Framework for Biodiversity Conservation Governance in the Context of Regional Administration in Indonesia

Lita Tyesta Addy Listya Wardhani[1], Amalia Diamantina[2], Luthfi Hafidz Rafsanjani[3]

[1, 2, 3] Faculty of Law, Universitas Diponegoro, Indonesia

ABSTRACT: Indonesia, as a megadiverse country, carries a significant responsibility to ensure the sustainability of biodiversity conservation. This conservation effort requires strategic regulation and adaptive governance within the context of local government administration. This study aims to explore the theoretical concepts and policy frameworks for implementing biodiversity conservation in the context of sustainable development, and to examine the strategies for regulating and governing biodiversity conservation at the regional level. The research employs a normative juridical method with a legislative, analytical, and conceptual approach. Data for this study is sourced from primary, secondary, and tertiary legal materials, including laws and regulations, expert doctrines, and supporting literature, to analyze biodiversity conservation regulation within local governance.The study finds that biodiversity conservation at the regional level requires the integration of sustainability principles into local government planning and program implementation. Key challenges identified include a lack of synergy among relevant authorities, limited local government capacity, and low participation from local communities. These issues need to be continually evaluated and analyzed to map out the appropriate policy solutions for effective governance of biodiversity conservation, particularly at the regional level. The study recommends strategic approaches such as strengthening an inclusive policy framework, establishing collaborative mechanisms between the government and local communities, and developing programs based on local needs and regional potential. Furthermore, the research suggests the development of data-driven policies to support sustainable biodiversity conservation governance at the regional level. This will ensure that conservation efforts become an integral part of effective local government administration, aligned with the needs of sustainable development.

KEYWORDS: Biodiversity Conservation, Governance, Local Government, Regulatory Strategies.

I.   INTRODUCTION

Indonesia's biodiversity is a gift from God Almighty that holds a crucial position and role for the interests of the Indonesian nation as well as the future of the world. It serves as a vital life support system for humanity, both for current and future generations. The state is obligated to protect the continuity of this biodiversity through the implementation of biodiversity conservation by managing and utilizing it sustainably, harmoniously, and equitably for the greatest prosperity of the people. Indonesia is recognized as a megadiverse country, possessing significant natural resource potential, including substantial marine, aerial, and terrestrial resources. This status places Indonesia second in the world, after Brazil, in terms of natural resource potential. As an archipelagic nation covering 1.3 percent of the Earth's surface, Indonesia has a vast array of biodiversity and genetic resources, with approximately 17 percent of all living species found in the country (Maydrawati, 2016:19). For most Indonesians who are unaware of the importance of the environment, it is often perceived merely as a simple object associated with nature, plants, and animals. In reality, the scope of the environment is much broader, encompassing the entirety of the ecosystem in which all living beings exist. In the context of national development and community empowerment, all activities must consider the existence of the environment to a certain extent. Therefore, development and empowerment that do not seriously address environmental issues will result in anti-development and anti-empowerment outcomes. Furthermore, environmental protection is closely linked to the fulfillment of human rights (Faiz, 2016:767).

The values that contribute to the increasing pollution and destruction of the environment stem from the continued adherence to anthropocentric ethics, which prioritize human interests above those of other beings. This perspective considers humans and their interests as the most significant factors in the ecosystem and in the policies related to nature, both directly and indirectly. In this anthropocentric approach, humans are often viewed as separate from their environment, leading to the belief that the existence of the environment is solely for human benefit (Nash, 1989; Supariadi, 2008). In reality, the Earth and all its natural resources cannot merely be treated as objects for fulfilling human needs and pleasures; rather, they must be regarded as equal subjects alongside humans. The safety of current and future generations is heavily dependent on human actions today. Thus, the presence of the

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environment is fundamentally essential and critical for the existence and sustainability of humanity, as well as for culture and civilization. Constitutionally, the legal guarantee of the state and the duties of the government to protect all human resources within the environment of Indonesia are enshrined in the Fourth Paragraph of the Preamble to the 1945 Constitution of the Republic of Indonesia (UUD NRI 1945). This principle serves as a constitutional mandate to safeguard natural resources as part of the foundation for the general welfare of the Indonesian people and all of humanity. The UUD NRI 1945 imposes a duty on the state to manage natural resources for the greatest prosperity of the people, ensuring that they are enjoyed by both current and future generations in a sustainable manner. Biodiversity must be utilized to maximize the welfare and prosperity of the people, with such utilization carried out cautiously and in accordance with conservation principles, thereby ensuring that biodiversity can be preserved and used sustainably.

The current implementation of biodiversity conservation is perceived as ineffective, as it prioritizes protection over the promotion of sustainable and equitable utilization. Other factors indicating the ineffectiveness of biodiversity conservation efforts include changes in the governance system from centralization to decentralization, overlapping and unclear authority among ministries in the field of conservation, insufficient involvement of local communities around conservation areas, minimal community participation, and inadequate support for efforts to mitigate climate change impacts. These issues must be addressed promptly to enhance the effectiveness of conservation initiatives. In its development, the efforts to implement conservation of natural resources as a part of environmental protection and management in Indonesia have been systematically and integratively articulated through regulatory instruments, including Law Number 5 of 1990 on the Conservation of Biological Natural Resources and Their Ecosystems, as well as Law Number 32 of 2009 on Environmental Protection and Management, along with their implementing regulations. Additionally, the spirit of regional autonomy in the governance of the state has brought changes to the relationship and concurrent authority between the central government and local governments, including in the realm of environmental protection and management, as outlined in Law Number 23 of 2014 on Regional Government. In the implementation of Law Number 5 of 1990, the conservation paradigm still emphasizes protection aspects, without adequately highlighting sustainable and continuous utilization. Conservation management policies and activities are often top-down, failing to provide local communities surrounding conservation areas with sufficient opportunities to participate. This frequently leads to conflicts with communities both within and around conservation areas, particularly with the presence of indigenous peoples.

There are two principles that can serve as the foundation for the establishment of legislation on the conservation of biological natural resources and their ecosystems. The first principle is to maintain sustainability, which provides optimal benefits for both present and future generations while considering the carrying capacity and support capacity of the environment. The second principle is to implement social functions, conservation, and ecological functions in accordance with local socio-cultural conditions. These two principles align with the objectives of biodiversity conservation, which aim to preserve biological natural resources to prevent extinction and support national development (Wahanisa & Mahfud, 2021:396). With the development of governance through the emergence of regional autonomy, several laws have been enacted that require a fundamental restructuring of the relationship between the central government and local governments across all sectors. Furthermore, the scope of conservation, which includes terrestrial, aquatic, and aerial environments, is still perceived as inadequately covered in a comprehensive manner, particularly regarding conservation management in aquatic areas. The regulatory content is dispersed across several laws, leading to multiple interpretations and overlapping authorities in the implementation of biodiversity conservation.

Bernhard Limbong states that there is currently disharmony in the sectoral legislation governing natural resource management, with laws overlapping and negating each other (Wahanisa & Mahfud, 2021:399). This observation is supported by Nur Hasan Ismail, who argues that the phenomenon of sectoralism in agrarian regulation has increased during the reform era, due to differing approaches in realizing the "*state control rights*" as stipulated in Article 33, paragraph (3) of the UUD NRI 1945 (Ismail, 2018:20). The existence of Law Number 5 of 1990 on the Conservation of Biological Natural Resources and Their Ecosystems is also considered suboptimal, as its substantive content is not comprehensive, is scattered across various regulations, and does not adequately accommodate several ratified international agreements related to biodiversity conservation. Moreover, synchronization with other legislation, including Law Number 23 of 2014 on Regional Government, is necessary. The overlap of regulations must be anticipated in the drafting of legislation concerning the management of biological natural resources and their ecosystems. This regulatory overlap is partly due to a lack of sensitivity towards the rights of indigenous peoples. The Constitutional Court has emphasized the protection of indigenous peoples in several rulings, including Constitutional Court Decision Number 35/PUU-X/2012, which reviewed Law Number 41 of 1999 on Forestry. This decision asserts that indigenous communities have the authority to manage their forests, including harvesting forest products, based on the local wisdom of these communities in maintaining the environment. (Simarmata, 2018:185; Wahanisa & Mahfud, 2021:396)

The dynamics in the development of legislation closely related to the implementation of biodiversity conservation necessitate that the formation of laws and regulations comprehensively address the management of biological natural resources conservation. Given that the substantive aspects of biodiversity conservation are scattered across several regulations, they have yet to fully

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accommodate certain elements related to international conservation ratifications, evolving legal issues, legal needs, and law enforcement challenges. These gaps have not been adequately addressed by Law Number 5 of 1990 on the Conservation of Biological Natural Resources and Their Ecosystems. The multitude of factors and considerations necessitating the protection and management of biodiversity compels all parties to strive for optimal protection, both through legislation and regulation. Protecting biodiversity becomes crucial when confronted with its potential as a resource for the economic development of a nation. To achieve this objective, it is essential to establish a holistic and comprehensive regulatory framework in the field of environmental law as one of the means to that end (Jadda, 2019:45). Based on the background outlined above, the author proposes a scientific article entitled "Framework for Biodiversity Conservation Governance in the Context of Regional Administration in Indonesia," with the following research questions: 1) What is the theoretical concept and policy framework for the implementation of biodiversity conservation in the context of sustainable development? and 2) What are the strategies for regulation and governance of biodiversity conservation at the regional level in the administration of regional governance in Indonesia?

II. RESEARCH METHOD

The research employs a normative juridical method with a legislative, analytical, and conceptual approach. Data for this study is sourced from primary, secondary, and tertiary legal materials, including laws and regulations, expert doctrines, and supporting literature, to analyze biodiversity conservation regulation within local governance.

III. DISCUSSION

A. Theoretical Concepts and Policy Framework for Biodiversity Conservation in the Context of Sustainable Development

Numerous threats to biodiversity exist on Earth, causing an increasing number of natural biological resources to be lost or even extinct, leading to imbalances in ecosystems. Excessive exploitation, driven by the growing human population's demand for more natural resources, poses the primary threat. This overexploitation exceeds the carrying capacity and supportable limit of biodiversity, which should be managed and utilized sustainably. Habitat destruction, habitat degradation, and habitat fragmentation form the basis of changes in local environmental conditions where organisms live (Asril et al., 2022:4-6). The various services, values, and roles of biodiversity have long been utilized by humans, including as sources of food, feed, medicine, energy, clothing, contributions to disaster prevention, water and oxygen provision, and climate influence. Biodiversity also supports economic, social, and cultural development. The relationship between human interests and the existence of biodiversity has led to the development of various insights, including diverse medicines, foods, and genomic knowledge contributing to industrial production. According to **Theresa M. Laverty**, biodiversity possesses two important values: intrinsic value, which is inherent, and extrinsic value, which pertains to benefits or instrumental value. Intrinsic value is the inherent worth of biodiversity itself, emphasizing the philosophical concept of biodiversity, while extrinsic value refers to the benefits, both direct and indirect, that biodiversity provides to humanity. Based on value classification, **David Pearce** divides biodiversity into use values (or economic values), which include both use and non-use values. Pearce's categorization is utilized for assessing environmental services, as it facilitates evaluating the extent of contributions or benefits derived from biodiversity. Direct use values consist of consumptive and productive values, which can take the form of food, medicines, building materials, fibers, and fuel. In contrast, indirect use values (or non-economic values) represent environmental services that provide potential or existence value, contributing to processes such as organic waste decomposition, pollination, climate and atmospheric regulation, as well as protection of plants and nutrient cycling (Pearce, 2002:44-45).

Conventionally, plant protection is often regulated through forestry laws generally addressing forest products in the scope of social forestry. This limits the protection of many plant species unless additional specific legislation is enacted. However, the enactment of specific laws regulating particular plant protection is rare in many countries. Examples include Italy, with specific laws on truffle and medicinal plant collection since 1931, and Australia, which has had special laws on endemic plant protection since 1939, later replaced by national parks and wildlife legislation in 1972 (Klemm, 1993:62). Discussions on wild plant protection often receive less attention compared to wildlife protection. Plants as biological resources are frequently marginalized in biodiversity conservation regulations. Prohibitions on plants generally include bans on picking, uprooting, cutting, destroying, and removing specimens. However, two particular issues arise in plant protection. First, legal ambiguities often surround the prohibition of damaging protected plants. Cases of intentional and purposeless plant destruction often occur due to lawful activities such as agriculture, forestry, or public works. Second, the issue of ownership is unique to plant protection discussions. Unlike animals, which are juridically considered public property (res nullius), plants are seen as the property of the landowner, whether in public or private ownership contexts (Klemm, 1993:91-92).

After nearly 22 years following the last amendment to the UUD NRI 1945 in 2002, many parties have begun to focus on constitutional studies related to environmental issues. The provisions resulting from the constitutional amendments have significant implications for the constitutional guarantee of environmental sustainability in Indonesia. Article 28H, paragraph (1) of the UUD NRI 1945 states that "***Every person has the right*** *to live a prosperous life, both physically and mentally, to reside, and*

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to obtain a good and healthy living environment, as well as the right to receive health services". Additionally, Article 33, paragraph (4) of the UUD NRI 1945 regulates that "***The national economy is organized based on economic democracy with principles of*** *togetherness, just efficiency, sustainability, **environmental awareness**, independence, and maintaining the balance of progress and national economic unity*". Articles 28H(1) and 33(4) are key provisions regarding the regulation of environmental norms within the Indonesian Constitution. Based on these two articles, it is evident that the UUD NRI 1945 has also accommodated constitutional protection, both for citizens' rights to a sufficient living environment and for ensuring the preservation of a sustainable environmental order against the negative impacts of national economic activities (Faiz, 2016:770-771). Besides Indonesia, constitutional rights and obligations related to environmental protection are also embedded in various countries' constitutions, such as India (1976), Portugal (1976), Spain (1978), Chile (1980), the Netherlands (1983), South Korea (1987), the Philippines (1987), Brazil (1988), Angola (1992), Ghana (1992), Armenia (1995), South Africa (1996), France (2006), Nepal (2007), Ecuador (2008), Bhutan (2008), and others (Faiz, 2016:776-777).

The ecological structure is an integrated system of complexity, where such complexity can potentially influence long-term development impact projections. Based on this understanding, the precautionary principle and adaptive governance are two crucial strategies in risk management when faced with high levels of uncertainty. The precautionary principle emphasizes avoiding actions or decisions that could cause damage, particularly irreversible harm, until sufficient data or information is available to assess and consider the associated benefits and costs. Adaptive management involves adjusting decisions or actions based on continuous and periodic monitoring of the outcomes achieved (The World Bank, 2018:4). In various parts of the world, the idea of ecocracy has emerged. The global embryo of ecocracy first appeared in the Brundtland Report. According to **Henryk Skolimowski**, the concept of ecocracy emphasizes the recognition of the power of nature and the life within it, an understanding of environmental limitations, cooperation with nature, and, importantly, the creation of a sustainable ecological system that respects the Earth and its contents, avoiding exploitative appropriation without consideration (Bauwens, 2005). Ecocracy also aims to establish a sustainable system that supports and benefits all living beings on Earth, both those that exist now and those that will exist in the future. In simple terms, the concept of ecocracy is an extension of the limitations of democracy. Not only should democracy no longer be confined to a specific territory or nation, but it must also ensure that its implementation in each country does not endanger other nations or harm the environment itself, whether directly or indirectly. In other words, **Jacqueline Aloisi de Larderel**, in "*Living in an Ecocracy*", describes ecocracy as a system of activities measured against international standards for environmental and natural protection. This means that the concept aims to reintegrate the lives of all living beings on Earth—humans, animals, and plants—within an eco-friendly environment (Faiz, 2016:776-777).

Development that intersects with the environment is described as a major contributor to biodiversity loss and climate change, primarily due to the scale of resources consumed by the construction industry. Therefore, it can be understood that the built environment can significantly contribute to addressing biodiversity loss (Opoku, 2019:1-2). Goal 15 of the Sustainable Development Goals (SDGs), titled "Life on Land", consists of 12 targets that encompass a range of issues, including the protection of terrestrial ecosystems and important biodiversity sites through sustainable forest management, as well as halting land degradation and preserving mountain biodiversity. Additionally, targets that need to be pursued include combating species extinction, ensuring access to and equitable sharing of benefits, addressing illegal wildlife trade, managing invasive alien species, and integrating biodiversity values into planning to achieve these results. These targets focus on increasing funding for biodiversity, promoting sustainable forest management, and enhancing capacity to combat illegal wildlife trade (Krauss, 2022:1180). Conservation areas are based on the separation between humans and nature, although the level of human access to resources varies significantly among the six categories of protected areas. However, the indicators in the Sustainable Development Goals (SDGs), particularly for Goal 15, do not specifically address the categories of protected areas that should be supported, nor how these areas should be connected to livelihoods and life, both in relation to the indicators and the interrelationships among them. This opens the possibility for the implementation of conservation areas under the banner of "SDG 15", in a manner that insufficiently acknowledges its impact on livelihoods, despite diverse studies on conservation areas emphasizing their role in distributing benefits and burdens, especially for local communities (Krauss, 2022:1183; Zafra-Calvo et al., 2017). Achieving sustainable development goals, particularly the targets of SDG 15, underscores the importance of protecting, conserving, and promoting sustainable management and use of biodiversity, including terrestrial ecosystems, through sustainable forest management, halting deforestation, and reducing the rate of biodiversity loss. In this context, the establishment of local regulations that support the management of biodiversity conservation areas must always align with the targets of SDG 15, to ensure that conservation areas are not only legally protected, but also managed sustainably.

B. Regulatory and Governance Strategies for Biodiversity Conservation in the Context of Regional Administration

In the structure of modern statehood, the state and its government system actively intervene in various aspects of societal life, ranging from activities related to social, economic, political, and cultural processes to the management and utilization of biological resources and their ecosystems within the framework of protecting the environment in a harmonious, balanced,

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sustainable, and enduring manner. The activities and services provided by the state, particularly concerning the social and economic life of the community aimed at achieving well-being, illustrate that the characteristics of this state are recognized as the concept of a welfare state. As a nation striving to fulfill the common good, Indonesia conceptually aligns with the realization of a welfare state (Rahardjo, 2006:181). The existence of law as a tool of social control is systematically employed to engineer and reinforce societal habits and behaviors, guiding them toward the objectives desired by the creators of legal instruments (Rahardjo, 2006:206-208). The manifestation of legal protection in this context not only targets the rights of communities but also aims to safeguard the environment from various forms of destructive exploitation. The correlation between society and the environment is constitutionally reflected in Articles 28H, paragraph (1), and 33, paragraph (4) of the UUD NRI 1945, which integrate the realization of a good and healthy environment as part of human rights, as well as the implementation of the national economy in accordance with environmentally sustainable principles. In the context of habitat conservation, the theory of legal protection is relevant for analyzing the legal safeguards for flora and fauna species through the development of regulations, including the establishment of regional legislation. The implementation of this legal protection also requires a series of participatory efforts from the community as legal subjects, who play a role in maintaining ecosystem balance and preserving biological resources. Community involvement in this participatory space should not only be formal and procedural but must also address substantive issues, particularly in the context of drafting local regulations related to biodiversity conservation.

The management of biodiversity in a planned, integrated, and comprehensive manner within the context of sustainable development must be conducted with utmost caution, continually considering the preservation, harmony, balance, and sustainability of biological resources and their ecosystems. This effort aims to achieve the welfare of the Indonesian people, both now and in the future. However, it is essential to recognize that the potential and existence of these biological resources are not unlimited and are irreversible if exploited excessively and uncontrollably. Any form of excessive utilization of biological resources can threaten their sustainability, and at certain stages, may even lead to extinction. To ensure that sustainable national development aligns with the management of biological resources and ecosystems, various regulations have been enacted governing the management of natural resources at both the national and regional levels. One such regulation is Law Number 32 of 2024 on the Amendment to Law Number 5 of 1990 on the Conservation of Biological Natural Resources and Ecosystems (Law Number 32 of 2024).

Indonesian society, particularly in areas outside Java, generally has institutions and social structures that govern local community life. One of the most affected institutions by political reform is the *ulayat* institution, a traditional institution upheld by a group of people, usually based on lineage (genealogical), who inhabit a specific area (*ulayat* land). The relationship between the community and the land they occupy is not merely economic but also encompasses a deep historical and spiritual bond. During the New Order era, the government arbitrarily took control of *ulayat* land and designated it as conservation areas. Indigenous communities were largely powerless against the government's actions, which often involved the use of physical force to suppress any resistance from the communities (Murwaji, 2004:3-4).

Regional Autonomy has the potential to play a significant role as a crucial political instrument in enhancing the political performance of local governments. It is expected to foster public accountability and transparency in the mechanisms and processes of political decision-making concerning development issues across various social, economic, and political sectors in the regions. Ideally, regional autonomy should yield positive impacts for the people in economic, social, and political spheres (Murwaji, 2004:19; Wahab et al., 2000:17). The principle of the Unitary State of the Republic of Indonesia (NKRI) has been the nation's established form of state since its proclamation and is enshrined in the 1945 Constitution of the Republic of Indonesia (UUD NRI 1945). Article 1 paragraph (1) of the UUD NRI 1945 states, "*The State of Indonesia is a Unitary State in the form of a Republic*". This provision signifies that NKRI is fundamentally a unified entity. Furthermore, Article 18 paragraph (1) of the UUD NRI 1945 stipulates, "*The Unitary State of the Republic of Indonesia is divided into provinces, and these provinces are divided into regencies and cities, each having a local government regulated by law*". The phrase "*... divided into*" implies that within the NKRI, there are provinces, and within each province, there are regencies or cities, which inherently form part of the respective province. Consequently, there exists a concept of vertical division of powers.

Law Number 32 of 2024 was established in response to the dynamics of strategic changes in the environment at both national and global levels, as well as various international policies from economic, social, and political perspectives. This law aims to refine the previous legislation that had been in effect for over 30 years as the foundation for the conservation of biological natural resources and their ecosystems. The emergence of this national regulation governing the management of biological resources and ecosystems is intended to achieve several key objectives, including (General Explanation of Law of the Republic of Indonesia Number 32 of 2024 on Amendments to Law Number 5 of 1990 on the Conservation of Biological Natural Resources and Their Ecosystems):

1) to ensure the preservation of ecological processes that support life-sustaining systems for the continuity of development and human well-being;

2) to ensure that genetic, species, and ecosystem diversity is consistently maintained, enabling the various potentials and existences of this diversity to support development as well as advancements in science and technology, which also meet human needs through the utilization of biological natural resources for welfare; and

3) to guarantee the control of the utilization of biological natural resources and their ecosystems to be conducted sustainably, without leading to a decline in the quality or quantity of genetic diversity (or genetic erosion) and the potential of biological natural resources and ecosystems, both on land and in water.

Law Number 23 of 2014 on Regional Government was enacted to support and facilitate the implementation of responsible regional autonomy based on democratic principles. In relation to the management of natural resources within the context of regional autonomy, Article 10 of Law Number 23 of 2014 stipulates that local governments have the authority to regulate the management and utilization of natural resources available in their regions. Furthermore, Article 27 of Law Number 23 of 2014 outlines the authority of provincial governments to manage marine natural resources within their jurisdiction, including activities related to exploration, exploitation, conservation, and management of marine wealth, excluding oil and gas. The utilization and management of these natural resources must be carried out while maintaining environmental sustainability in a responsible manner and in accordance with the potential and diversity of the region. This serves as a specific mandate for local governments to establish regional regulations governing the management and utilization of natural resources in alignment with the potential and capacities of the local area (Rawls, 1999:86).

Regarding habitats as environments that serve as homes for plants and animals, which are part of biological natural resources, various stakeholders are involved in the regulation, management, utilization, and oversight of these resources to enable them to live and develop naturally, both on land and in water. For instance, within the government, activities related to the management and utilization of biological natural resources and their ecosystems intersect with the administration of government affairs across multiple sectors, such as forestry, marine and fisheries, agriculture, spatial planning, infrastructure development, industry, energy and mineral resources, education and culture, law enforcement, and local government (The Presidential Instruction Number 1 of 2023 on The Integration of Biodiversity Conservation into Sustainable Development).

In practice, a fundamental issue in managing and utilizing biological natural resources and their ecosystems more sustainably is the differing goals and interests of various stakeholders. The diversity of these interests and objectives can even conflict with each other. Resolving such conflicts, especially those involving sustainable development goals versus exploitative business practices, cannot always be achieved through negotiation alone due to profound conflicts of interest. Another issue is the unequal position of stakeholders managing and utilizing biological natural resources and their ecosystems, leading to disparities in the distribution of benefits and costs. Dominant stakeholders tend to have more influence in resolving conflicts of interest. In game theory, a dominant party in an interaction holds stronger bargaining power, which is reflected in the outcomes of negotiations (Angelsen et al., 2018:84).

Complex institutional mechanisms and processes are designed to distribute governance authority and responsibility among various stakeholders, both governmental and non-governmental. When there is a lack of synchronization and harmonization of goals, authority, and interests among stakeholders, these issues can be addressed through improved communication and information sharing, clearer distribution of tasks and responsibilities, and the development of effective and accountable policy mechanisms for managing and utilizing biological natural resources and ecosystems. Cross-sectoral interest alignment can also be achieved through legislation that provides a strong legal basis for conservation regulations, encompassing broader governance of stakeholder responsibilities across sectors.

The policy direction of most countries today has favored a more decentralized system of governance and utilization of biological resources and their ecosystems. This decentralization of biodiversity management and utilization provides greater opportunities for local government and community involvement. There are at least two main approaches to decentralized governance. The first approach involves establishing an autonomous authority or institution for each conservation area, comprising representatives from the government, research and educational institutions, local stakeholders, and Non-Governmental Organizations (NGOs) focused on environmental issues. The duties and functions of this authority include managing forest conservation areas, monitoring compliance with regulations in biodiversity conservation, promoting and implementing strategic measures for the management and utilization of biological resources and their ecosystems, and proposing management plans and work programs for the conservation areas. Another approach to decentralized biodiversity conservation governance can involve projecting conservation areas as legal entities capable of performing various legal actions, such as purchasing or leasing land for conservation activities, as well as conducting activities beyond the boundaries of the conservation area (especially transboundary protected area) (Klemm, 1993:192-193).

IV. CONCLUSIONS

Based on the discussion above, the author concludes that biodiversity conservation in the context of sustainable development must be grounded in the principles of precaution and adaptive governance. Overexploitation and habitat alteration, which lead to

ecosystem imbalances, are the primary threats that must be addressed through policies integrating the intrinsic and extrinsic values of biodiversity. Thus, conservation policies should aim to maintain ecological processes while supporting human well-being sustainably. Regulatory strategies and governance of conservation at the regional level emphasize the importance of regional autonomy in managing biological resources. Regional governments must have clear authority over biodiversity management, taking into account the involvement of local communities, including indigenous peoples, to ensure effective and sustainable management. The main recommendation offered in this scientific article is the establishment of autonomous conservation authorities comprising diverse stakeholders and the recognition of conservation areas as legal entities with the capacity to perform legal actions, ensuring effective decentralized biodiversity management through harmonized policies and strengthened local governance.

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