

# Strengthening ecological justice through the application of the precautionary principle in environmental law enforcement

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## Abstract

Article 28H paragraph (1) of the 1945 Constitution of the Republic of Indonesia, which serves as a constitutional guarantee for every individual to obtain a good and healthy environment. In many environmental cases, significant challenges arise due to scientific uncertainty and the complexity of the issues involved, particularly in relation to the mechanisms for assessing environmental damage. This uncertainty necessitates the implementation of the Precautionary Principle as a guiding standard in environmental law enforcement. This study employs a normative legal research approach to examine the role of the Precautionary Principle in strengthening environmental protection to realize ecology justice. This study aims to analyze and evaluate the role of the Precautionary Principle in strengthening environmental protection within the framework of Article 28H paragraph (1) of the 1945 Constitution of the Republic of Indonesia, particularly in addressing scientific uncertainty and complex environmental damage assessment. The findings reveal that effective implementation of this principle significantly contributes to the realization of ecological justice, as preventive and anticipatory measures embedded within regulatory frameworks enhance the safeguarding of environmental rights and support sustainable resource management. The study concludes that policymakers, legal practitioners, and judicial bodies must reinforce the integration of the Precautionary Principle into environmental law and policy to ensure more responsive, equitable, and ecologically sound governance.

## Keywords

Precautionary principle, Ecological justice, Environmental law, Sustainable development

## Introduction

The environment is a unified spatial entity within which interactions take place among all living beings, including humans and all their activities. These two elements cannot be separated; rather, they coexist side by side with the objective of ensuring proper continuity of life. The correlation between the development of human behaviour and nature is highly dynamic, because as humans develop, their development inevitably has

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an impact on nature. The growth of the human population, along with each of its activities or endeavours, directly affects the environment [1]. This demonstrates that as human civilization continues to advance, it gives rise to impacts on nature, even though environmental sustainability should be harmonized to ensure proper continuity.

Human development cannot be separated from technological advancement, which continues to evolve and results in adverse effects on the harmony between humans and nature. These impacts do not occur solely on a local scale, but may also occur globally, thereby posing dangerous potentials that damage the order between humans and nature, which must be halted or prevented. Such dangerous potential is not intended as a rejection of sustainable technological development; rather, attention must be given to the environmental impacts arising from such activities, thereby necessitating a cautious approach. This precautionary attitude is by no means excessive, because technological development cannot be stopped; therefore, instruments are required that function to prevent harm and to accommodate harmony between human development and natural conditions.

Article 28 H paragraph (1) of the 1945 Constitution constitutes a constitutional guarantee of the right to a good and healthy environment, thereby assigning the State the duty to provide protection for all persons so that they may enjoy proper environmental conditions. In addition, Article 65 paragraph (1) of the Environmental Protection and Management Law (UU PPLH) guarantees that everyone has equal rights to obtain a good environment. Based on these provisions, any environmental problems may result in the diminution of the rights of every individual. Therefore, the State must protect these rights by establishing clear and rigid regulations concerning the environment.

Various environmental problems have emerged, one of which is reflected in data from the Ministry of Environment and Forestry (KLHK), showing that the area affected by forest fires as of December 2023 reached 1.16 million hectares [2]. This indicates that environmental issues constitute serious problems that must be properly addressed, one of which is through an environmental law enforcement approach. The principle that must be adhered to is the use of the precautionary principle.

The application of this principle is based on the notion that environmental management and protection must be sustainable, even in the face of technological advancement and increasingly rapid development, while still exercising caution in policymaking. Such policies are adopted to avoid various risks that are harmful to the environment, thereby maintaining harmony between living ecosystems, including humans and all of their behaviours. Furthermore, the precautionary principle requires every business actor engaged in activities related to the environment to conduct prior scientific verification before causing environmental impacts, so that priority is given to environmental sustainability rather than activities related to human development.

This principle also serves as a guideline for judges when dealing with cases concerning environmental damage. Judges constitute the final line of authority in determining whether an activity has an impact on the environment, and if such an impact exists, environmental restoration may be carried out, one of which is through the mechanism of a judicial decision.

The characteristics of environmental cases differ from other types of cases, because such problems originate from human activities confronted with limited environmental conditions [3]. In handling environmental cases, law enforcement is often faced with highly complex evidentiary processes and the presence of scientific evidence, so that environmental law enforcement must not only consider the fulfilment of justice for the disputing parties, but also justice for the environment or ecological justice.

The regulation of the precautionary principle in the Environmental Protection and Management Law (UU PPLH) is abstract in nature, whereas law enforcement deals with casuistic and concrete situations. Due to its abstract nature, legal gaps are frequently encountered regarding the application of the precautionary principle, particularly in relation to the submission of scientific evidence in court proceedings. This situation is reflected in the differing legal considerations in Decision Number 735/Pdt.G LH/2018/PN JKT UTR and Decision Number 55/Pid.Sus.LH/2016/PN Snt, where the two decisions contradict each other in interpreting the meaning and role of scientific evidence presented before the court.

Scientific evidence constitutes an important element in assessing the relationship between environmental damage and the impacts caused. Therefore, in the absence of clear regulatory provisions governing it, and if such assessment is not conducted using an ecological approach, the environment will consistently be disadvantaged in every human activity or business endeavour.

The application of the precautionary principle in environmental law enforcement should not merely be regulated in an abstract manner, but should instead be established as a guiding framework for the enforcement of environmental dispute resolution. The precautionary principle does not only concern the limitations of scientific knowledge, but rather focuses on determining clear indicators regarding the relationship between activities and the environment, so that the law enforcement process places greater emphasis on the restoration of environmental conditions. This is necessary because environmental law enforcement issues inherently involve allegations of environmental damage caused by human actions, thereby requiring the precautionary principle as a guideline to ensure that the resolution of environmental law enforcement cases remains grounded in environmental sustainability, rather than leaving the environment without legal certainty, which would result in continuous and increasing damage.

Within the provisions of the Environmental Protection and Management Law (UU PPLH), no specific regulations are found that further govern the application of this principle in environmental law enforcement, even though this principle is of crucial

importance and must be adhered to by law enforcement officials. The application of this principle is also aligned with ecological justice, because environmental entities are inherently unable to assert their own rights and must instead rely on humans to do so. Based on these issues, an in-depth study of the precautionary principle in environmental law enforcement is required as an element to strengthen the realization of ecological justice.

## Method

This research employs a normative juridical legal research method, using several approaches, namely the statutory approach and the conceptual approach [4]. The method employed to analyze the data in this study is a literature-based approach, relying on the examination of secondary data. This includes primary legal materials, secondary legal materials, and tertiary legal materials relevant to the theme of Strengthening Ecological Justice Through the Application of the Precautionary Principle in Environmental Law Enforcement. After the relevant legal materials were collected, the data were analyzed qualitatively and presented in a descriptive manner. The approaches adopted in this research consist of a conceptual approach and a case approach, both of which are related to the application of the Precautionary Principle in environmental law enforcement.

## Results and discussion

### *The Application of the Precautionary Principle in Environmental Law Enforcement*

The precautionary principle is contained in Article 15 of the Rio Declaration, which provides an explanation that, in the formulation of environmental policies, the absence of scientific certainty must not be used as a reason to delay measures to prevent environmental degradation. Andri G. Wibisana emphasizes that the precautionary principle is used as one of the indicators to determine whether environmental damage falls within the category of serious harm or not [5]. This further affirms that the precautionary principle is applied to support the sustainability of a good and healthy environment. Based on this understanding, the precautionary principle underscores that scientific evidence serves as a means of control to prevent environmental damage, and where scientific evidence is absent, actions should preferably not be undertaken so as to avoid environmental harm. In addition, scientific evidence within this principle is used to establish the correlation between human activities and the impacts they generate.

In fulfilling the precautionary principle, Indonesian laws and regulations incorporate it in Article 2 letter (f) of the Environmental Protection and Management Law (UU PPLH). Furthermore, Supreme Court Decree (SK KMA) Number 36/KMA/SK/II/2013 provides an explanation that this principle is used to assess potential threats that may have impacts

on the environment, both in the present and in the future. SK KMA No. 36/KMA/SK/II/2013 The precautionary principle is employed as a parameter to determine policy direction by taking into account intergenerational sustainability and the potential consequences for environmental preservation [6].

The essence of the precautionary principle lies in emphasizing that scientific evidence must be understood as evidence obtained through the application of logical principles as well as scientific and technological methods, so that it can function as a tool to detect, examine, explain, and verify a finding [7]. In its development, the Supreme Court (*Mahkamah Agung*) has issued guidance regarding scientific evidence that may be used, namely expert analyses or laboratory results related to the calculation of losses arising from environmental damage. Furthermore, Article 27 paragraph (2) of Supreme Court Regulation (Perma) Number 1 of 2023 provides guidance for judges that this principle must be applied where there is a serious threat that has the potential to cause irreparable environmental damage and endanger future generations. In addition, this principle applies where there is scientific uncertainty regarding an activity and its impact on the environment, and where the cost of preventing environmental damage is greater than the cost of carrying out the business activity.

The explanation of the above provisions provides a standard for judges in conducting law enforcement to determine their stance in judicial decisions when interpreting the precautionary principle, which is regulated only abstractly in Article 2 letter (f) of the Environmental Protection and Management Law (UU PPLH). Decision Number 735/Pdt.G-LH/2018/PN JKT UTR provides legal reasoning regarding the precautionary principle, emphasizing that the principle must be complied with and adhered to by activities that have an impact on the environment so that environmental pollution can be prevented; however, in that case, PT. How Are You failed to implement it. In this decision, the panel of judges reaffirmed the principle in relation to the liability of the polluter, who is required to compensate for environmental damage, thereby emphasizing that all activities or operations must be carried out with due caution, with the objective of avoiding environmental harm. In this case, the application of the precautionary principle was intended to minimize environmental damage; thus, where an activity has environmental impacts and no preventive measures are taken, the operator of such activity is deemed not to have applied the precautionary principle.

Therefore, since it was proven that no preventive measures were taken, in order to restore ecological losses to the environment, compensation must be paid by PT. How Are You. In that decision, for the restoration of environmental conditions, the Defendant was ordered to incur costs in the amount of 12 billion. With regard to the concept of ecological justice, within the field of environmental law enforcement the underlying idea is the implementation of corrective measures against perpetrators of environmental destruction, whereby any person proven to have committed acts causing environmental damage is subject to sanctions aimed at restoring the consequences of the activities or business undertaken [8].

In addition, in that decision the Panel of Judges considered the evidence submitted by the Plaintiff regarding the Defendant's activities, from which it was concluded that hazardous and toxic waste (B3 waste) had polluted the Cihujung River. Based on such evidence, the Panel of Judges declared that the results of the laboratory analysis were lawfully obtained and that the sampling method had been properly validated. Meanwhile, the Defendant also submitted laboratory test results; however, these were rejected by the Panel of Judges because they did not fulfill the requirements to qualify as scientific evidence.

In contrast to Decision Number 55/Pid.Sus.LH/2016/PN Snt, the judgment contained a dissenting opinion among the panel of judges. This difference of opinion arose due to differing interpretations in assessing scientific evidence as emphasized in the application of the precautionary principle. During the trial, an expert was presented to assess environmental damage resulting from forest fires. However, by a majority vote, the Panel of Judges concluded that there was no scientific evidence capable of explaining the occurrence of the fire, and that the fire could also have originated from another location. Meanwhile, the dissenting judge held a different view regarding the application of the precautionary principle, which should be closely linked to a pro-environment principle, such that environmental protection must be prioritized in environmental law enforcement. The dissenting opinion was based on the factual finding of damage to the soil and the emergence of smoke resulting from the fire, which could endanger others. Judges must carefully assess the impacts that occur, whether they are widespread or not, as well as their sustainability.

Assessing evidence presented in court is not an easy task; therefore, the ability to identify a causal relationship between an act and the environmental impacts that occur is required. However, a precautionary attitude is necessary in evaluating such evidence so as not to harm the environment, which should be restored as a result of human activities. Issues concerning the precautionary principle in Indonesia have also been experienced in India. The Supreme Court of India, in the case of M.C. Mehta against Union of India (Taj Trapezium), considered that it was beyond doubt that emissions produced from the use of coke/coal by industries in the TTZ area constituted the main source of ambient air pollution. Meanwhile, in the Narmada Bachao Andolan case, The Supreme Court held that ecological damage cannot simply be presumed to occur merely because the construction of a dam is projected to cause certain changes [9]. Based on several decisions in Indonesia and India, it can be concluded that, in evidentiary proceedings before the court, scientific evidence constitutes a very important element. The assessment of scientific evidence must be supported by certified experts so that the accuracy of the data contained in such evidence can be properly validated. Scientific evidence may be recognized as valid evidence if it is based on valid and up-to-date methods and receives acknowledgment from experts in the relevant field of expertise [10].

Furthermore, in assessing scientific evidence in environmental cases, judges must exercise particular diligence and possess an adequate understanding of the scientific dimensions of such evidence. Accordingly, a progressive judicial approach is required in evaluating scientific proof, enabling the court to properly ascertain the existence of a causal relationship between environmental conditions and the damage that has occurred. In the future, this precautionary and carefully reasoned stance should consistently guide judges in adjudicating environmental disputes, so as to ensure that the environment receives justice and its sustainability is effectively protected.

Environmental law enforcement aims to halt environmental damage and to provide compensation for losses incurred [11]. The dynamics of environmental law enforcement continue to evolve, and where provisions are found to lack clear meaning, judges adjudicating disputes must be able to understand legal developments that are aligned with human life and societal needs [12, p. 1]. Based on the cases presented above, the assessment of scientific evidence is fully entrusted to the Judge, and this requires careful scrutiny to ensure that the scientific evidence submitted is directly related to human activities that result in a decline in environmental quality.

In considering such scientific evidence, attention must also be given to the validity of the sampling process at the same time by taking into account the credibility of the laboratory. Therefore, in adjudicating a case, even when doubts arise in assessing scientific evidence, it is imperative to rely on the underlying rationale of the precautionary principle, which is intended as one of the principles to bring about ecological justice. Scientific uncertainty must not be used as a justification for the absence of ecological justice; rather, environmental law enforcement should be based on the precautionary principle so that damaged environments may obtain justice through restoration.

Accordingly, in adjudicating environmental cases, a purely positivistic– legalistic perspective must not be adopted, because maintaining such an approach would fail to realize justice for the environment [13]. Truth and justice in environmental law enforcement are not achieved merely by applying procedural rules of adjudication, but through a paradigm shift that focuses law enforcement on environmental preservation.

### *The Precautionary Principle in Environmental Law Enforcement as an Instrument for Strengthening Ecological Justice*

Judges, as the final line of authority, are obliged to render decisions that are not based solely on the wording or text of statutory provisions, but that also reflect progressive reasoning in order to achieve harmony in terms of legal certainty, utility, and justice [14].

In the absence of clear provisions governing scientific evidence, judges adjudicating environmental cases must be guided by the precautionary principle in order to ensure that nature remains sustainable and that its beauty may be enjoyed by all people.

In the context of environmental law, the norms established do not merely regulate justice for humans as social beings, but also govern the relationship between humans

and their surrounding environment. A conceptual approach to ecological justice states that: “The pursuit of justice within environmental politics has two interconnected dimensions: the fairness in how environmental benefits and burdens are distributed among different communities, and the fairness in how humans relate to the rest of nature. These dimensions are referred to as environmental justice and ecological justice—two inseparable parts of a single overarching relationship.”[15].

According to Nicholas Low and Brendan Gleeson, justice in environmental law is divided into two interrelated forms, namely environmental justice and ecological justice. Ecological justice is understood as the realization of a harmonious relationship between humans and nature along with all its components. Human activities cannot be separated from the existence of nature; however, this does not mean that humans possess the authority to degrade the quality of every component of the natural environment. Therefore, the justice that must be achieved is justice for both humans and the environment [16].

The interpretation of ecological environmental justice within the Precautionary Principle is aligned with the fifth principle of Pancasila, which affirms equal rights for all to obtain a clean and sustainable environment.

Moreover, when interpreted holistically, justice within that principle also applies to ecosystems within the environment, so that environmental justice and ecological justice operate simultaneously. The justice mandated in the fifth principle emphasizes giving each person what is rightfully theirs, without bias or arbitrary actions that may diminish an individual’s rights. This principle must be understood as the responsibility of the State to deliver both environmental and ecological justice. The State is responsible for ensuring that every citizen has the opportunity to obtain positive benefits from the environment, not only in the present but also for future generations [17].

Furthermore, a shift in the paradigm of thought toward maintaining environmental sustainability, or an eco-holistic approach, will bring about truth and justice for the environment. Accordingly, the approach to law enforcement must be grounded in truth and justice for the environment, rather than merely ensuring procedural legal certainty [18]. When law enforcement is framed within an eco-holistic perspective, the primary consideration in handling environmental cases is the precautionary principle, by examining the relationship between nature and humans and assessing the extent of the impacts that occur. This perspective leads to the understanding that when environmental cases arise, the priority must be the sustainability of the environment. Through this principle, law enforcement officials handling environmental cases are required not only to address the juridical aspects of a case, but also to consider it within a broader context related to with environmental sustainability and to provide legal norms that offer greater protection to the environment.

Environmental sustainability constitutes one form of social justice, enabling every person to obtain benefits from a well-preserved environment. However, social justice

should not be interpreted narrowly as applying only to humans; justice must also be upheld for nature. Accordingly, ecological justice is a necessary means to create harmony between human life and the surrounding natural environment. Through ecological justice, nature is viewed as deserving treatment comparable to humans in the pursuit of justice, with the ultimate objective of shared prosperity. Ecological justice must be interpreted broadly, as an entity composed of various ecosystem components that likewise require justice [19].

In implementing the Precautionary Principle, its application should be explicitly regulated within the applicable procedural law. Such regulation is essential to ensure formal justice in the adjudication of environmental cases. To date, guidance for adjudicating environmental disputes has primarily referred to Supreme Court Regulation Number 1 of 2023. However, Law Number 32 of 2009 does not provide clear parameters regarding the operationalization of the Precautionary Principle. This normative gap creates uncertainty in its practical application. Therefore, a more rigid and detailed procedural framework is necessary to provide clear guidance for judges, particularly in environmental litigation. Ultimately, such regulatory clarity would strengthen judicial consistency and ensure that environmental adjudication effectively delivers justice for the environment.

As part of the responsibilities within the judicial sphere, ecological justice in environmental law enforcement lies within the authority and duty of judges. Judicial decisions that prioritize ecological justice will undoubtedly yield positive impacts on the environment and its ecosystems. Conversely, if ecological justice is not adopted as a foundational mode of reasoning, and the precautionary principle is not accommodated in assessing whether environmental impacts have occurred, the environment will continue to suffer losses. Environmental damage that is not promptly restored will give rise to ecological injustice, because nature is unable to claim compensation for its losses, resulting in continuous and ongoing degradation. On the other hand, through proper law enforcement, nature may obtain its rightful protection and restoration.

Ecological justice in environmental law enforcement no longer places humans at the center as the sole determinant of policy-making at will, but instead recognizes that the environment possesses its own entity and ecosystems that must be protected. Applying the notion that the environment has an independent entity constitutes a form of ecocentrism, namely viewing environmental entities, within which animals and plants exist, as having autonomy and deserving respect comparable to that accorded to humans. Accordingly, when ecological injustice occurs, the ecosystems within the environment become the most adversely affected parties. Environmental sustainability thus becomes an aspect that must be fairly taken into account in every legal decision and action. Humans, together with other environmental components, are interdependent and interact with one another to create balance, harmony, and stability. Within this reciprocal relationship, humans should not place themselves in a superior position over other elements of the environment merely to fulfil their various needs.

Based on this understanding, proper integration and a sound relationship between humans and nature are required, because ecology cannot be realized without responsible human involvement [20], and therefore adequate environmental law enforcement will give rise to ecological justice.

## Conclusion

Environmental law enforcement must not be limited to procedural provisions alone, but must also consider more deeply the impacts on the environment. In the enforcement of environmental law, various problems are encountered, such as the lack of clarity in assessing scientific evidence and in determining the relationship between ongoing activities and their impacts on the environment. Therefore, the application of the Precautionary Principle is required as one of the guidelines for judges in enforcing justice in environmental cases. The Precautionary Principle serves as a foundation for strengthening ecological justice. Environmental law enforcement based on the Precautionary Principle will provide a guarantee of protection for the environment and its ecosystems.

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