Environmental Law And Regional Autonomy: Opportunities And Challenges In Managing Natural Resources

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Abstract.

Decentralization and regional autonomy are pivotal in reshaping Indonesia's governance, particularly in managing natural resources. In environmental law, regional autonomy empowers local governments to take a more active role in protecting and managing the environment by local characteristics. However, the exercise of this authority is not without its hurdles, including regulatory disharmony between the central and regional governments, institutional capacity constraints, and underdeveloped oversight and public participation systems. This study examines the opportunities and challenges that arise when implementing environmental law within the framework of regional autonomy, with a specific focus on regulatory, institutional, and participatory aspects. The methods employed are a legal-normative and empirical approach involving an analysis of legislation, scientific literature, and case studies in several natural resource-producing regions. The study findings underscore that decentralization paves the way for reinforcing regional roles. However, this potential has not been fully harnessed due to the lack of policy synchronization and implementation capacity. The strategic role of regions in environmental protection continues to be impeded by the dominance of central authority, particularly in the mining and forestry sectors. Therefore, it is recommended that regulations be harmonized across levels of government, human resource, and institutional capacity in regions be bolstered, and community participation mechanisms in environmental decision-making processes be fortified. With this strategy, environmental law can emerge as a tool for ecological justice firmly rooted in local autonomy, fostering inclusivity through community participation.

Keywords: *Environmental Law; Regional Autonomy; Natural Resources and Decentralization.*

I. INTRODUCTION

Indonesia, a treasure trove of natural resources, is facing a grave threat. It is home to the third-largest tropical forest in the world, extraordinary biodiversity, and significant mineral and energy reserves. However, the data from Global Forest Watch (2023) reveals a distressing trend: 1.45 million hectares of primary forest were lost in 2022 due to illegal activities and weak local oversight [1]. The uncontrolled exploitation of these resources has led to ecological crises, including deforestation, river and air pollution, and ecological disasters like floods and landslides. The impact on biodiversity is alarming, underscoring the urgent need for conservation efforts.Official data from the Ministry of Environment and Forestry shows that in 2024, there was gross deforestation of 216,200 hectares, offset by reforestation of 40,800 hectares, resulting in net deforestation of 175,400 hectares [2]. River pollution is also one of the factors indicating an ecological crisis. The Citarum River in West Java is an extreme example of water pollution in Indonesia. With a river basin area of 6,929 km², the Citarum bears the burden of waste from over 2,000 textile industries and households. The river is estimated to hold around 20,000 tons of waste and 340,000 tons of wastewater daily. Since 2008, the fish population has declined by 60%, severely impacting the ecosystem [3]. More recent data suggests that these figures have continued to worsen, underlining the ongoing nature of these issues.Air pollution also highlights the ecological crisis in Indonesia, with haze caused by forest and peatland fires still posing a threat. Data from 2019 shows that 1.7 million hectares were burned, causing a prolonged haze crisis in Southeast Asia [4].

Haze causes a decline in air quality that endangers public health locally and across national borders. Greenpeace reported a significant increase in cases of acute respiratory infections, and research from Newcastle University estimated that the 2015 haze caused up to 17,000 premature deaths due to exposure to $PM_{2.5}$ [5]. This data highlights the urgency of protecting and controlling deforestation and enforcing

environmental laws. A moratorium on land clearing and enhanced early detection capabilities are urgently needed to prevent recurring ecological disasters.In this context, environmental law is an important instrument for ensuring ecosystem sustainability while protecting the rights of affected communities [6]. Law No. 32 of 2009 on Environmental Protection and Management (PPLH) is the primary legal basis, but its implementation is not without the complexity of regional autonomy. Since the enactment of Law No. 23 of 2014 on Regional Government, there has been a shift in authority from districts/cities to provinces and the central government in various aspects of natural resource management, particularly in the energy and forestry sectors. This shift has led to new dynamics in environmental governance at the local level, with implications for local control and public participation. Several studies have examined the relationship between decentralization and environmental governance. Muhammad Mahardika's research indicates that following the implementation of Law No. 23/2014 and the Job Creation Law, there has been a form of re-centralization of authority in the environmental sector [7].

The Job Creation Law, also known as the Omnibus Law on Job Creation, was enacted in 2020 to stimulate economic growth and investment. However, it has also led to reduced local control, particularly in matters related to permits and natural resource management. Novita Eka Utami notes that following the enactment of the mining sector law (Law No. 3/2020, a derivative of the Job Creation Law), the issuance of mining business permits has been fully transferred to the central government [8]. This has weakened the role and participation of local governments and communities, weakening local natural resource governance. Sandy Gustiawan Ruhiyat et al. (2024) noted significant changes in the Environmental Protection and Management Law (UU PPLH) following the Job Creation Law, where the central government now controls the issuance of permits and environmental impact assessments (AMDAL) [9]. This change is seen as limiting local governments' opportunities to exercise their environmental management authority and weakening public participation mechanisms and local oversight.With its focus on analyzing the position and effectiveness of environmental law within the framework of regional autonomy, particularly about the opportunities and challenges of implementing local government authority in natural resource management, this study has the potential to impact environmental law and regional governance significantly. The study will reveal how regional autonomy can be optimized to strengthen environmental protection and identify structural and regulatory barriers that hinder its realization. This study also examines how regulatory disharmony between the central and regional governments and overlapping authorities affects the effectiveness of environmental protection efforts.Significant research gaps can be identified from the previous studies. This study aims to comprehensively review how the shift in authority after the national regulatory reform has impacted the effectiveness of regional environmental authority.

It also aims to integrate legal, institutional, and socio-ecological analyses in studies on natural resource governance. Third, it aims to provide applicable and contextual regulatory solutions or models for strengthening regional authority in environmental protection. Our study aims to examine and analyze the position of environmental law in the regional autonomy system based on applicable laws and regulations. It also aims to identify strategic opportunities for local governments in sustainable natural resource management and the challenges and obstacles faced in terms of regulation, institutional capacity, and implementation practices in the field. Importantly, our research will lead to formulation strategies and regulatory models that are synchronized, integrative, and responsive to local and global socio-environmental dynamics.

II. METHODS

This research, a type of normative legal research, is a comprehensive analysis that aims to understand the law's role in regulating local governments' authority in environmental management. It particularly focuses on the context of regional autonomy and the changes in the authority structure due to the dynamics of national regulations. The research uses two main approaches, the statute approach and the conceptual approach, to provide a thorough understanding of the subject matter. The statute approach is used to examine positive legal norms governing environmental protection and management, as well as intergovernmental relations, particularly those contained in Law No. 32 of 2009 on Environmental Protection

and Management, Law No. 23 of 2014 on Regional Government, and Law No. 11 of 2020 concerning Job Creation and its derivative regulations.Meanwhile, the conceptual approach is used to understand the ideas and fundamental principles underlying environmental authority in a decentralized system, such as good environmental governance, regional autonomy, and sustainability. The data used in this study is secondary and obtained through library research, which includes various legal sources, such as legislation, academic literature in the form of books and scientific journals, and relevant official policy documents [10]. The analysis is conducted qualitatively, focusing on legal interpretation and normative argumentation. In the analysis process, the author examined the consistency between legal norms and implementation practices in the field and the normative and institutional obstacles local governments face in exercising their authority. The results of this approach are expected to provide policy recommendations and the formulation of regulatory models that are more synchronized and responsive to environmental challenges at the local level.

III. RESULT AND DISCUSSION

The Legal Position of the Environment within the Framework of Regional Autonomy in Indonesia

Environmental law in Indonesia plays a key role in maintaining a balance between development and environmental conservation, especially in the complex context of regional autonomy [11]. Since regional autonomy was expanded through Law No. 22 of 1999, which was later replaced by Law 23/2014 to delegate authority to districts/cities significantly, regions were ideally expected to be able to respond to local environmental issues more effectively. However, decentralization, devolution, and re-centralization continue to intersect, creating a dynamic, mutually reinforcing legal landscape, including on environmental issues. Law No. 32/2009 (Environmental Protection and Management Law) is a critical piece of legislation that establishes the principles of sustainable environmental management, public participation, and environmental justice [12]. These principles, along with the tools of environmental impact analysis (EIA) and public oversight mechanisms, are of utmost importance in the context of regional autonomy. However, since the implementation of regional autonomy, the management of EIA, initially the responsibility of regional governments, has been re-centralized. This has led to a decline in the quality of EIA evaluations at the regional level, primarily due to a lack of technical and political capacity and a tendency for local bureaucracies to prioritize development projects over environmental conservation [13].The enactment of Law No. 23 of 2014 on Regional Government has brought about new challenges.Articles 14 and 15 of this law stipulate that the responsibility for managing strategic natural resources, such as the forestry and mining sectors, has mainly been transferred to the central and provincial governments.

This shift in authority has led to a loss of relevance of environmental policies at the local level, as district/city governments no longer have a strong legal basis to address contextual and region-specific environmental issues. Consequently, the principle of subsidiarity, which should be the cornerstone of decentralization, has been weakened, and the role of local governments has been reduced to that of technical implementers without substantive authority in formulating and supervising natural resource policies in their administrative areas.In decentralization, local governments should have a strategic role in managing natural resources sustainably by local characteristics. However, the revocation of authority over strategic sectors such as mining and forestry has weakened institutional capacity at the local level. As a result, resource management is more controlled by corporate interests than environmental protection. A system of government that remains oriented towards a unitary structure maintains hierarchical control from the center so that local aspirations and specific ecological needs of the region are often neglected in the formulation and implementation of public policy [14]. The position of environmental law within the framework of regional autonomy in Indonesia is in a dilemma: On the one hand, decentralization provides space for participation and ecological justice at the local level, but on the other hand, weak institutional capacity and regulatory disharmony render the implementation of environmental law ineffective. Herath theory of decentralization suggests that devolving authority encourages innovation and efficiency [15].

However, local governments must be ready to implement decentralization effectively. Otherwise, it will not be achieved adequately. This phenomenon is evident in the implementation of the Environmental Impact Assessment (AMDAL), which normatively guarantees community participation but often fails in practice due to the limited interpretive power and actions of local institutions, as well as minimal public involvement, particularly in law enforcement.Environmental law in Indonesia should not merely be a symbolic tool in the regional autonomy scheme [16]. It must serve as a substantive instrument bridging local demands for participation and ecological justice with national needs for uniformity and protection of strategic resources. Without institutional reform and strengthening of legal functions at the local level, the goals of regional autonomy and environmental justice principles will be difficult to achieve fully. The political ecology and justice by localism approaches can be used as a normative basis for strengthening environmental law at the local level, which is not merely a technocratic matter but also relates to the equitable distribution of power and the ecological rights of communities. To that end, the reform strategy must include three important aspects: first, increasing the technical and legal capacity of local actors; second, harmonizing sectoral regulations that enable synergistic cooperation between the central and regional governments; and third, implementing co-regulatory governance that involves all stakeholders equally.

Opportunities for Local Governments in Environmental Management

Local governments hold a significant and strategic role in environmental management, particularly following the implementation of decentralization in Indonesia [17]. This shift in power grants local governments the authority to regulate and manage government affairs outside the central government's jurisdiction, as outlined in Law No. 23 of 2014 on Local Government. Among the mandatory responsibilities related to basic services is environmental management. This places local governments in a powerful position, with a robust legal foundation to design, implement, and evaluate environmental policies tailored to each region's ecological characteristics and local needs.However, the success of environmental resource management is not solely determined by a decentralized or centralized government system. Instead, it hinges on the quality of collaborative governance, with the active involvement of the government, civil society, and the private sector being the key. In this context, local governments must evolve into collaborative facilitators that foster dialogue, participation, and cross-sectoral synergy to formulate inclusive, responsive, and sustainable environmental policies.One concrete opportunity that local governments can take advantage of is implementing EIA and supervision of environmental permits. Based on Law Number 11 of 2020 concerning Job Creation and Government Regulation Number 22 of 2021 concerning the Implementation of Environmental Protection and Management, the authority to manage AMDAL lies at the provincial level for activities across districts/cities and at the district/city level for activities within a single administrative area.

With closer control over their regions, local governments can ensure that the EIA process is not merely an administrative formality but serves as an instrument for preventing environmental damage. Importantly, the involvement of local communities in public consultation processes, as stipulated in Article 39 of Government Regulation No. 22/2021, is a key factor in making environmental policies more participatory and rooted in the interests of residents, underscoring their value and integral role in the process.In the context of climate change and global commitments such as the Paris Agreement, local governments hold a significant and empowering role [18]. Indonesia's national commitments, as outlined in the Nationally Determined Contributions (NDC) document, necessitate tangible contributions from the local level. This is because greenhouse gas emissions primarily originate from sectors under local authority, such as energy, forestry, agriculture, and transportation. The legal basis for this pivotal role is found in Presidential Regulation No. 98 of 2021 concerning the Implementation of Carbon Economic Value for Achieving NDC Targets and Controlling Greenhouse Gas Emissions, as well as Minister of Environment and Forestry Regulation No. 21 of 2022 concerning the Implementation of NDCs in the Forestry and Land Use Sectors. Local governments can develop policies supporting climate change mitigation and adaptation efforts, such as forest conservation, small-scale renewable energy development, or strengthening the resilience of coastal areas to climate disasters.

Local governments also have economic and funding opportunities in environmental management that can bring significant benefits. Such funding may come from sources such as the Green Climate Fund (GCF) or the Global Environment Facility (GEF), which can be utilized to finance innovative environmental projects in local areas, provided there is administrative and technical readiness in project proposals and reporting. In addition, local ecosystem-based carbon trading schemes, such as Reducing Emissions from Deforestation and Forest Degradation Plus (REDD+) in the forestry sector, can be a source of income and a dual-impact environmental conservation effort for the community.However, for these opportunities to be fully utilized, there needs to be a committed and responsible effort between the central and local governments regarding regulatory harmonization. Many national sectoral policies are not yet fully synchronized with local needs. For example, forestry or mining policies from the central government sometimes conflict with regional spatial planning (RTRW) at the local level. This creates jurisdictional tensions that lead to legal uncertainty and weak environmental protection. This tension is in line with Ostrom's findings in the Polycentric Governance theory, which emphasizes the importance of coordination between levels of government to avoid regulatory conflicts and improve the effectiveness of common-pool resource management [19].Therefore, harmonizing cross-sectoral and intergovernmental regulations is an important prerequisite in supporting the active role of local governments in environmental management. This is also in line with the mandate of Article 69 paragraph (2) of Law No. 32 of 2009 concerning Environmental Protection and Management (PPLH), which encourages local governments to undertake environmental protection efforts by their authority and within the framework of an integrated national legal system.

Challenges Faced by Local Governments in Exercising Their Authority Over Natural Resource Management

Decentralization, a key reform adopted after Indonesia's reform era, initially sparked high hopes for enhanced natural resource management at the local level [20]. Law No. 23 of 2014 on Regional Government granted specific authorities to regions to manage natural resources to bolster autonomy and accelerate development aligned with local interests. However, the implementation of these authorities has been marred by a slew of structural, regulatory, institutional, and political challenges, thwarting the full potential of regions in the sustainable management of natural resources.One of the main challenges in local governments' natural resource management is the lack of clarity and consistency in the division of authority between the central and local governments. This has become increasingly complex since the enactment of Law No. 23 of 2014 on Regional Government, which significantly altered the authority structure in strategic sectors such as mining, forestry, and marine affairs. This law, particularly in Annex B, point 3, on the Division of Concurrent Government Affairs in the Energy and Mineral Resources Sector, has transferred the authority to issue mining business permits (IUP) from district/city governments back to the central government through the Online Single Submission (OSS) mechanism.This change was intended to simplify licensing and improve investment efficiency. However, it has created administrative tensions and limited the local government's ability to control natural resource exploitation activities in its territory. Local governments, fundamentally more familiar with local socio-ecological conditions, no longer have complete control over economic activities that directly impact environmental quality and community welfare [21].

When the central government conducts oversight of natural resource exploitation, while the impacts are felt directly at the local level, policy responses inevitably become mismatched, highlighting the disconnect between policy and local needs.Additionally, in environmental protection, Law No. 32 of 2009 on Environmental Protection and Management (PPLH) still mandates local governments to oversee and enforce regulations regarding business activities that cause environmental impacts. Article 63, paragraphs (3) and (4) state that provincial and district/municipal governments have authority over environmental protection and management, including issuing environmental permits, oversight, and imposing administrative sanctions. However, when the main permits (such as mining business permits) are centralized, the authority of local governments to enforce environmental laws is weakened because they have no control over the initial licensing process.This jurisdictional tension also leads to fragmentation of responsibility and weakens accountability in natural resource management. Business actors, local communities, and supervisory agencies often lack clarity about whom to refer to or report violations. This opens the door to forum

shopping, where certain parties choose the most advantageous jurisdiction to them administratively or politically. This lack of clarity in the division of authority also creates regulatory confusion that is detrimental to businesses and communities. Investors face overlapping regulations between environmental permits, business permits, and spatial planning, while local communities often do not know where to report pollution or environmental violations.

According to the OECD report, fragmentation of authority is one of the leading causes of the weakness of the environmental compliance assurance system, as oversight is not carried out in an integrated manner, and responses to violations are slow [22]. Another challenge is the weak bargaining position of regions in negotiations over the allocation of natural resource benefits. Although natural resource management contributes significantly to national income, many resource-producing regions receive only a minimal share of the value added from exploited natural resources. The revenue-sharing and special allocation funds received often are not commensurate with the social and ecological impacts borne by the regions. In this case, vertical fiscal inequality exacerbates regional spatial and economic inequality. As stated by McCarthy (2010), the central-regional relationship in natural resource management is still heavily influenced by extractive logic, which positions regions as hinterlands for supply rather than sovereign actors in development with control over their space and resources [23].From the perspective of local politics, challenges arise in the form of elite capture, which is the tendency for decisions on natural resource management to be taken over by a small group of local political and economic elites. This phenomenon creates corrupt practices and misuse of permits that harm the community and the environment. Short-term interests in local political contests often encourage regional heads to make decisions not oriented toward sustainability but rather toward economic rent.

A study conducted by Fitrani, Hofman, and Kaiser shows that the politicization of natural resources at the local level is one of the consequences of fiscal decentralization and regional autonomy that is not accompanied by a strong system of checks and balances [24]. To address these challenges, natural resource governance reform is needed that places regions as active subjects within the national policy framework. Vertical and horizontal regulatory harmonization must be done immediately to integrate central policies with local development plans. Strengthening regional institutions, including planning, oversight, and transparency in natural resource management, must be a priority in bureaucratic reform.

Strategies to Strengthen the Role of Local Governments in Environmental Law

Local governments play a vital role in implementing environmental law, given that they are at the forefront of managing natural resources, enforcing regulations, and serving communities most affected by environmental degradation [25]. Within the decentralization framework that began with the 1999 reforms, regional autonomy has given local governments broader authority to manage their affairs, including environmental protection. However, this authority is not always accompanied by institutional capacity, regulatory coordination, or adequate resources. Therefore, a systemic and integrated strategy is needed to strengthen the role of local governments in realizing fair, participatory, and sustainable environmental governance.One key strategy is establishing a clear and harmonious regulatory framework between the central and local governments. Regulatory disharmony has been a significant hurdle in the effective implementation of environmental law [26]. Instances, where mining permits issued by central ministries conflict with regional spatial plans (RTRW) established by local governments, have led to conflicts of authority and legal uncertainty. While Law No. 32 of 2009 on Environmental Protection and Management (PPLH) allows room for local governments to regulate environmental protection according to regional characteristics, many of its implementing regulations are centralized and overlook local needs. Policy harmonization through intergovernmental dialogue, revision of overlapping legal norms, and strengthening of environment-based development planning systems are crucial to making environmental law an administrative obligation and a genuine tool for protecting local ecosystems.

The following strategy focuses on institutional and technical capacity building at the regional level. Many regional governments, particularly those outside Java, face challenges regarding competent human resources in the environmental field, environmental quality monitoring infrastructure, and environmental data management information systems. These limitations have led to the production of low-quality EIA

documents, weak oversight of business actors, and minimal restoration of environmental damage. Therefore, expanding and integrating regular training for environmental oversight officials is crucial, strengthening information technology-based data management institutions and providing technical support from relevant ministries into the national policy on strengthening regional autonomy. This approach aligns with the capacity-building strategy developed within the framework of the United Nations Environment Programme (UNEP), which underscores that the success of environmental law is not solely determined by written rules but also by the capacity of implementers at the local level.In addition, strategies to strengthen the role of local governments must also consider environmental integration in regional development planning [27]. Many regional development programs have not prioritized environmental issues as a key component in the planning and budgeting. Regional Medium-Term Development Plans (RPJMD) and Regional Government Work Plans (RKPD) often marginalize environmental programs under pressure from short-term economic growth logic.

Therefore, local governments need to be encouraged to apply the principles of sustainable development in their planning documents, including through the Strategic Environmental Assessment (KLHS) instrument required by the Environmental Management Law (UU PPLH) and the Job Creation Law (UU Cipta Kerja). The KLHS is a tool that enables local governments to assess the environmental impacts of development policies and programs from the outset, thereby preventing greater damage in the future. It involves systematically evaluating a policy, plan, or program's potential environmental effects and integrating these considerations into decision-making.Furthermore, the need for cross-sectoral and cross-regional collaboration cannot be overstated as a crucial strategy for addressing environmental issues that transcend administrative boundaries. Issues such as river pollution, forest degradation, or the impacts of climate change do not respect district or provincial boundaries. Therefore, it is essential to establish regional coordination forums, promote inter-regional cooperation, and form ecosystem-based thematic consortia to strengthen coordination mechanisms between regions and sectors. The central government can be pivotal in facilitating this collaborative framework by providing a shared data platform and incentive funding for innovative, collaborative initiatives. This approach, in line with the principle of polycentric environmental governance proposed by Nisar et al., underscores the importance of environmental management carried out by various decision-making centers that coordinate and reinforce each other [28].

Ultimately, the strategy to strengthen the role of local governments in environmental law must be based on a synergy of regulatory, institutional, participatory, economic, and collaborative strengthening. Local governments are not just implementers of central policies but also key actors in the protection and management of sustainable environmental life. This significant responsibility requires political commitment, bureaucratic reform, and long-term investment in building environmental governance responsive to local challenges while aligning with global agendas.

IV. CONCLUSION

Environmental law within the framework of regional autonomy reflects efforts to decentralize authority, which ideally provides space for local governments to manage and protect natural resources more effectively, participatively, and sustainably. Regional autonomy opens opportunities to strengthen the role of local communities in environmental conservation. They are crucial in monitoring, policymaking, and applying local wisdom. However, the challenges faced are not insignificant, including overlapping authority between the central and regional governments, weak local institutional capacity, political intervention, and a tendency to exploit resources in favor of short-term economic interests. Therefore, there is a need to redefine a more integrated legal and environmental policy framework and strengthen cross-sectoral and intergovernmental coordination to ensure that decentralization truly supports the principles of ecological justice and environmental sustainability.

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