



## **Analysis of Natural Resources Management in Indonesia: Environmental Law Perspective**

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### **ABSTRACT**

*Natural resource management covers a wide spectrum of activities and projects because it has implications for the unity of the sub-national, national, and supranational territories in which these natural resources are managed. The purpose of this research is to investigate, analyze, and make efforts to solve problems related to natural resource management in Indonesia from an environmental law perspective. This study uses a normative and qualitative juridical approach and uses primary, secondary, and tertiary data as its sources, especially on studies of natural resource management from a legal perspective. The results of the study found that environmental law in Indonesia cannot be separated from an understanding of the development of global commitments, both those that function as guidelines (international soft law) and those that are binding (hard law) in the form of laws and regulations related to natural resource management policies in Indonesia. should be implemented consistently, measurably, and refers to the principles of good governance to maintain the continuity of functions and benefits of natural resources in Indonesia. as mandated by the 1945 Constitution.*

**Keywords: natural resource management, environmental law, good governance, the 1945 Constitution, Indonesia**

### **1. INTRODUCTION**

Changes in an environment have implications not only limited to changes in the local environment but also implications for changes in the global environment. According to experts, Vitousek (1994), Zalasiewicz et al. (2011), Dirzo et al. (2014) in [1], the definition of global environmental change (GEC) refers to a set of planet-scale changes in the Earth System, ranging from large-scale changes related to the global geosphere and biosphere systems (for example, the nitrogen cycle and carbon, loss of biodiversity) to changes on a local or regional scale and related specifically to human activities such as waste production, species elimination, land-use change, and including on natural resource management [1].

According to Bakar (2016) in [2], the Sustainable Consumption and Production (SCP) action agenda requires large natural resources to fulfill basic needs for the realization of welfare, through consumption and production activities in everyday life. days, but doing so can put enormous pressure on the sustainability of our natural resources and the quality of our environment. Referring to the study of the United Nations Environment Program (UNEP), it indicates that the current level of global population consumption has exceeded the level of supply of natural resources available on earth, accompanied by the environmental quality that tends to decline in many countries including Indonesia. For this reason, urgent Global Action needs to be carried out such as changing consumption

and production patterns towards saving resources, better quality and protecting the environment, and these efforts are the foundation for a higher quality green economic development that involves all levels of society towards sustainable development [2].

Environmental problems both globally and nationally are related to human activities and ecosystems? ecosystems that change and experience degradation related to human activities in fulfilling their daily needs for food, water, wood, clothing, and energy which are increasing causing the ecosystem to be exploited so that it has an impact. against unsustainable exploitation of natural resources and disturbing human welfare [3]. Environmental problems cannot be separated from other risks and crises that surround the current global reality which is part of a complex system so that changes in the global environment are simultaneously environmental and social problems [4], and law environmental management because modern society depends on an effective legal system to meet various social needs [5]. According to [6], environmental management problems can be considered as one of the main causes of natural disasters in Indonesia, and the estuary of all environmental problems is development carried out without considering environmental balance factors which in turn will cause damage. and environmental pollution. Pollution is a condition in which a substance or energy is



introduced into the environment by human activities or by natural processes itself in such a concentration, that it causes a change in the said state which results in the environment not functioning as it was in the sense of health, welfare, and biosafety. (Erwin, 2008 in [6]).

According to [2], substantially the management of natural resources contains principles of environmental management by distinguishing between principles, goals, and objectives so that these three things become a triad principle that cannot be separated from one another. in the environmental management legal system. According to Law Number 32 of 2009 concerning Protection and Management of the Environment (Undang-Undang Pokok Pengelolaan Lingkungan Hidup/UUPPLH 2009) Articles, 2 and 3 are as follows: "Environmental management is carried out on the basis of state responsibility, sustainability, and sustainability, harmony, and balance, integration, benefits, prudence, justice, ecoregion, biodiversity, the polluter pays, participatory, local wisdom, good governance, and regional autonomy. aims to realize sustainable development and achieve harmony, harmony, and balance of the environment "[7].

Based on these various descriptions, researchers are interested in conducting more comprehensive and in-depth research to investigate laws and regulations, analyze the application of natural resource management policies, and efforts to resolve natural resource management problems in Indonesia from an environmental law perspective.

## 2. IDENTIFICATION OF PROBLEMS

Based on the description of the research background, the problem can be formulated as follows:

1. What are the laws and regulations related to natural resource management policies in Indonesia?
2. How is the implementation of natural resource management policies in Indonesia?
3. How are the efforts to solve natural resource management problems in Indonesia from environmental law perspective?

## 3. LITERATURE REVIEW

Natural resource management is the maintenance of natural resources such as land, water, sea, and biological systems, in the form of materials or substances found in nature that can be utilized for economic gain with a special focus on how such management affects the quality of the environment of current and future generations. implications for long-term action - thinking about the future and not just about the present [8]. According to [9], natural resource management (*Sumber Daya Alam/SDA*) is the sustainable use of major natural resources, such as land, water, air, minerals, forests, fisheries, and wild plants and fauna. Together, these resources provide ecosystem services that provide better quality for human life, and provide fundamental life support, both in the form of consumptive and public services, which are ecological processes for maintaining soil productivity, recycling nutrients,

cleaning the air. and water, and the climate cycle. Natural resource management covers a wide spectrum of activities and projects because the management and use of natural resources have implications for the unity of sub-national, national and supranational territories, because of the varying costs and benefits associated with how and where these natural resources are managed [10].

The notion of natural resource management is synonymous with the management of the natural environment which consists of several complex variables and substances and human efforts that are constantly improving technology only add to the overall complexity so that often humans have surpassed and failed in nature's restorative abilities and in time environmental problems become bigger. and both at the local level and the global level [11]. The Environmental Management and Conservation Act/EMCA (2012) defines the environment to include physical factors of the human environment including soil, water, atmosphere, climate, sound, smell, taste, animal, and plant biological factors and aesthetic social factors and includes both natural and artificial environments. [12].

According to Bührs, Ton; Bartlett, Robert V (1991) in [13], the notion of environment refers to the physical ecosystem, the environment also needs to consider the social dimensions (quality of life, health) and economic dimensions (resource management, biodiversity). At this time, environmental problems are very worrying due to environmental degradation associated with sustainable pollution problems, forest loss, solid waste disposal, and problems related to economic productivity, and national security [14], and ecology. climate change, sea-level rise, unbalanced ecosystems, air pollution, water, land, and others that are created directly or indirectly by human activities so that appropriate environmental policies are needed [13]. The separation of cognitive and cultural from ecology and environment from human endeavors has led to the degradation and depletion of natural resources on a large scale [14] which has implications for the greatest crisis ever faced collectively by humankind (Foley, 1991 in [15]). An economic perspective can provide clarity about the causes and consequences of environmental damage, and thus provide insight into public policy in the form of the distribution of laws and regulations intended to protect the environment [16]. Therefore, environmental policy is a commitment to laws, regulations, and other policy mechanisms concerning environmental and sustainability issues because the various problems related to the environment are not limited but include the effects of pollution on water, air, and land [13].

According to the Black's Law Dictionary, environmental law is a collection of rules and regulations, orders and laws, limits and benefits all related to the maintenance and protection of a country's natural environment which forms the legal basis for measuring active accountability and liability for environmental crimes or failure to comply with the provisions.



legal as well as legal constraints on economic activity in the environment [17]. According to [18], the legal approach to the environment is to separate regulations into broad categories. Then, Salter (1994) in [18] states that there are three groups related to the legal approach to the environment consisting of (a). The natural environment, (b). Man-made environment including cultural heritage, (c). The human environment, including regulations regarding food content, products, safety issues, leisure and economic health (consumer protection, eco-labeling, etc.) as well as further categories can be indoor and work environment, but in this difference, Salter should probably be treated as a sub-category of the man-made environment.

In the context of the availability of constitutional guarantees for environmental sustainability in Indonesia, it is regulated in the 1945 Constitution of the Unitary State of the Republic of Indonesia (Undang-Undang Dasar/UUD 1945) Article 28H paragraph (1) and Article 33 paragraph (4) of the 1945 Constitution. norms regarding the environment in the Indonesian constitution which reads as follows: Article 28H paragraph (1): "Everyone has the right to live in physical and mental well-being, to have a place to live, and to have a good and healthy living environment and the right to obtain health services", and Article 33 paragraph (4): "The national economy is carried out based on economic democracy with the principles of togetherness, the efficiency with justice, sustainability, environmental awareness, independence, and by maintaining a balance between progress and national economic unity [19].

Furthermore, Law Number 32 of 2009 concerning Environmental Protection and Management regulates the use of natural resources which must be harmonious, harmonious, and balanced with environmental functions and implemented in development policies, plans, and/or programs that are imbued with the obligation to preserving the environment to achieve the goals of sustainable development [7]. According to [20]. The term natural resource management is often used interchangeably with resource management or environmental management which first appeared in the United States around the early 1960s, and its definition refers to the management of natural resources such as land, water, soil, plants, and animals. Natural resources as natural materials provided by the earth that can be utilized by humans to produce more complex products include all aspects of the environment that are not man-made and have several values for humans such as forests, minerals, oceans, freshwater, land, and air [12].

According to [21]. Natural resources include energy and land resources including models as input factors that can be used up, renewable, or produced, as well as conventionally produced capital (i.e., structures, machinery, and equipment) and labor, and concerning land. According to Salwasser (2002) in [22] states that the complexity of environmental problems is

multidimensional, sourced from social complexity (from stakeholder fragmentation), scientific complexity (from the many factors in the workplace and inequality understanding), uncertainty (of many unknowns), conflicting risks, and system dynamics (social, economic, political, and knowledge and technological) and challenges at scale and interactions across scales impose an extra level of complexity on environmental governance.

Therefore, legitimacy related to resource management is a key factor in the effectiveness of governance arrangements through the principles of natural resource management governance [22] which consists of (a). prisp transparency, refers to the visibility of the decision-making process, (b). the principle of accountability; refers to the allocation and acceptance of responsibility for decisions and actions, (c) the principle of inclusiveness refers to the opportunities available to stakeholders to participate in and influence processes and actions decision-making, (d). justice principle refers to respect and attention paid to stakeholder views, (e) integration principle refers to the relationship between, and coordination across, different levels of governance, (f) capability principle refers to systems, plans, resources, skills and others, and (g). the principle of adaptability refers to the incorporation of new knowledge and learning into decision making and implementation.

#### **4. STATEMENT OF THE PROBLEM**

The government is obliged to manage natural resources/the environment which includes policies for the arrangement, utilization, maintenance, restoration, supervision, and control of the environment within the scope of the environment in the jurisdiction of the Unitary State of the Republic of Indonesia as mandated by the constitution, 1945. However, in reality, problems in the management of natural resources/environment in Indonesia are still occurring and tend to increase due to the correlation of economic development activities carried out without considering the environmental balance factor which results in damage and pollution to the environment in Indonesia.

#### **5. OBJECTIVES**

This research aims to:

- a. Investigate laws and regulations regarding natural resource management policies.
- b. Analyzing the implementation of natural resource management policies in Indonesia.
- c. Efforts to solve problems in natural resource management in Indonesia from an environmental law perspective.

#### **6. RESEARCH METHODS**

This study uses a normative juridical approach. Normative legal research is usually known as document study, uses qualitative methods in analyzing data, and uses secondary data as a source, such as regulations, court decisions, books,



legal theory, and doctrine [23] as well as trying to analyze the rules the prevailing law in society [24]. This research focuses on the science of law, legal principles that apply to environmental law in general, especially on the study of natural resource management in terms of the law (laws and regulations) in force. Legal rules are analyzed based on a literature study in the form of materials that explain primary, secondary, and tertiary legal materials.

Primary legal materials are legal materials that are authoritative [25] consisting of various laws and regulations relating to the object of research, for example: (a) the 1945 Constitution of the Republic of Indonesia Amendment Results; (b), Law Number 32 of 2009 concerning Environmental Protection and Management. Whereas secondary legal materials are legal materials that support and strengthen primary legal materials explaining existing primary legal materials so that a deeper analysis and understanding can be carried out so that there is strengthening based on law resulting in a good legal analysis [26]. Then, tertiary materials, namely legal materials which are complementary to provide guidance and explanation for primary and secondary legal materials [26], for example internet sites, legal dictionaries, legal encyclopedias, and letter articles news.

**7. DISCUSSIONS AND RESULTS**

**7.1. Review of statutory regulations related to natural resource management policies in Indonesia**

Environmental law in the field of law is one of the most strategic fields of legal science because environmental law has

many aspects, namely aspects of administrative law, aspects of criminal law, and aspects of civil law [27]. According to [27], in a simple sense, environmental law is defined as the law that regulates the environmental order (the environment), where the environment includes all objects and conditions, including humans and their actions in the space where humans exist and influence. survival and welfare of humans and other living bodies. According to Riana (2009) in [27] states that in a modern sense, environmental law is more oriented to the environment or Environment Oriented Law, while environmental law which classically emphasizes the orientation of environmental use or Use-Oriented Law. Environmental law is essentially a legal field that is mainly controlled by the principles of state administrative law or government law so that in its implementation, government officials need to pay attention to the general principles of good governance (*Algemene Beginselen van Behoorlijk Bestuur*/General Principles of Good Administration) with the aim that the implementation of the policy does not deviate from the objectives of environmental management [27].

According to [28], understanding environmental law in Indonesia cannot be separated from an understanding of the development of the world moves towards the environment which has resulted in various global commitments, both those that function as guidelines (international soft law) or those that are binding (hard law). Various laws and regulations related to policies related to natural resource management in Indonesia are as follows:

**Table 1. Review of statutory regulations related to natural resource management policies in Indonesia**

No.	Laws and regulations	Review of statutory regulations
1.	Undang-Undang Dasar Negara Republik Indonesia Tahun 1945 Hasil Amandemen (UUD 1945) [19]	Natural resources (SDA) are regulated as an important economic sector in supporting the development of the welfare of the Indonesian people. The 1945 Constitution Article 33 paragraph 3 states that: "The earth, water and natural resources in it are controlled by the state and used for the greatest prosperity of the people". Therefore, the regulation related to natural resources cannot be separated from the regulation of national economic matters which are carried out with the principles of togetherness, equitable efficiency, sustainability, environmental insight, independence, and maintaining a balance between progress and national economic unity as regulated in the 1945 Constitution Article 33 paragraph 3.
2.	Peraturan Presiden No. 7 Tahun 2005 (Perpres No. 7 Tahun 2005) tentang Rencana Pembangunan Jangka Menengah (RPJM) Tahun 2004 -2009. [98]	In the provisions of Presidential Decree Number 7 of 2005 in point 8 concerning Fulfillment of the Right to the Environment and Natural Resources, it is stated that increasing access of the poor to the management and utilization of the environment and natural resources is carried out through various programs to realize a beautiful and sustainable Indonesia. the direction of environmental development outlined in the National Long-Term Development Plan (RPJP) 2005-2025 in accordance with Law No. 27 of 2007 which has been established by the government
3	Undang Undang No. 23 Tahun 1997 (UU No.23 Tahun 1997/UULH 1997) Tentang Pengelolaan Lingkungan Hidup [30]	Referring to the consideration of Law No.23 of 1997 that in order to utilize natural resources to advance the general welfare as mandated in the 1945 Constitution and to achieve life happiness based on Pancasila, it is necessary to carry out sustainable development that is environmentally sound based on an integrated and comprehensive national policy taking into account The needs of present and future generations are deemed necessary to carry out environmental management to conserve and develop a harmonious, harmonious and balanced environmental capacity in order to support the implementation of environmentally sustainable development. Then, the implementation of environmental management must be based on legal norms by taking into account the level of public awareness and developments in the global environment as well as international legal instruments



		relating to the environment so that the main material as regulated in Law Number 4 of 1982 concerning Basic Provisions for Environmental Management (State Gazette of 1982 Number 12, Supplement to State Gazette Number 3215) needs to be perfected to achieve the goal of environmentally sustainable development
4.	Undang-Undang Nomor 4 Tahun 1982 (UU No.4 Tahun 1982) tentang Ketentuan-ketentuan Pokok Pengelolaan Lingkungan Hidup (Lembaran Negara Tahun 1982 Nomor 12 [31]	Law No. 4 of 1982, commonly abbreviated as UULH 1982, is a modern environmental law in Indonesia. According to Law no. 4 of 1982 that environmental management at the national level is carried out in an integrated manner by an institutional apparatus led by a minister and regulated by statutory regulations (Article 18 paragraph 1). Meanwhile, environmental management, in relation to the integrated implementation of the national policy on environmental management, by sector, is carried out by ministries / non-departmental institutions in accordance with their respective areas of duty and responsibility (Article 18 2). Then, environmental management, in relation to the integrated implementation of national policies on environmental management, is carried out in the regions by the Regional Government in accordance with the prevailing laws and regulations (Article 18 paragraph 3).
5.	Undang-Undang Republik Indonesia Nomor 32 Tahun 2009 Tentang Perlindungan Dan Pengelolaan Lingkungan Hidup (UU PPLH No.32 Tahun 2009) [32]	UU no. 32/2009 concerning Environmental Protection and Management (LN 209 No. 140, abbreviated as UUPPLH) since its promulgation, Law No. 4 of 1982 / UULH 1982. UULH and Law no. 23 of 1997 / UULH 1997) is declared invalid. The UUPPLH 2009 as the main formal source of environmental law in Indonesia, apart from containing legal provisions and legal instruments as contained in the previous laws, namely UULH 1982 and UULH 1997, has also contained new legal norms and instruments regarding protection. law on anyone who fights for the right to the environment, the authority of Civil Servant Investigating Officers (PPNS) and the creation of new material offenses. Consideration of Law of the Republic of Indonesia Number 32 of 2009 concerning Protection and Management of the Environment (Law No.32 of 2009) which states that: (a). A good and healthy living environment is the basic right of every Indonesian citizen as mandated in Article 28 H of the 1945 Constitution of the Republic of Indonesia; (b) National economic development as mandated by the 1945 Constitution of the Republic of Indonesia shall be carried out based on the principles of sustainable and environmentally sound development; (c) The spirit of regional autonomy in the running of the government of the Unitary State of the Republic of Indonesia has brought about changes in the relationship and authority between the Government and regional governments, including in the field of environmental protection and management; (d) The declining quality of the environment has threatened the continuity of the lives of humans and other living creatures, so it is necessary to protect and manage the environment seriously and consistently by all stakeholders; that the increasing global warming has resulted in climate change which will worsen the quality of the environment, therefore it is necessary to protect and manage the environment; and (e). In order to further ensure legal certainty and provide protection for the rights of everyone to a good and healthy living environment as part of the protection of the entire ecosystem, it is necessary to reform Law Number 23 of 1997 concerning Environmental Management.
6.	Undang-Undang Nomor 11 Tahun 2020 tentang Cipta Kerja (UU No. 1 Tahun 2020/ UU Cipta Kerja Omnibus Law) [33]	UU no. 11 of 2020 / the Omnibus Law Work Creation Law Article 11 paragraph (2) says that the license is an approval of the Central Government for the implementation of business activities that must be fulfilled by business actors before carrying out business activities. The granting of permits in this law is issued by the central government. The implication of this article is that the Regional Government / Regional Government will lose its authority in issuing permits, and more importantly the absence of an Environmental Impact Analysis / AMDAL will have a very negative impact on environmental sustainability of pollution and / or environmental damage caused by business entities / activities ( See Article 40 of the PPLH Law and that article in the Omnibus Law Job Creation Law is deleted).

Source: Primary and secondary legal materials (processed)

From table 1, it is known that in its development there have been 6 (six) environmental laws related to resource management in Indonesia. In this case, the meaning of environmental law can be interpreted as a field of law called the field of functional law, namely a field of law that contains provisions of state administrative law, criminal and civil law and contains statutory norms that fall into the field of administrative law. state, criminal, and civil. Thus, laws and regulations related to environmental policies in Indonesia are a guarantee of legal certainty to protect the rights of everyone to have a good and healthy living environment as part of the protection of the entire ecosystem.

## 7.2. Analysis of the implementation of environmental management policies in Indonesia

Natural resource management policies in Indonesia are divided into two broad categories, namely policies for natural resource management and conservation, as well as policies for controlling pollution and environmental damage and the scope of these policies is divided into domestic scopes covering national, regional, and external levels. country to fulfill responsibility for international commitments [34]. However, problems in environmental management in Indonesia continue to appear as if they are endless, and efforts to resolve environmental management problems tend to be carried out not



optimally, comprehensively, and integratedly so that the government feels the need to enact and issue Law of the Republic of Indonesia Number 32 of 2009 concerning Protection Environmental Management (*Perlindungan Dan Pengelolaan Lingkungan Hidup*/PPLH Law No.32 of 2009).

Then, Law No.11 of 2020 concerning the Omnibus Law of Work-related to environmental impact issues is regulated in Article 21 which is listed in Chapter III concerning Improvement of Investment Ecosystems and Business Activities, there are several points in Law Number 32 of 2009 concerning the Protection Law and Environmental Management (PPLH) which was changed, deleted and new regulations related to business licensing were stipulated. This was done to make it easy for everyone to obtain environmental approval, and some points were changed:

**a. Environmental permit** - According to Article 40 of the PPLH Law: (1) An environmental permit is a requirement for obtaining a business and/or activity permit; (2) If the environmental permit is revoked, the business and/or activity license is canceled; (3) In case the business and/or activity changes, the person in charge of the business and/or activity is obliged to renew the environmental permit. About environmental permits, Article 40 of the PPLH Law, the article in the Omnibus Law Employment Creation Law is deleted.

**b. Involving Environment Impact Assessment/EIA drafting** - In the Omnibus Law Work Creation Law, the drafting of Amdal documents only involves affected communities. Meanwhile, the previous PPLH Law involved environmentalists. Article 26 of the PPLH Law as follows: (1) The Amdal document as referred to in Article 22 is prepared by the initiator by involving the community; (2) Community involvement must be carried out based on the principle of providing transparent and complete information and being notified before the activity is carried out; (3) The community as referred to in paragraph (1) includes: (a). who are affected, (b)? environmentalist; and / or, (c). who are affected by all forms of decisions in the Amdal process; (4) The public as referred to in paragraph (1) can file an objection against the Amdal document. Meanwhile, the Omnibus Law Job Creation Law regulates the following: (1) The EIA document as referred to in article 22 is prepared by the initiator by involving the community., (2) The preparation of EIA documents is carried out by involving people who are directly affected by the planned business and/or activity. (3) Further provisions regarding the process of community involvement as referred to in paragraph (2) are regulated in government regulation.

**c. Responsibility for Hazardous and toxic waste abbreviated B3 waste.** B3 waste shall mean any waste

containing dangerous and/or toxic material, which due to its characteristics and/or concentration and/or amount, either directly or indirectly, may damage and/or pollute the living environment and/or endanger human health. **B3 Waste** - Article 88 of the PPLH Law is deleted and replaced in the Omnibus Law Article 88 which regulates that "Any person whose actions, business and/or activities use B3, produce and/or manage B3 waste, and/or which cause serious threats to the environment are solely responsible for the losses that occur from the business and/or activities".

**d. Suspension or Revocation of Permits** - Article 79 of the PPLH Law which regulates the freezing and revocation of environmental permits, is deleted in the Omnibus Law Job Creation Law.

Furthermore, the problem of environmental management can be divided into two things, the first is the main problem and the second is the internal government problem. According to [27]. The main problem of environmental management in Indonesia is related to the destruction of nature by humans caused by human characteristics as economic beings. Meanwhile, the second environmental management problem is internal to the government, such as policy failure, implementation failure, and ineffectiveness of institutional arrangements. Therefore, various laws and regulations related to natural resource management policies in Indonesia that cover cross-sectoral and cross-regional interests should be applied consistently, measurably, and refer to the principles of Good Governance/GC. This is very important and is followed by the integration of actions between the interests of both government and non-government to maintain the continuity of functions and benefits of natural resources in Indonesia. as mandated by the 1945 Constitution Article 33 paragraph 3.

However, natural and environmental damage continues to occur in Indonesia. According to [35], the distribution of deforestation that occurred on large islands/islands in 2017-2018 both inside forest areas and outside forest areas is as follows: (a). The highest deforestation occurred in Kalimantan, both inside forest areas (65.6 thousand ha) and outside forest areas (83.5 thousand ha). Then followed, Sumatra (56.8 thousand ha), Sulawesi (37.3 thousand ha), Papua (31.2 thousand ha), Bali Nusa Tenggara (13.2 thousand ha), Maluku (11.9 thousand ha), and Java (7.4 thousand ha); and (b). Deforestation that occurs on the islands of Sumatra, Sulawesi, and Maluku is highest in forest areas compared to outside forest areas. Then, clear-cutting and burning still occur in the pulpwood forest permit of PT Wira Karya Sakti Asia Pulp and Paper. Jambi Province, Sumatra, Indonesia, as in Figure 1 below [36] as follows:



Figure 1: Recent clear cutting and burning inside Asia Pulp and Paper's PT Wira Karya Sakti pulpwood forest license. Jambi Province, Sumatra, Indonesia.

According to [36], the management of natural resources in Indonesia tends to be suboptimal and the results of research conducted to find that: (a). The scale of Indonesia's rainforest destruction is so large that it has a significant impact on the global climate. Rainforest and peatland ecosystems store billions of tonnes of carbon, and their removal releases enormous emissions into the atmosphere. Indonesia is currently the third-largest emitter of greenhouse gases in the world after the US and China, with 85% of its emission profile derived from the degradation and loss of rainforests and peatlands. Five percent of all global greenhouse gas emissions now come from Indonesia, which is more than the combined emissions from using the millions of cars, trucks, trains, and buses in the US each year combined; and (b). Referring to the official Economics of Ecosystems and Biodiversity initiative, 99 million Indonesians depend on ecosystem services for their livelihoods, and they contribute 21% of Indonesia's GDP. Ecosystem services contribute 75% of the GDP of Indonesia's rural poor. Indigenous peoples have preserved and maintained this forest for centuries. Now they are witness to their destruction in less than a generation.

According to [27], problems in environmental management in Indonesia are caused by several things as follows:

- a. The continued decline in forest conditions in Indonesia.
- b. Damage to watersheds (DAS).
- c. The habitats of coastal and marine ecosystems are increasingly being damaged.
- d. Image of mining that damages the environment.
- e. The high threat to biodiversity (biodiversity).
- f. Water pollution is increasing.
- g. Air quality, especially in big cities, is declining.
- h. The sustainable forest management system has not been optimally implemented.

- i. The division of authority and responsibility for forest management is not clear.
- j. Weak law enforcement against illegal logging (illegal logging) and timber smuggling.
- k. Low capacity of forestry managers.
- l. The utilization of non-timber forest products and environmental services has not yet been developed.
- m. The maritime boundaries with neighboring countries have not been resolved.
- n. The marine potential has not been optimally utilized.
- o. Increased illegal fishing and destructive fishing patterns.
- p. Management of small islands is not optimal.
17. Natural disaster mitigation systems have not been developed.
- q. There was a decrease in the contribution of oil and gas and mining products to state revenues.
- r. Legal uncertainty in mining.
- s. The high level of pollution and the absence of integrated and systematic waste management.
- t. Policy adaptation to climate change and global warming has not been implemented.
- u. Alternative environmental funding has not been developed.
- v. Global environmental issues have not been understood and applied in national and regional development.
- w. Not yet harmonious environmental laws and regulations
- x. Below the level of public awareness in environmental preservation

In this context, policies regarding environmental management in Indonesia have changed with the issuance of Law Number 32 of 2009 (Law No.32 of 2009) [31] concerning



Environmental Protection and Management. The purpose of issuing and enacting this law can be interpreted because the government realizes that environmental damage in Indonesia is getting worse, so it is necessary to issue a policy that not only requires environmental management but also protects the environment. Then, Law 32 of 2009 [31] related to environmental management more comprehensively regulates it to protect the Unitary State of the Republic of Indonesia (*Negara Kesatuan Republik Indonesia/ NKRI*) from pollution and/or environmental damage to realize sustainable development to anticipate global environmental issues, acknowledging that A good and healthy environment is a right that must be obtained by citizens as stipulated in Article 28H of the 1945 Constitution of the Republic of Indonesia, and responds to the challenges of global warming which continues to increase and results in climate change which worsens the decline in the quality of the world environment.

Based on this description, the natural resource management (NRM) policy in Indonesia should be implemented by developing institutional tools for controlling the use of natural resources and increasing law enforcement against perpetrators of excessive natural resource use. Thus, a strategic and measured effort must be made by the government in regulating the management of natural resources based on the principle of harmony between social, environmental, and economic interests while still paying attention to the principles of justice and environmental sustainability based on management norms, standards, guidelines, and criteria NRM which aims to prioritize community interests and pay attention to local wisdom. Then, the government needs to encourage and increase the involvement of the community, business entities, and non-governmental organizations in the context of natural resource management by consistently referring to the prevailing laws and regulations, especially in terms of permits for natural resources management.

### **7.3. Efforts to solve problems in natural resource management in Indonesia from an environmental law perspective.**

Natural resources include energy and land resources including models as input factors that can be used up, renewable, or produced, as well as conventionally produced capital (i.e., structures, machinery, and equipment) and labor, and concerning land, the MIT Emissions Prediction and Policy Analysis (EPPA) treats natural forests and grasslands as natural capital, and crops-, grasslands-, and managed forest land as “produced” from natural forests and grasslands [20]. In this case, environmental management is carried out mainly by the government, so environmental law mostly consists of government law (*bestuursrecht*), and environmental law is a juridical instrumentarium for environmental management [26].

The efforts to resolve natural resource management problems in Indonesia from the perspective of environmental law begin with the enactment of Law Number 4 of 1982

concerning Environmental Principles, which provides guidelines so that a clear and uniform understanding emerges among stakeholders regarding the environment. This law later developed into Law No. 23/1997 on Environmental Management, which provides direction for environmental management activities in Indonesia. Then the policy on environmental management in Indonesia changed with the issuance of Law Number 32 of 2009 concerning Environmental Protection and Management.

The essence of the issuance of this public policy is that it is hoped that there will be a change in the development paradigm from one that is based on growth that focuses on economic interests to being based on sustainable development. Therefore, this is very demanding for the performance of good regional administration (Pemda), Good Governance in the hope that it can pay more attention to better environmental management because that is a source of guarantee for sustainable development. According to [37], the elaboration of the principles of good governance is as follows:

**a. Accountable governance** - Accountability in government administration is demanded at all stages starting from the preparation of program activities in the framework of public services, financing, implementation, and evaluation as well as the results and impacts. Accountability is also required about the community/public with the agencies or apparatus under it or with the agencies or apparatus above. In substance, the administration of government must be based on certain systems and procedures, comply with statutory provisions, be politically acceptable, based on certain methods and techniques as well as certain ethical values, and can receive consequences if the decisions taken are not correct.

**b. Open governance** - Creating trust between the public and the government by providing information and ensuring the ease of obtaining accurate and adequate information. Being open in government administration at every stage of decision making can be identified by the degree of public access to information related to a public policy. Every public policy, including budget allocation policy, its implementation, and results absolutely must be informed to the public or can be accessed by the public as much as possible through various media and forums to get a response.

**c. Governance that encourages public participation** - Encourage every citizen to exercise their right to express their opinions in the decision-making process concerning the interests of the community, either directly or indirectly.

**d. Governance that upholds the supremacy of law** - Realizing fair law enforcement for all parties, upholding human rights, and paying attention to the



values that live in society. Governance with a character like this can be seen from the practices of government administration which are always based on the prevailing laws and regulations in every decision making, free of KKN, as well as law enforcement against a person or group of people who violate the law.

**e. Governance that uses structures and resources efficiently and effectively** - Efforts to use structures and resources efficiently and effectively are one response to demands for accountability. The performance of government administration needs to be continuously improved and optimized through effective and efficient use of resources and organizations, including efforts to coordinate to create synergies with various parties and other organizations.

**f. Governance that encourages partnerships with the private sector and the community** - Community participation essentially promotes active community involvement in the decision-making process.

**g. Governance that commits to reducing inequality** - This principle is in favor of the interests of the poor, left behind, or marginalized groups.

**h. Responsive governance** - The need for this characteristic is because there is always the possibility of unexpected situations or a rapid change in people's needs for public services or those requiring a policy. This characteristic is also needed because there is no perfect design so that various standard procedures and mechanisms in the framework of public services need to be immediately refined or immediate handling steps are taken. The concrete form can be in the form of the availability of a public complaint mechanism to the existence of a special unit to handle crises and decision making and follow-up is always carried out quickly.

**i. Forward-looking governance** - Foresight contains an understanding of the problems, challenges, and potentials of a government unit and can formulate ideas with a vision and mission for the improvement and development of services and put them in the implementation strategy, policy plans, and future work programs related to with its field of work.

**j. Governance based on professionalism and competence**. Governance with these characteristics can be seen from the efforts to organize activities by filling positions with officials according to competence, including the criteria for positions and the mechanism for assigning them. Also, there are systematic efforts to develop the professionalism of human resources of the unit concerned through various educational and training activities.

**k. Decentralized governance** - Governance which has these characteristics can be seen from the delegation of

full authority given to the officials below them so that decision making can take place at lower levels under the scope of their duties. This delegation of authority brings government officials closer to the community.

**l. Democratic and consensus-oriented governance**. This principle upholds respect for the rights and obligations of others. In a governmental unit, decisions made by consensus need to be respected.

**m. Market-committed governance** - This principle states the need for government involvement in strengthening market mechanisms. The government must utilize market mechanisms to achieve its goals, these mechanisms shape the market structure, creating incentives that move people in the direction society wants to go while leaving them to make some of the decisions themselves.

**n. Governance that is committed to the environment** - This principle emphasizes the obligation of every government and development activity to pay attention to environmental aspects, including to consistently analyze the impact of development activities on the environment.

Based on this description, efforts to resolve natural resource management problems in Indonesia from the perspective of environmental law can be carried out by improving the supervision and law enforcement system by the prevailing laws and regulations and involving the participation of the wider community to create a collaboration of all stakeholders for produce a comprehensive solution to develop the country as mandated by the constitution. Therefore, a stakeholder-based collaborative approach is very important for the government to implement to increase local participation in decision-making related to natural resource management.

## 8. CONCLUSIONS AND RECOMMENDATIONS

### 8.1. Conclusions

Natural resources can be interpreted as all earth resources that can be utilized by humans, provided by nature to support human life and/or support industrial processes in economic activities consisting of non-renewable natural resources (such as minerals or fossil fuels, oil), and renewable natural resources (such as air, wind, water, plants, animals, solar energy, and geothermal, which are thermal energy contained in the earth's crust, mantle, and core). Then, environmental problems that are born and develop due to human factors are much bigger and more complicated when compared to natural factors themselves. This is because of humans with various dimensions, especially with their growth mobility factor, the mind with all the development of cultural aspects that change the character and view of humans towards natural resources / the environment. The management of natural resources /the environment is a critical issue because one of the main causes of natural disasters in Indonesia is that



they originate from economic development activities that are carried out without considering environmental balance factors, causing damage and environmental pollution and tend to violate aspects of legal compliance.

## 8.2. Recommendations

Natural resource management (NRM) policies in Indonesia should be implemented by developing institutional tools for controlling the use of natural resources and increasing law enforcement against perpetrators of excessive natural resource use. Therefore, it requires strategic and measured efforts that must be made by the government in regulating natural resource management based on the principle of harmony between social, environmental, and economic interests while still paying attention to the principles of justice and environmental sustainability based on norms, standards,

guidelines, and criteria. NRM aims to prioritize the interests of the community and pay attention to local wisdom. Then, the government needs to encourage and increase the involvement of the community, business entities, and non-governmental organizations in the context of natural resource management by consistently referring to the prevailing laws and regulations, especially in terms of permits for natural resources management. Therefore, at this time the Indonesian government is expected to have political inner will to make efforts to reform/harmonize national laws in the field of natural resource/environmental management in Indonesia based on good governance and the constitution.

## 9. Conflicts of Interest

The author stated that there was no conflict of interest in this study.

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