

## Conservation efforts of wildlife habitats through the formulation of local regulations on biodiversity conservation management areas

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### KEYWORDS

Management Areas  
Environment  
Local  
Regulation  
Wildlife  
Habitat  
Conservation

**ABSTRACT** The protection and management of the environment as the primary life support system for humans in a harmonious, balanced manner through the preservation of biodiversity habitats within biodiversity conservation frameworks are manifestations of safeguarding the fundamental rights of every citizen, which must be continuously protected and ensured for its sustainability. This research aims to understand, analyze, and evaluate the implementation of biodiversity habitat preservation efforts through biodiversity conservation management areas through the enactment of regional legislation, including in the Province of Bangka Belitung Islands, Indonesia. This study utilizes a normative juridical legal research method with statute, case, conceptual, and analytical approaches. Data collection techniques involve literature review, observational methods, and in-depth interviews. This research findings indicate that the regulation regarding biodiversity conservation management has not yet been fully effective, as it primarily focuses on protection and lacks consideration for sustainable utilization. Challenges in biodiversity habitat preservation implementation include synchronization and harmonization issues in regulation, particularly regarding the division of authority between the central and regional governments in natural resource conservation and the limited involvement of communities, including local communities in conservation areas, to access and oversee the sustainable use of biodiversity resources based on local wisdom. Strengthening implementation measures, such as more robust and effective law enforcement, clear delineation of authority among institutional frameworks, and further development of substantive materials through scientific approaches in the field of biodiversity, is essential. Additionally, expanding the involvement of local communities in management and utilization activities in accordance with principles and procedures is necessary.

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### 1. 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). Given Indonesia's status as one of "The Twelve Centers of Biodiversity", strategic planning is essential, both in the long term and short term, to utilize biological natural re-

sources, especially those species with high economic value that should be prioritized. Strategic planning for the utilization of biodiversity potential is necessary to anticipate and accommodate national regulations and other international conventions related to the management, preservation, and protection of natural resources, particularly biodiversity (Maydrawati, 2016).

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).

The values that contribute to the increasing pollution and destruction of the environment stem from the contin-

ued 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; Supriadi, 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 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.

In 2015, the United Nations (UN) established 17 Sustainable Development Goals (SDGs) for 2030. These goals aim to promote the ideal values that guide humanity in its relationship with the planet, prosperity, peace, and partnerships by 2030, with part of the SDG agenda focused on "transforming our world" (Krauss, 2022). SDG Goal 15 of the 2030 Agenda aims to, "protect, restore, and promote the sustainable use of terrestrial ecosystems, manage forests sustainably, combat desertification, and halt and reverse land degradation and halt biodiversity loss". At the Rio+20 Conference in 2012, member states reaffirmed, through Paragraphs 197-204 of the conference outcome document titled "The Future We Want", that: (United Nation, n.d.):

"intrinsic value of biological diversity, as well as the ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its critical role in maintaining ecosystems that provide essential services, which are critical foundations for sustainable development and human well-being".

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 No. 5 of 1990 on the Conservation of Biological Natural Resources and Their Ecosystems, as well as Law No. 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 No. 23 of 2014 on Regional Government. In the implementation of Law No. 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).

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). 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). The existence of Law No. 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 con-

servation. Moreover, synchronization with other legislation, including Law No. 23 of 2014 on Regional Government, is necessary. 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).

One example of local government initiatives in managing biodiversity areas can be observed the Province of Bangka Belitung Islands. This province, established as the 31st province of Indonesia under Law No. 27 of 2000 on the Establishment of the Bangka Belitung Islands Province, comprises six regencies: Bangka, South Bangka, Central Bangka, West Bangka, East Belitung, and Belitung, along with one city, Pangkal Pinang. The characteristics of the communities in the Province of Bangka Belitung Islands are distinguished by their sources of livelihood. The primary occupations in this region include agriculture, fishing, mining, and trade. The soil in Bangka Island is highly suitable for commercial crops such as rubber, black pepper (*sahang*), coconut, and palm oil (Hasmonel et al., 2020).

Geographically, the Bangka Belitung Islands Province is located between 104°50' to 109°30' East Longitude and 0°50' to 4°10' South Latitude. It consists of two main islands, Bangka and Belitung, along with several smaller islands surrounding Bangka, such as Nangka, Penyau, Burung, Lepar, Pongok, Gelasa, Panjang, and Tujuh. Belitung is encircled by smaller islands including Lima, Lengkuas, Selindung, Pelanduk, Seliu, Nadu, Mendanau, Batu Dinding, Sumedang, and others. The province encompasses both land and marine areas, covering a total area of 81,725.23 km<sup>2</sup>, with approximately 16,424.23 km<sup>2</sup> (20.10 percent) designated as land and about 65,301 km<sup>2</sup> (79.90 percent) as marine territory. The province borders the Bangka Strait to the west, the Karimata Strait to the east, the Natuna Sea to the north, and the Java Sea to the south (Peraturan Pemerintah Kepulauan Bangka Belitung, 2016).

For nearly 20 years since the advent of the era of regional autonomy, the exploitation of natural resources, including mining resources in the Bangka Belitung Islands Province, has been largely uncontrolled. The rampant environmental destruction, smuggling, and corruption in the management of natural resources have ultimately led the province into its current dire situation (Haryadi, 2022; Yulianti, 2020). According to the Critical Land Review Report for the Bangka Belitung Islands Province in 2013, the criteria for critical land review predominantly fell into the critical category, amounting to 987,739 hectares—three times the figure from 2010. Additionally, the area classified as critical increased from 88,386 hectares in 2010 to 155,389 hectares currently. The extent of critical land has grown from 27,782 hectares to 60,720 hectares. In 2011, the Environmental Index was recorded at 64.99, but it fell to 58.17 in 2012. The activities of small-scale mining have predominantly influenced the decline in this environmental index (Yulianti, 2020).

The Bangka Belitung Islands Province has recently enacted Regional Regulation Number 2 of 2023 on the Management of Biodiversity Conservation Areas. This regu-

lation serves as a legal foundation for local governments in Indonesia to undertake both preventive and repressive measures related to biodiversity conservation. The scope of this biodiversity conservation includes efforts in terrestrial areas, such as protected forests and production forests designated for conservation, as well as conservation activities in aquatic areas, including inland waters, and conservation zones in coastal regions and small islands. The regulation on biodiversity management at the provincial level represents the exercise of autonomous authority granted to provincial governments by law, enabling them to independently regulate based on the principle of broad autonomy (Consideration of Regional Regulation of the Province of Bangka Belitung Islands Number 2 of 2023 on the Management of Biodiversity Conservation Areas).

In essence, a study on community participation in the management of conservation areas was conducted by Lily Sri Ulina Peranginangin in 2014. Utilizing a content analysis approach on various forestry regulations introduced during the reform era, Peranginangin concluded that the government acknowledges the presence of other actors, particularly the community, involved in conservation area management. The community has the opportunity to provide suggestions, information, and considerations regarding the management of conservation areas; however, the empowerment efforts by the government have not effectively supported the realization of ideal collaborative management (Peranginangin, 2014). Nevertheless, Peranginangin's study did not address the roles and participation of the community in each type of conservation area within a collaborative management framework. Based on the above description, the research team needs to conduct further studies on the implementation of biodiversity habitat preservation efforts through regional conservation area management, titled **"Conservation Efforts of Wildlife Habitats through the Formulation of Local Regulations on Biodiversity Conservation Management Areas"**.

## 2. METHOD

### 2.1 Types and Research Approaches

This research employs a normative legal research methodology with a statute approach, a conceptual approach, and an analytical approach. The data collection techniques used in this study include literature review, observational methods, and interviews. The observations conducted are non-participant, where the researcher acts solely as an observer of the events relevant to the research topic (Emzir, 2016). The interview technique utilized is open-ended interviews based on a pre-prepared list of questions, allowing informants to respond without limitations. Through these interviews, the researcher gathers information from relevant stakeholders in the conservation area and the surrounding community regarding collaborative management and the roles and participation of the community in such management.

### 2.2 Data Collection Technique

The collected data is then analyzed using qualitative research analysis techniques, which involve data reduction, data presentation, and conclusion drawing. Data reduction is the process of selecting and focusing on the simplification, abstraction, and transformation of "raw" data derived



from written field notes, including interview results, observations, and documentation studies. Data presentation is the activity of organizing a set of information, either in narrative text form or in various types of matrices, graphs, networks, or charts. All of these are designed to assemble the information into a coherent format that is practical. The final step is verification or conclusion drawing, which involves determining the "meaning" of the data set.

### 3. RESULTS AND DISCUSSION

#### 3.1 Existing Conditions of Regulation and Implementation of Biodiversity Habitat Conservation through the Management of Conservation Areas at the Regional Level

Biodiversity, often referred to as biological diversity, is defined as the unity of life forms, including macroorganisms such as plants and animals, as well as microorganisms, encompassing the genetic variety of species and the ecosystems they inhabit. Biodiversity within ecosystems supports the fulfillment of human needs for food, shelter, clothing, clean air, and medicine (Utami & Budiantoro, 2023). 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).

The social structure involved in the conservation of biological resources and their ecosystems is characterized by multilevel engagement, involving social institutions at various levels, from domestic to global. Processes at these different levels require a diverse set of concepts and principles; however, various concepts and principles regarding governance often overlap. This is reflected in the governance concepts found in the commons literature, where each level of scale presents distinct perspectives or viewpoints, likely resulting in differing interpretations within a social institution. The global perspective on biodiversity conservation (global commons) is certainly different from the understanding at the local level (local commons). This difference does not imply that one perspective is more accurate or ideal than the other; rather, it indicates that both perspectives can be considered valid from their respective viewpoints (Berkes, 2007).

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, eco-

nomic, 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, 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).

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 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).

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 cannot return to their original state 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 No. 32 of 2024 on the Amendment to Law No. 5 of 1990 on the Conservation of Biological Natural Resources and Ecosystems (Law of the Republic of Indonesia, 2024)).

Law No. 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 perspec-

tives. 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):

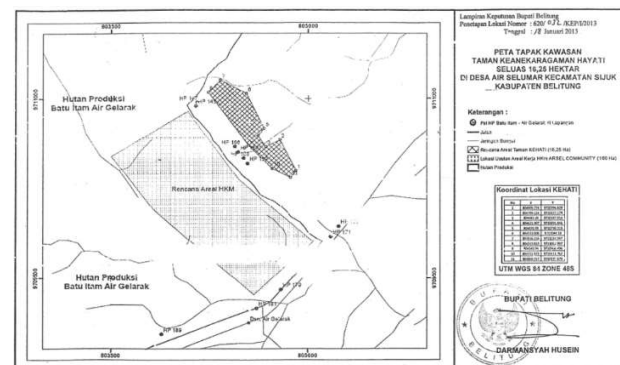
1. To ensure the preservation of ecological processes that support life-sustaining systems for the continuity of development and human well-being;
2. To ensure that genetic, species, and ecosystem diversity is consistently maintained, enabling the various potentials and existences of this diversity to 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.

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, 2023](#)). In the context of local governance, there is an attribution of authority from the central government to local governments, particularly concerning biodiversity management, as a manifestation of regional autonomy (See more at Section BB of the Concurrent Governmental Affairs Matrix between the Central Government and Provincial and Regency/City Governments Regarding the Division of Governmental Affairs in the Forestry Sector in the Appendix of Law Number 23 of 2014 on Regional Government). The attributed autonomy allows local governments to establish regulations independently based on the principle of broad autonomy. An example of the local government's management of biodiversity can be observed in the Province of Bangka Belitung Islands.

The Bangka Belitung Islands Province, particularly on Belitung Island, is rich in biological natural resources and holds strategic potential for their management and utilization at both local and global levels. The significance of these biological natural resources in the Province of Bangka Belitung Islands underscores the need for their sustainable, harmonious, and balanced management and utilization to ensure the welfare of present and future generations. This necessity has led to the establishment of reg-

ulations through Regional Regulation Number 2 of 2023 on the Management of Biodiversity Conservation Areas in the Province of Bangka Belitung Islands.

In relation to the management and utilization of biological natural resources and their ecosystems through conservation efforts, one implementation method is the establishment of protected areas, specifically the Biodiversity Park (Kehati) of Bukit Peramun in Belitung Regency of the Bangka Belitung Islands Province. This park was officially inaugurated through the Decree of the Regent of Belitung Number 620/032/KEP/I/2013 on the Designation of the Biodiversity Park covering an area of 16.25 hectares at the foot of Bukit Peramun, Dusun II, Air Selumar Village, Sijuk District, Belitung Regency. Bukit Peramun Kehati Park is a crucial component of efforts to preserve biological natural resources and their ecosystems in Belitung Regency. According to Article 1, number 2 of the Minister of Environment and Forestry Regulation Number 3 of 2012 on Biodiversity Parks, this area serves as a reserve for local biological natural resources outside forest areas and plays a role in both in-situ and ex-situ conservation.



**Figure 1.** Map of the Bukit Peramun Biodiversity Park Area (Source: Appendix of the Decree of the Regent of Belitung Number 620/032/KEP/I/2013)

The term "peramun" or "ramu" has historical and cultural roots in the community, which has traditionally regarded Bukit Peramun as a site for the growth of various local plants beneficial for herbal medicine, protected by local customs. Covering an area of 16.25 hectares, the Bukit Peramun Biodiversity Park safeguards endemic and rare species of plants and animals that thrive in the region. The rich flora and fauna within the park include 147 tree species, 9 types of fungi, 30 types of moss, 15 types of mammals, 2 types of primates, 8 types of snakes, 24 bird species, 17 species of freshwater fish, and 11 types of insects. The park is conceived as a miniature representation of the biodiversity found on Belitung Island, showcasing a variety of flora and fauna, including rare species, as a reflection of the well-preserved biodiversity in Belitung Regency ([Darmanwan, 2021](#)). The management of this area is carried out by local communities, such as the Air Selumar (ARSEL) Community and Green Peramun, which play a vital role in conserving and developing the region as part of a habitat area that serves as a reserve for local biological resources outside of forest areas. In addition to its function as a biodiversity conservation area, the Bukit Peramun Biodiversity Park is also developed into an ecotourism destination, as outlined in the Decree of the Regent of Belitung Number 188.45/050/KEP/DLH/2017 (In-Depth Interview with The Environmental Agency of Belitung Regency, June 25, 2024.)

(In-depth Interview with The Environmental Agency of Belitung Regency., n.d).

The effort to merge the Bukit Peramun Biodiversity Park with the adjacent Community Forest area (HKm) covering 15 hectares, transforming it into an ecotourism destination, serves as a concrete example of integrating biodiversity conservation with community empowerment initiatives. This integration is facilitated through the Social Forestry program, as regulated by Government Regulation Number 23 of 2021 on Forestry Administration, Minister of Environment and Forestry Regulation Number 9 of 2021 on Social Forestry Management, and Minister of Environment and Forestry Regulation Number 4 of 2023 on Social Forestry Management in Special Management Forest Areas. Altogether, these two areas within the ecotourism destination encompass approximately 34 hectares, becoming a key attraction that supports the local economy while simultaneously working to protect and preserve the biological resources and habitats in the region.



**Figure 2.** Comparison Graph of the Environmental Quality Index of the Bangka Belitung Islands Province with the National Average Index from 2018 to 2021 (Source: Publication on the State of the Indonesian Environment, Ministry of Environment and Forestry of the Republic of Indonesia 2022, with Author's Analysis)

The existence of conservation areas such as the Bukit Peramun Biodiversity Park is increasingly important, given the alarming decline in environmental quality in the Bangka Belitung Islands Province. According to national environmental status data released by the Ministry of Environment and Forestry of the Republic of Indonesia, there has been a decrease in the Environmental Quality Index (IKLH) in the Bangka Belitung Islands Province from 2018 to 2021. Although the IKLH value for this province remains above the national average, the trend graphically contrasts with the national average IKLH value, which has shown an increase (Kementerian Lingkungan Hidup dan Kehutanan Republik Indonesia, 2022). Supporting this, data regarding the IKLH of Belitung Regency indicates a significant decline in environmental quality, particularly in water quality indices, over the past three years. Factors such as climate change and prolonged dry seasons have led to the water quality index, a component of the IKLH, failing to meet expected targets, which has also affected land cover areas (In-Depth Interview with The Environmental Agency of Belitung Regency, June 25, 2024.) (In-depth Interview with The Environmental Agency of Belitung Regency., n.d). The IKLH value can serve as a reference for efforts to improve environmental quality, where a lower IKLH value indicates a

greater urgency for environmental protection and management initiatives. The decline in the IKLH in the Bangka Belitung Islands Province demonstrates ongoing weaknesses in the implementation and synergy of planning and environmental management in the region (Kementerian Lingkungan Hidup dan Kehutanan Republik Indonesia, 2022).

On the other hand, the mining industry, particularly tin mining, presents significant challenges to environmental sustainability in the Bangka Belitung Islands Province. Law Number 3 of 2020, which amends Law Number 4 of 2009 on Mineral and Coal Mining, stipulates that the authority over mining activities falls under the domain of the Central Government. Previously, provincial governments had some regulatory authority over the management of mineral and coal mining, as outlined in Article 7 of Law Number 4 of 2009; however, this article was subsequently revoked by Law Number 3 of 2020. Under the current framework, provincial governments retain limited authority to designate mining areas (Article 6, Paragraph (1), Letter f of Law of the Republic of Indonesia Number 3 of 2020 on Amendments to Law Number 4 of 2009 on Mineral and Coal Mining, 2020). Despite this, the environmental impacts of mining activities are still felt by local communities, which often submit complaints to the Environmental Agency of Belitung Regency. One of the primary issues faced is the clean water crisis, exacerbated by mining operations. In the Bukit Peramun area, there are at least twelve springs that serve as vital water sources for thousands of residents. Protecting conservation areas from the threats posed by mining activities is crucial for maintaining the integrity of natural resources (In-Depth Interview with The Environmental Agency of Belitung Regency, June 25, 2024) (In-depth Interview with The Environmental Agency of Belitung Regency., n.d).

The decline in environmental quality in the Bangka Belitung Islands Province, exacerbated by the rampant conversion of forest land into mining and plantation areas, poses a serious threat to the natural habitats of biological resources. In the long term, this will also impact the sustainability of both the quantity and diversity of these natural resources. This situation has been a key consideration in the formulation of Regional Regulation of the Bangka Belitung Islands Province Number 2 of 2023 on the Management of Biodiversity Conservation Areas. The designation of biodiversity conservation areas from a spatial planning perspective has also referenced Regional Regulation of Belitung Regency Number 3 of 2014 on the Spatial Planning of Belitung Regency for 2014–2034, which integrates environmental aspects with sustainable development in the region. The Regional Regulation of the Bangka Belitung Islands Province Number 2 of 2023 explicitly states that these conservation areas fall within the category of Protected Essential Ecosystem Areas (Article 6, Paragraph (2), Letter g of Regulation of the Province of Bangka Belitung Islands Number 2 of 2023 on the Management of Biodiversity Conservation Areas).

In terms of the distribution of governmental authority, there is a dynamic relationship among the central government, provincial government, and regency/city governments in the management of conservation areas. Following the reduction of authority at the regency/city level, such as the management of forest areas, which is now primarily the responsibility of the provincial government (Article 33, Paragraph (2), Letter a of Government Regulation of the Republic of Indonesia Number 23 of 2021 on Forestry Management), regency/city governments now only possess au-



thority over the management of areas outside these strategic zones. For example, the management of the Grand Forest Park (*Taman Hutan Raya* or *Tahura*) at the regency level, covering nearly 2,000 hectares, remains under the jurisdiction of the regency/city government; however, its funding still relies on the provincial government. This situation illustrates an imbalance in the distribution of authority between regency/city governments and the provincial government, which can affect the effectiveness of conservation area management (*In-Depth Interview with The Environmental Agency of Belitung Regency*, June 25, 2024. See also further details in Point 3 of the Sub-Affairs on the Conservation of Biodiversity in Section BB of the Concurrent Governmental Affairs Matrix between the Central Government and Provincial and Regency/City Governments Regarding the Division of Governmental Affairs in the Forestry Sector, Appendix of Law Number 23 of 2014 on Regional Government).

Regarding the role of communities in the management and utilization of biological natural resources and their ecosystems, particularly the involvement of local communities in the management of conservation areas, it is an essential aspect for sustaining the pillars of the biological natural resource ecosystem. According to the local government of Belitung Regency, the role of traditional leaders, such as the "Dukun or Dukon", is highly respected by indigenous communities, especially in determining whether activities that impact the environment can be conducted. However, the influence of the "Dukun" is limited to their respective customary territories, necessitating broader collaborative efforts to strengthen community involvement on a larger scale. For indigenous legal communities, the conservation of biological natural resources is not only linked to environmental sustainability but also to the continuity of their livelihoods, such as water sources and traditional medicinal plants (*In-Depth Interview with The Environmental Agency of Belitung Regency*, June 25, 2024.)(*In-depth Interview with The Environmental Agency of Belitung Regency*, n.d). Traditions and rituals that connect humans with nature serve as a vital foundation for maintaining the balance of an ecosystem.

In relation to the protection and management of biological resources and their ecosystems in a coordinated manner between the Central Government and Local Governments, as well as across sectors at every level of government, it is essential to establish a framework of collaborative relationships that mutually support each other, prioritizing the interests of sustainability and the preservation of natural resources above local and individual interests. According to Philipus M. Hadjon, legal protection encompasses all forms of safeguarding human dignity and rights, as well as recognition of the fundamental rights of legal subjects against arbitrary actions and legal provisions. It can also be understood as a set of rules or norms that protect one entity from another (Hadjon, 2007). From Philipus M. Hadjon's perspective in his theory of legal protection, there is an emphasis on the importance of safeguarding the rights of communities against the abuse of power, including in the context of the management and utilization of biodiversity within the framework of environmental protection.

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.

This is reinforced by John Rawls' perspective in the theory of social justice, which states that social justice should emphasize the principle of distributive justice, ensuring that every individual has the right to a fair distribution of the management and utilization of natural resources, through the alignment of social and economic aspects within an institutional framework of politics and law (Rawls, 1999). In the context of managing biodiversity conservation areas, Rawls' theory of social justice can be applied to assess whether the management of biological resources and their ecosystems provides equitable benefits to local communities, particularly vulnerable groups such as indigenous peoples who still rely on these natural resources for their livelihoods. The principle of distributive justice in the management and utilization of biodiversity conservation areas also encompasses the protection of community rights to sustainably utilize biological resources and their ecosystems. Therefore, policies for the protection of biological habitats, especially through local legislation, must consistently consider the welfare of local communities without compromising the ecosystems that sustain flora and fauna species.

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.

The implementation of legislation governing conservation activities, particularly regarding the effectiveness of enforcement of applicable regulations, heavily relies on the

recognition of the binding nature of conservation areas by relevant stakeholders and the community. This is in light of the existence of other legal regulations that also impose restrictions on public freedoms, provisions concerning individual property rights, and limitations on specific activities that have strategic impacts on the national economy. Considerations regarding funding for the execution of conservation activities, including sufficient and guaranteed funding for ongoing and sustainable conservation efforts, may not be entirely met if the required amounts exceed the dynamically allocated budget, which is influenced by complex economic calculations. The challenges related to funding support indicate that biodiversity conservation has yet to hold a strategic position in the considerations of fulfilling human rights and legal guarantees for a good and healthy living environment (Klemm, 1993). Based on the descriptions of the regulations and implementation of provisions related to the management and utilization of natural resources and their ecosystems, alongside various potentials and challenges, there is a pressing need for a strategic and ideal approach to support the harmony, balance, and sustainability of biodiversity. This can be achieved, in part, through efforts to conserve biological habitats by formulating comprehensive, cohesive, harmonious, and holistic legislation on the management of biodiversity conservation areas, including at the regional level.

### 3.2 Analysis and Evaluation of the Implementation of Habitat Conservation through the Formation of Regional Legislation on the Management of Biodiversity Conservation Areas

#### 3.2.1 Theoretical Concept of Habitat Conservation through the Management of Biodiversity Conservation Areas

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).

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).

In conservation areas, there are many stakeholders with varying interests. According to Borrini-Feyerabend, the stakeholders involved in conservation areas include the communities living in or around these areas, individuals who economically benefit from the resources within the conservation area (including indigenous communities), the government responsible for the conservation of these areas, non-governmental organizations (NGOs) interested in the preservation of the conservation area, scientists seeking knowledge from the conservation area, and others. Each of these stakeholders has different interests in the conservation area, often leading to conflicts of interest in the management of these areas (Borrini-Feyerabend, 1996:6-8; Qodriyatun, 2019:43). To mitigate the conflicts arising in conservation area management, a form of collaborative management is necessary, as stated in the World Commission on Protected Areas (WCPA) Congress held in Caracas, Venezuela, in 1993. Collaborative management is based on the agreement of two or more stakeholders in the conservation area to share information, roles, functions, and responsibilities within a partnership mechanism agreed upon collectively. A distinctive feature of collaboration is the process of mutual learning, particularly the sharing of information. In pursuing this goal, continuous or adaptive adjustments are often made (Dunggio & Gunawan, 2009; Qodriyatun, 2019).

#### 3.2.2 Legal Aspects of Biodiversity Habitat Preservation through the Management of Biodiversity Conservation Areas

One of the intriguing aspects of the legislative process is the right of public participation, particularly in the drafting and inclusion of protected biological resources. The aim of community involvement in the legislative process, especially regarding biodiversity protection, is to accommodate the aspirations and needs of the community, inform them about which biological resource species should be proposed for protection during the planning, drafting, and discussion stages, and provide space for listening to various perspectives and inputs from the public concerning the formulation of these provisions. Sometimes, the



regulations may also allow for restrictions on the authority of relevant authorities that issue permits, which can be reflected in the use of general phrases that denote limitations on the exercise of authority, such as, "... for reasons that override public interest" (Qodriyatun, 2019).

In the context of public participation as outlined in Law Number 12 of 2011 on the Formation of Legislation, there has been an expansion of the meaning of "public participation" in the legislative process following the Constitutional Court Decision Number 91/PUU-XVIII/2020. This expanded interpretation, which has evolved into "meaningful participation" post-Decision Number 91/PUU-XVIII/2020 regarding the judicial review of the Job Creation Law, is expected to serve as a benchmark for future legislative processes. In its ruling, the Constitutional Court stated that public participation in the legislative process must be conducted meaningfully. The aim is to ensure genuine public involvement. Below is the Constitutional Court's perspective on meaningful public participation as articulated in Decision Number 91/PUU-XVIII/2020:

"Public participation must be conducted meaningfully to ensure genuine engagement and involvement. Such meaningful participation must meet at least three prerequisites: first, the right to be heard; second, the right to have one's opinions considered; and third, the right to receive explanations or responses regarding the opinions provided. This public participation is particularly intended for groups that are directly affected or have a vested interest in the legislation under discussion".

The enactment of Law Number 13 of 2022 on the Second Amendment to Law Number 12 of 2011 on the Formation of Legislation (Law Number 13 of 2022) has provided a strong foundation for the role of the public in the legislative process, mandating broader, systematic, and planned participation at every stage of lawmaking. Article 96, paragraph (1) of Law Number 13 of 2022 states that the public has the right to provide input both orally and/or in writing during the legislative process. Furthermore, paragraph (3) clarifies that the public referred to in paragraph (1) includes individuals or groups directly affected by and/or having an interest in the contents of the Draft Legislation. Law Number 13 of 2022 reinforces public participation by asserting that the public has the right to provide input directly or indirectly at every stage of regulation formulation, whether through public consultations, seminars, focus group discussions, or other media.

From a legal perspective regarding the form of legal protection, C.S.T. Kansil argues that legal protection encompasses all matters guaranteed by law, provided by law enforcement agencies, to ensure physical and psychological security from various threats, obstacles, and disturbances from different parties (Kansil, 1989). In the context of legal protection for biodiversity, it can be understood as all forms of conservation efforts for biological resources, where such efforts are conducted through the management of these resources with a focus on sustainable utilization to ensure the continuity of their supply, while also maintaining and enhancing the quality and value of biodiversity. This is carried out both within and outside protected areas, including nature reserves, conservation areas in marine environments, coastal zones, small islands, and

preservation areas. The rationale for adopting the definition of "Conservation of Natural Resources" as stipulated in Article 1, Number 2 of Law Number 32 of 2024 on Amendments to Law Number 5 of 1990 on the Conservation of Biological Natural Resources and Their Ecosystems, as a form of "legal protection for biodiversity", is based on the understanding that this definition aligns with the terminology of "legal protection" manifested in the regulation of the definition of "Conservation of Biological Natural Resources" within the legislative framework. Based on the discussion presented earlier, the form of legal protection for biological resources and their ecosystems is now normatively realized through the establishment of legislation governing the management and utilization of biodiversity, both at the central and local levels.

However, legal protection for biological natural resources and their ecosystems remains limited to normative aspects and has not yet been fully implemented in a compliant and effective manner. The complexity of issues on the ground, such as the distribution of authority from an institutional perspective, the substance and material content that require further development through scientific approaches in biodiversity, the role of community involvement in management and utilization activities in accordance with principles and procedures, and matters related to funding, present ongoing challenges that necessitate continuous monitoring and review. This must align with the evolving conditions and status of biological natural resources and their ecosystems, as well as with the changing needs of society and the dynamics of the times. One form of development for the conservation of biological natural resources and their ecosystems is the establishment of legislation on biodiversity that is more inclusive and participatory.

The reconstruction of legislation regarding biodiversity in a sustainable and enduring manner can focus on integrating the protection of habitats with social and economic aspects (integrating protected areas into their physical, economic, and social surroundings). The development of such provisions must be built in a synchronized and harmonious manner, considering that the management and utilization of biological natural resources and their ecosystems intersect with various sectors in their regulation, as a logical consequence of biodiversity serving as a life-supporting system. Another objective of the regulation concerning biodiversity sustainably is, in addition to physical and economic considerations, to address social aspects by emphasizing the provision of opportunities for community involvement and participation, as part of the unified life-supporting system.

The implementation of biodiversity conservation must be carried out by the Central Government in collaboration with the Regional Governments in accordance with their respective authorities, while involving community participation, both individually and collectively. This community involvement can occur in various areas, including planning, management, protection, utilization, restoration, and supervision. Community participation can take the form of: (a) providing information and/or proposals; (b) offering suggestions/input for the preparation of management plans for conservation areas; (c) actively participating in conservation area management activities; (d) engaging in protection and restoration efforts; and (e) contributing to

the supervision and/or safeguarding of conservation areas and their ecosystems.

The efforts that can be undertaken by Regional Governments, both at the provincial and district/city levels, include various regulatory potentials that support community empowerment in the conservation of biological habitats. Forms of community involvement in habitat conservation can be implemented through a series of initiatives, such as: (a) the development of conservation villages; (b) granting access for the collection of non-timber forest products, traditional cultivation, limited traditional hunting for non-protected species, limited utilization of aquatic resources for non-protected species, or controlled nature tourism; (c) facilitating partnerships in terms of capital, marketing, infrastructure, institutional support, or technology; (d) granting permits for nature tourism services; (e) constructing tourism lodges; and/or (f) other forms according to the needs of the local community.

### 3.2.3 Review of Habitat Conservation through the Management of Biodiversity Conservation Areas in the Context of Sustainable Development Goals (SDGs)

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). 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).

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.

Strengthening the implementation phase, such as through stronger and more effective law enforcement and the precise and targeted allocation of budgets, is necessary. It is also important to integrate aspects of sustainable and equitable protection and utilization. This aligns with the objectives of SDG Goal 15, which focuses on "Life on Land." Sustainable management and utilization of biodiversity and its ecosystems within the context of the SDGs are based on the awareness that humans, as part of the Earth's ecosystem, contribute to the impacts of biodiversity loss, including activities such as deforestation, excessive exploitation of natural resources, and land degradation. The integration of biodiversity management and utilization with the achievement targets of the SDGs, in the context of law enforcement, can be holistically illustrated as follows:

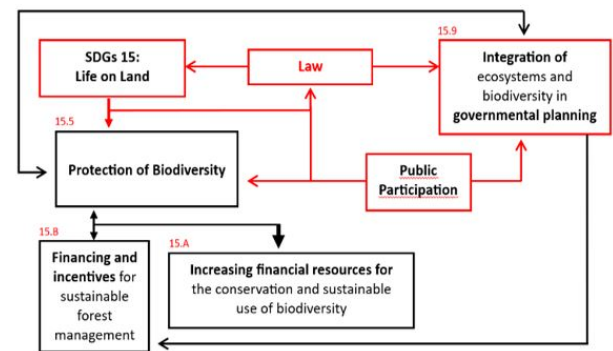


Figure 3. Flowchart of the Interconnection Between Aspects of Biodiversity, Law, and Sustainable Development Goals (Source: Author's Analysis)

Based on the illustration above, it is evident how the positions of the SDG achievement points and the legal aspects of biodiversity protection are interrelated and inseparable. In this context, legal aspects bridge the relationship between the macro points of SDG achievements and the sub-point of achievement 15.9, which is "Integrating Ecosystems and Biodiversity in Governmental Planning". Here, law serves as a means to translate governmental planning into legal products, while regulatory frameworks also act as guidelines to oversee efforts to protect biological resources and their ecosystems. Additionally, these frameworks ensure that governmental planning aligns with sustainable development goals. Public participation plays a central role in supporting the realization of SDG achievement points, particularly through the processes of legislation formation and the preparation of governmental planning documents.

## 4. CONCLUSION

Based on the findings and discussions presented above, the Research Team draws the conclusion that to ensure that sustainable national development aligns with the preservation of biodiversity, various regulations have been established. However, the rampant conversion of forest land into mining and plantation areas poses a serious threat to the loss of natural habitats for biological resources. Strengthening implementation measures, such as more robust and effective law enforcement, clear delineation of authority

among institutional frameworks, and further development of substantive materials through scientific approaches in the field of biodiversity, is essential. Additionally, expanding the involvement of local communities in management and utilization activities in accordance with principles and procedures is necessary. Continuous monitoring and review must occur in alignment with the evolving conditions and existence of biological resources and their ecosystems. This includes integrating aspects of protection and sustainable utilization consistent with the SDG achievements and responsive to community needs and changing dynamics.

In addition to the conclusions outlined above, there are also recommendations that propose actions or best practices for addressing the legal issues examined by the Research Team. Specifically, there is a need for the adoption of this Research Report into policy recommendations for stakeholders at both the central and local levels regarding the management of biodiversity conservation areas. This approach serves as a development of knowledge in the field of environmental law and can also educate academics and the broader community about the importance of public participation in habitat preservation efforts.

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