory emphasizes the importance

38 The theory of legal integration is a conceptual framework that delves into the processes through which legal systems, often originating from different jurisdictions or levels of governance, are brought into harmonious alignment. This theoretical perspective acknowledges the imperative for coherence and coordination in a globalized world characterized by intra-
of integrating various legal elements in a legal system to be harmonious and consistent. It involves alignment 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. Environmental problems that have occurred so far are mostly caused by human actions that are not responsible for environmental sustainability. Low interest and conservation skills cause Indonesia’s environmental conditions to experience gaps in the existence, availability, and sustainability of resources. Environmental problems that have occurred so far are mostly caused by human actions that are not responsible for environmental sustainability. In the continuity of sustainable legal relationships. Legal integration manifests at various levels, encompassing regional, international, or even intranational contexts. At its core, legal integration involves the harmonization of laws across diverse jurisdictions, achieved through mechanisms such as international treaties or regional agreements. Supranational institutions may be established to govern and enforce legal standards beyond national boundaries, exemplified by the European Union’s legal system. Cross-border cooperation, mutual recognition and enforcement of legal decisions, and the establishment of common legal standards are integral components of this theory. While legal integration aims to streamline legal frameworks and facilitate interactions, it also acknowledges the existence of legal pluralism, recognizing and managing the coexistence of multiple legal systems within a given context. Although successful in fostering uniformity in certain contexts, the theory of legal integration prompts considerations about preserving cultural and national legal identities and ensuring effective enforcement across diverse jurisdictions. See Conant, Lisa. “The Politics of Legal Integration.” *Journal of Common Market Studies* 45.s1 (2007): 45-66; Saurugger, Sabine. “Politicalisation and integration through law: whither integration theory?.” *West European Politics* 39.5 (2016): 933-952; Panjaitan, Raffles Brotestes, et al. “The role of central government and local government and the moderating effect of good governance on forest fire policy in Indonesia.” *Benchmarking: An International Journal* 26.1 (2019): 147-159; Yakub, Andi, Ahmad Bashawir Abdul Ghani, and Mohammad Syafii. “Urgency of political decentralization and regional autonomy in Indonesia: Local perspectives.” *Journal of International Studies* 14 (2018): 141-150.
human life, nature conservation is the responsibility of all levels of society, where nature conservation itself is an effort by the community in maintaining, preserving and carrying out the process of greening nature itself. Everyone must make efforts to save the environment around us according to their respective capacities.\textsuperscript{41} One proof of the lack of public understanding and awareness regarding the importance of environmental conservation can be seen in the case of excessive pesticide use that occurs in the Brebes area of West Java, this is in accordance with the statement of the Brebes Agriculture Office which states that Brebes is one of the regions with the highest pesticide use in Southeast Asia especially on shallot plants so that it tends to cause environmental pollution. This environmental pollution occurs not only caused by excessive use of pesticides but also caused by natural factors that can damage the ecosystem of human life, animals and plants.\textsuperscript{42} Community Legal Awareness of the Environment Compliance and compliance with environmental laws and regulations is an indicator of public 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.

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enforcement tools in the environmental sector.

3. Lack of human and technical resources in environmental law enforcement. Many environmental cases are hampered 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 enforcement to be able to master various aspects of the environment. Environmental issues encompass a wide and complex range of disciplines. Limited knowledge and understanding of environmental aspects by law enforcement officials is the dominant obstacle in achieving a common understanding in handling environmental cases. Furthermore, resource facilities serve as tools to achieve environmental law enforcement goals. 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 advanced technological devices (laboratory equipment) that require expertise and large operational costs.

Legal awareness of environmental problems in a society starts from its perception of its 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, then 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.

Public perception of the environment and awareness of environmental problems can be fostered and improved through efforts such as education, guidance, example, and community involvement in overcoming environmental problems. Therefore, increasing law enforcement activities with educative, persuasive, and preventive dimensions needs and must be encouraged.

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F. Concluding Remarks

This study concluded and highlighted that the principle of “in dubio pro natura” serves as the foundational underpinning for the incorporation of the precautionary principle into the Indonesian legal system, a development instituted with the enactment of Law No. 32 of 2009. This principle finds tangible expression in notable judicial decisions such as Supreme Court Decision Number 651 K/PDT/2015, yielding substantial impacts on both sociological and economic dimensions. Aligned with the principles of precautionary action, environmental equity, biodiversity, and the polluter pays principle, the application of “in dubio pro natura” underscores its significance in complex environmental cases. Recognizing the intricate nature of such cases, judges are called upon to adopt a progressive stance, demonstrating the courage to apply principles of environmental protection and management, including the precautionary principle and judicial activism. Law No. 32 of 2009, with its incorporation of the “in dubio pro natura” principle, establishes a comprehensive framework for environmental protection and management. Its objectives encompass safeguarding the territorial integrity of the Republic of Indonesia, ensuring the survival of living organisms, sustaining ecosystems, preserving environmental functions, achieving harmony, and proactively addressing global environmental concerns. The congruence between the application of “in dubio pro natura” and the principles mandated by Law No. 32 of 2009—specifically, environmental equity, biodiversity, and the polluter pays principle—is evident within the Indonesian legal context. However, challenges persist in enforcing environmental laws in Indonesia, reflective of low public understanding and awareness, inconsistent government policies, and a dearth of human and technical resources. In response, a concerted effort is imperative to shape public perceptions, enhance environmental awareness, and bolster law enforcement activities through educative, persuasive, and preventive measures. Such endeavors are crucial to fostering a sustainable equilibrium between legal mandates and environmental conservation in Indonesia.
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