

Research Article

The Legal Protection of Biodiversity and the Environment in Indonesia

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Abstract.

In an effort to protect and manage natural resources, Indonesia has issued various policies and laws. One of them is Law No. 32 of 2009 concerning Environmental Protection and Management, which pays great attention to the conservation of natural resources and their ecosystems. However, even though there is a clear legal framework, implementation in the field still faces various challenges, both in terms of policy and implementation at the regional level. Several factors such as budget constraints, land use conflicts, and weak supervision have caused this conservation to not run optimally. Indonesia has various legal regulations that support the preservation of biological resources. One of them is Law No. 5 of 1990 concerning Conservation of Biological Natural Resources and Ecosystems, which is the main legal basis for protecting flora and fauna and their habitats. This law includes the establishment of conservation areas such as nature reserves and national parks, which aim to maintain biodiversity. In addition, Law No. 41 of 1999 concerning Forestry also regulates forest management and includes measures to prevent deforestation and forest degradation. This law is complemented by a moratorium policy on new permits in primary forest areas and peatlands, which has been proven to be able to reduce the level of deforestation in Indonesia. The writing method used in this scientific paper is the normative legal writing method, which uses references to literature, library materials, and applicable legal regulations as data sources. This is also known as library research or a method used to collect data from various literatures.

Keywords: conservation, ecosystem, policy, protection

1. Introduction

The natural wealth owned by Indonesia is a variety of animals, which are spread throughout the islands in Indonesia. No less than 10 percent of living things in the world are found in Indonesia, the Center on Biological Biodiversity (CBD) noted that 12% of mammals, and 16% of reptiles in the world are in Indonesia. Then there are 1,592 species of birds and at least 270 species of amphibians living in Indonesia (Koesnandi Hardjosoemantri, 2009).

The implementation of environmental management in the framework of environmentally sustainable development must be based on legal norms by taking into account the

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level of public awareness and global environmental developments as well as international legal instruments related to the environment. Public awareness and life in relation to environmental management have developed in such a way that they need to be perfected to achieve the goals of environmentally sustainable development (Siswanto Sunarso, 2005).

Settlement of problems arising in environmental cases can be done through the courts or outside the courts. Specifically for dispute resolution through the courts, it still refers to the three instrument approaches, namely administrative law, civil law and criminal law. These three approaches are the main instruments in enforcing environmental law (Supriadi, 2008).

If environmental pollution occurs, the perpetrators can be subject to criminal, civil and administrative liability, as part of environmental law enforcement so that all parties through the threat of this sanction can strive to protect and preserve the environment. civil liability includes; compensation, payment of forced money for the restoration of the damaged and polluted environment, and absolute liability (strict liability). In general, people who are victims of environmental pollution or damage come from groups of people who have less access to resources, especially law, economy and politics (Suharto, 2005).

According to the Explanation of Law No. 32 of 2009 Concerning Environmental Protection and Management. I. General, number (1) explains: “The 1945 Constitution of the Republic of Indonesia states that a good and healthy environment is a basic right and constitutional right for every Indonesian citizen. Therefore, the state, government, and all stakeholders are obliged to protect and manage the environment in the implementation of sustainable development so that the Indonesian environment can remain a source and support for life for the Indonesian people and other living creatures.”

Environmental law enforcement is of course closely related to accountability from the criminal, civil and administrative legal aspects for parties who are proven to have carried out environmental damage and pollution due to activities carried out not in accordance with applicable legal provisions, resulting in the occurrence of environmental damage that can cause losses to society.

In forest, coastal, sea, river fisheries, and lake areas, there are always communities that live and depend on the existence of these natural resources. The interactions that occur are not only based on the function and utilization of natural resources, but have culturally developed customs-wisdom, behavior, norms of ownership or control,

governance, and institutions for managing natural resources (Yulia dan Zinatul Ashiqin Zainol, 2013). The 1945 Constitution of the Republic of Indonesia (UUD 1945) provides a strong legal basis for the management of natural resources as stated in the preamble, especially in Article 33 paragraph 3 which states firmly that Indonesia's natural resources including natural resources contained therein are controlled by the state and used as much as possible for the prosperity of its people. The 1945 Constitution mandates that the government and all elements of society are required to protect and manage the environment in the implementation of sustainable development, so that the Indonesian environment remains a resource and support for the lives of the Indonesian people and other living things (Helmi, 2012).

In an effort to protect and manage natural resources, Indonesia has issued various policies and laws. One of them is Law No. 32 of 2009 concerning Environmental Protection and Management, which pays great attention to the conservation of natural resources and their ecosystems. However, even though there is a clear legal framework, implementation in the field still faces various challenges, both in terms of policy and implementation at the regional level. Several factors such as budget constraints, land use conflicts, and weak supervision have caused this conservation to not run optimally (Tri Sugihati, 2003).

The legal basis for the protection and management of natural biological resources can be found in various laws and regulations, including unwritten laws in the form of customary law and local customs that are still in force and adhered to by the community (Cahyo Rahmadi, 2020). Article 4 of Law of the Republic of Indonesia Number 5 of 1990 concerning Conservation of Natural Resources and Ecosystems states that Conservation of natural resources and ecosystems is the responsibility and obligation of the government and the community. Conservation is the responsibility of all parties, both the government and the community. Realizing that conservation of natural resources and ecosystems cannot run alone, the Natural Resources Conservation Center (BKSDA) which is authorized to supervise issues concerning wildlife and as the technical implementer of the Directorate General of Forest Protection and Nature Conservation (PHKA) part of the Directorate General of Natural Resources and Ecosystem Conservation implements a partnership pattern for the conservation of natural resources and ecosystems for wildlife captivity.

2. Methods

The writing method used in this scientific journal is a normative legal writing method that uses references to literature, library materials and applicable legal regulations as data sources. Also called library research or a method used to collect data from various literatures (Amirudin dan Zainal Asikin, 2004). The legal materials used consist of primary legal materials, namely statutory regulations and secondary legal materials, consisting of literature, scientific legal works and other library materials that discuss environmental law.

3. Result and Discussion

3.1. Implementation of Conservation of Biological Natural Resources in Indonesia

Research findings indicate that there is growing recognition of the need to integrate biodiversity conservation and climate change mitigation efforts at the international, national and regional levels (Neugarten, R., Chaplin-Kramer, R., Sharp, R., Schuster, R.). Several key legal and policy frameworks have emerged to address these challenges, including the Convention on Biological Diversity, which requires signatory countries to develop and implement national biodiversity strategies and action plans, and the Paris Agreement, which emphasizes the importance of protecting and restoring natural ecosystems as a means of reducing greenhouse gas emissions and increasing resilience to the impacts of climate change (Pörtner, H., Scholes, R J., Arneth, A., Barnes, D K A., Burrows, M T., Diamond, S E., Duarte, C M., Kiessling, W., Leadley, P., Managi, S., McElwee, P., Midgley, G F., Ngo, H T., Obura, D., Pascual, U., Sankaran, M., Shin, Y., & Val, A L., 2023).

Ecosystem Conservation in legislation: (Pan Mohamad Faiz, 2016).

1) Article 33 paragraph (3) of the 1945 Constitution: “The land, water and natural resources contained therein are controlled by the state and used for the greatest prosperity of the people.”

2) TAP MPR No. IX/MPR/200 on Agrarian Reform and Natural Resource Management. One of the principles is “Maintaining sustainability that can provide optimal benefits, both for the current generation and future generations, while still paying attention to the environmental carrying capacity and carrying capacity.”

3) Law No. 5/1990 on Conservation of Natural Resources and Ecosystems. Law No. 12/1992 on Plant Cultivation Systems.

4) Law No. 5/1994 concerning Ratification of UNCBD: Ecosystems as one of the biodiversities need to be guaranteed their existence and sustainability for human life.

5) Law No. 41/1999 on Forestry. Forests are one of the complex ecosystems and this law regulates forest management based on its function. Protection and conservation functions are maintained to ensure that biodiversity at the ecosystem level is maintained.

6) Law No. 39/2014 on Plantations. This law focuses more on the biodiversity of genetic resources of plantation crops.

In addition, external factors also influence the implementation of conservation in Indonesia. Rapid development dynamics, including land clearing for mining, plantations, and infrastructure, often clash directly with conservation areas. The conflict between economic needs and environmental protection is one of the main obstacles in maintaining ecosystem sustainability. Therefore, it is important to study more deeply the challenges and solutions that can be applied in the conservation of natural biological resources in Indonesia, by considering the interrelated legal, social, and economic aspects (Asram AT Jadda, 2019).

Law No. 21/2004 on Ratification of the Cartagena Protocol on Biosafety to the Convention on Biological Diversity. The core of this law is the safety of the application of modern biotechnology products, namely Genetically Modified Organisms (GMOs). Safeguards are needed to avoid adverse effects on biodiversity, including ecosystems, as well as risks to human health.

Law No. 45/2009 on Fisheries. The government has established conservation areas for fish resource ecosystems, including marine nature reserves, marine national parks, marine tourism parks, and/or fisheries reserves. Then Law No. 27/2007 (Law No. 1/2014) on Management of Coastal Areas and Small Islands. Conservation areas in coastal areas and small islands are ecosystems whose existence, availability and sustainability are guaranteed. Furthermore,

Law No. 32/2009 on Environmental Protection and Management. The law is intended as the most important regulation in the protection and management of the environment due to human activities in efforts to utilize natural resources. One of the objectives is to ensure the continuity of life of living things and the sustainability of the ecosystem. The law contains instruments for planning, as well as controlling environmental pollution and

damage through the Environmental Protection and Management Plan (RPPLH), Strategic Environmental Assessment (KLHS) for the policy level, and AMDAL for the activity level.

In situ areas are protected areas in natural habitats. Current conditions:

a. In situ conservation areas are determined based on the Decree of the Minister of Forestry with clear boundaries, PP No. 68/1998 determines KSA and KPA.

b. Hunting Park

c. Biosphere Reserves and World Heritage Sites are designated by UNESCO.

d. Regional Marine Conservation Area

Meanwhile, the areas currently included in ex situ conservation areas are the Botanical Gardens and Biodiversity Parks.

In January 2015, Presidential Regulation No. 2/2015 was launched, containing the National Medium-Term Development Plan (RPJMN) 2015-2019. In the National Development Strategy, the norms applied are:

1) Building to improve the quality of life of humans and society.

2) Every effort to improve welfare, prosperity, productivity must not create a wider Oinequality that can damage the balance of development. Special attention to increasing the productivity of the lower-middle class people, without hindering, inhibiting, belittling and reducing the freedom of large actors to continue to be agents of growth. This is intended to create sustainable economic growth.

3) Development activities must not damage, reduce environmental carrying capacity and disrupt the balance of the ecosystem.

From the third norm it can be seen that ecosystem sustainability is one of the aspects that is considered in national development. The direction of ecosystem conservation policy is divided in general: (John Kathy Mackinon, Graham Child & Jim Thorsell, 1990).

a. Conservation Area

b. In situ Conservation Area

c. Nature Reserve Area

d. Nature preserve

e. Asylum

f. Wildlife

g. Nature Protection Area

h. National Parks

i. Forest Park

j. Natural Tourism Park

k. Hunting Park

Changes in legal protection for the conservation of natural resources in Indonesia reflect adaptation to the increasingly complex needs of the times. In Law No. 5 of 1990 concerning the Conservation of Natural Resources and their Ecosystems, the main focus is on the protection of wildlife, plants, and the ecosystems that are their habitats. Articles 5 to 12 of the law strictly regulate the preservation of biodiversity, with an emphasis on the prohibition of hunting, capturing, and habitat destruction. However, this regulation is considered inadequate in facing modern challenges such as environmental degradation due to human activities, the economic needs of local communities, and climate change. In the draft revision of this law, as also influenced by Law No. 11 of 2020 concerning Job Creation, a new paradigm has emerged that combines conservation with sustainable use.

One significant change is the regulation regarding community involvement in managing conservation areas. In Law No. 5 of 1990, community participation was only implicitly mentioned in Article 33 concerning conservation counseling, which was limited to education without involving the community in decision-making. In the new draft law, community involvement is one of the main elements, as stated in Article 42 of the Job Creation Law which adds a collaboration mechanism between the government, the private sector, and local communities. This approach aims to ensure that communities living around conservation areas are not only recipients of negative impacts, but also receive economic and social benefits from conservation programs.

Indonesia is currently starting to adopt the principle of life on line. The Life on Land Principle itself is an integral part of the Sustainable Development Goals (SDGs), which aim to protect, restore, and promote sustainable use of terrestrial ecosystems. In Indonesia, this principle is very relevant considering its status as one of the countries with the highest biodiversity wealth in the world. As a megadiverse country, Indonesia has a great responsibility to ensure that its natural resources are protected from damage and utilized sustainably. The diversity of flora and fauna, which includes around 12% of the world's mammal species and 10% of flowering plant species, makes Indonesia one of the global centers of biodiversity. However, this great wealth is also accompanied by significant threats, such as deforestation, over-exploitation of resources, and weak law enforcement in the environmental sector.

The implementation of the Life on Land principle in Indonesia is also reflected in various programs, one of which is REDD+ (Reducing Emissions from Deforestation and Forest Degradation). This program aims to reduce carbon emissions through sustainable forest management, by involving local communities in forest conservation. In addition, this program also provides economic incentives to communities involved in sustainable forest management. For example, in Kalimantan, the REDD+ project has succeeded in reducing the conversion of forests to oil palm plantations, while creating new jobs for the surrounding community (World Resources Institute (WRI), 2023). The implementation of the Life on Land principle in Indonesia includes various programs and policies. Here are the real implementations of this principle:

1) Forest Moratorium Program

A moratorium on new permits in primary forest and peatland areas came into effect in 2011. Data from the Ministry of Environment and Forestry (KLHK) shows that this policy has succeeded in reducing deforestation by 25% in the last decade. However, its effectiveness is still questionable because there are loopholes that allow exploitation on land that already has permits (Idris, 2013).

2) REDD+

The REDD+ (Reducing Emissions from Deforestation and Forest Degradation) program focuses on reducing carbon emissions through sustainable forest management. REDD+ also involves local communities in forest management, providing economic benefits while reducing pressure on ecosystems. REDD+ projects in Kalimantan, for example, have created new jobs and reduced the conversion of forests to oil palm plantations.

3) Customary Forest

Recognition of customary forests through Ministerial Regulation of the Environment and Forestry No. 83 of 2016 is an important step to involve indigenous communities in forest conservation. By 2023, the government has designated more than 1.3 million hectares of forest as customary forests, granting management rights to indigenous communities.

4) Mangrove and Peatland Rehabilitation

Indonesia has one of the largest mangrove ecosystems in the world, which plays a vital role in carbon sequestration. The government has initiated a mangrove rehabilitation project on more than 600,000 hectares of land, which is expected to absorb more than 3 million tons of carbon per year.

Another significant step is the recognition of customary forests through Ministerial Regulation of the Environment and Forestry Number 83 of 2016. By 2023, more than 1.3 million hectares of forests have been designated as customary forests, which are managed directly by indigenous communities based on their local wisdom. This approach not only supports forest conservation, but also recognizes the rights of indigenous communities who are often marginalized in the management of natural resources. In addition, ecosystem rehabilitation programs such as mangroves and peatlands are also part of the implementation of the Life on Land principle (Tacconi, L., & Muttaqin, M. Z, 2019).

However, weak law enforcement is also a major problem in protecting biological resources in Indonesia. Illegal activities such as illegal logging and trade in protected animals are still rampant. Although the law provides severe sanctions, weak supervision and low capacity of law enforcement officers often allow perpetrators to escape punishment. In addition, climate change adds to the complexity of this challenge, with the increasing frequency of natural disasters that have an impact on ecosystem degradation (Kementerian Koordinator Bidang Perekonomian Republik Indonesia, 2020).

To overcome these barriers, it is important to strengthen the capacity of local and regional authorities to implement and enforce biodiversity protection measures, as well as to secure adequate financial resources and encourage greater coordination and collaboration between different levels of government and stakeholder groups (Taylor & Francis). At the same time, successful implementation of these legal frameworks will require a sustained commitment to law enforcement, capacity building, and public engagement. Governments, civil society organizations, and the private sector all need to play a role in ensuring that legal protections for biodiversity effectively translate into tangible conservation outcomes.

A multifaceted approach, involving international cooperation, national legislation, and regional initiatives, is needed to address these challenges effectively. International treaties and agreements can provide a global framework for biodiversity protection, while national and regional laws and regulations can be tailored to the specific environmental, economic, and social contexts of different regions (Zaman, S T, 2020). However, implementation and enforcement of these legal frameworks have been patchy, with significant challenges persisting in many areas. Factors such as limited funding, weak institutional capacity, and competing economic and political interests have hampered the effectiveness of biodiversity protection efforts.

Compensation and restoration due to environmental pollution are carried out by every person responsible for a business and/or activity that commits an unlawful act in the form of pollution and/or environmental damage that causes harm to other people or the environment and is obliged to pay compensation and/or take certain actions. In addition to being required to pay compensation, environmental polluters and/or destroyers may also be burdened by the judge to take certain legal actions, for example an order to install or repair a waste processing unit so that the waste complies with the specified environmental quality standards; restore environmental functions; and/or eliminate or destroy the causes of environmental pollution and/or damage.

3.2. Protection of Biodiversity Against Environmental Pollution and Destruction

Indonesia has various legal regulations that support the preservation of biological resources. One of them is Law No. 5 of 1990 concerning the Conservation of Biological Natural Resources and their Ecosystems, which is the main legal basis for protecting flora and fauna and their habitats. This law includes the establishment of conservation areas such as nature reserves and national parks, which aim to maintain biodiversity (Law No. 5 of 1990 concerning Conservation of Natural Resources and Ecosystems, 1990). In addition, Law No. 41 of 1999 concerning Forestry also regulates forest management, including measures to prevent deforestation and forest degradation. This law is complemented by a moratorium policy on new permits in primary forest areas and peatlands, which has proven to be able to reduce the rate of deforestation in Indonesia (Law No. 41 of 1999 concerning Forestry, 1999).

Law No. 41 of 1999 concerning Forestry which clearly states that this law covers regulations on forests and forestry, including some concerning the conservation of Biological Natural Resources and their Ecosystems. There are several laws and regulations that generally regulate the protection of biodiversity against environmental pollution and destruction, the description of which can be explained as follows:

1) Law No. 5 of 1990 concerning Conservation of Natural Resources and their Ecosystems.

Law as a means of social engineering must of course be used as a tool for the government to maintain wisdom in the diversity of life, including biodiversity (Muhammad Erwin, 2015). In Article 33 paragraph 2 of the 1945 Constitution, “branches of production that are important for the state and which control the livelihoods of many

people are controlled by the state.” (Article 33 paragraph 2 of the 1945 Constitution). Conservation areas as contributors of oxygen, scientific progress, and tourism are part of the livelihoods of many people.

In order to protect against environmental pollution and destruction in relation to the conservation of natural resources and their ecosystems, Law No. 5 of 1990 explicitly makes regulations that prohibit (criminal acts) as follows: (Article 40 paragraphs 1,2,3 and 4 of Law No. 5 of 1990).

1) Article 40 paragraphs 1 and 3 regulate the prohibition of carrying out activities that could result in changes to the integrity of the natural reserve area and the integrity of the core zone of the national park.

2) Article 40 paragraph 2 and paragraph 4 contain prohibitions on taking, cutting, possessing, damaging, destroying, maintaining, transporting, and trading protected plants or parts thereof in a living or dead state; removing protected plants or parts thereof in a living or dead state from one place in Indonesia to another place within or outside Indonesia; capturing, injuring, killing, storing, possessing, maintaining, transporting, and trading protected animals in a dead state; removing protected animals from one place in Indonesia to another place within or outside Indonesia; trading, storing or possessing the skin, body, or other parts of protected animals or goods made from these parts or removing them from one place in Indonesia to another place in or outside Indonesia; taking, damaging, destroying, trading, storing or possessing eggs and/or nests of protected animals and carrying out activities that are not in accordance with the function of the utilization zone and other zones of national parks, forest parks and nature tourism parks.

Thus, the prohibited acts can result in pollution and/or damage to biological resources and their ecosystems. The provisions of criminal sanctions in this law are in the form of imprisonment, detention, and fines.

3) Law No. 17 of 1985 concerning Ratification of the 1982 Law of the Sea Convention and Government Regulation Number 15

1984 and Law No. 9 of 1985 concerning Fishing Permits in the Indonesian EEZ and Law No. 5 of 1983 concerning the Indonesian EEZ. These laws are closely related to natural resources, especially those in the ocean, including determining permits for fishermen, determining the types of fish that may be caught, determining fishing quotas, regulating fishing areas, and determining the size of fish and the types that may be caught.

5) Law No. 9 of 1990 concerning Tourism

Although this law is related to tourism activities, there are things that are recognized as the existence of biodiversity, especially flora and fauna, by this law being used as a tourist attraction. Thus, there needs to be protection of the wealth of biodiversity and also the protection of customary rights and knowledge.

6) Law No. 5 of 1992 concerning Cultural Heritage Objects

Although this law is not directly related to natural biological resources, in the context of diversity, especially cultural diversity, it is an important element in efforts to preserve objects that have high cultural and scientific value.

7) Law No. 5 of 1994 concerning Ratification Convention Biodiversity Indonesia is the eighth country to sign the United Nations Convention on Biological Diversity in Rio de Janeiro, Brazil on

June 5, 1992. In the Explanation section

Law No. 5 of 1994 states that the benefits of ratifying this UN Convention are:

- 1) international assessment and recognition that Indonesia cares about global environmental problems concerning biodiversity, and is responsible for saving the survival of humanity in general and the Indonesian nation in particular;
- 2) control and authority in regulating access to technology transfer, based on the principle of fair treatment and sharing of benefits and not in conflict with national laws and regulations;
- 3) increasing the ability to utilize and develop the technology needed to sustainably utilize and increase the added value of Indonesia's biodiversity by developing genetic resources;
- 4) increasing knowledge regarding Indonesia's biodiversity, so that in its utilization Indonesia truly applies the principles of science and technology;
- 5) guarantee that the Indonesian government can foster cooperation in the field of scientific techniques, both between government and private sectors, domestically and internationally, integrating as far as possible the conservation and utilization of biodiversity into plans, programs and policies, both sectorally and cross-sectorally;
- 6) development and handling of biotechnology so that Indonesia is not used as a testing ground for the release of organisms that have been biotechnologically engineered by other countries;

7) development of funding sources and for research and development of Indonesian biodiversity;

8) development international cooperation to improve capacity in the conservation and utilization of biodiversity, including:

- (a) placement and utilization of biodiversity, both in-situ and ex-situ;
- (b) development of incentive patterns, both socio-cultural and economic, for sustainable protection and utilization efforts;
- (c) exchange of information;
- (d) development education, training, counseling and improvement role and society.

4. Conclusion

In an effort to protect and manage natural resources, Indonesia has issued various policies and laws. One of them is Law No. 32 of 2009 concerning Environmental Protection and Management, which pays great attention to the conservation of natural resources and their ecosystems. However, even though there is a clear legal framework, implementation in the field still faces various challenges, both in terms of policy and implementation at the regional level. Several factors such as budget constraints, land use conflicts, and weak supervision have caused this conservation to not run optimally. Indonesia has various legal regulations that support the preservation of biological resources. One of them is Law No. 5 of 1990 concerning the Conservation of Biological Natural Resources and their Ecosystems, which is the main legal basis for the protection of flora and fauna and their habitats. To overcome these barriers, it is important to strengthen the capacity of local and regional authorities to implement and enforce biodiversity protection measures, as well as to secure adequate financial resources and encourage greater coordination and collaboration between different levels of government and stakeholder groups. At the same time, successful implementation of these legal frameworks will require a sustained commitment to law enforcement, capacity building, and public engagement. Governments, civil society organizations, and the private sector all need to play a role in ensuring that legal protections for biodiversity effectively translate into tangible conservation outcomes.

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