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AUTHORITY TO REGULATE AND UTILIZE WATER RESOURCES MANAGEMENT FROM PERSPECTIVE OF ENVIRONMENTAL

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ABSTRACT

This study examines state authority in water resource management from the perspective of environmental administrative law amid increasing pressures on water quality, climate change, and conflicts of interest among the state, communities, and the private sector in Indonesia. Following the Constitutional Court's decisions and the enactment of Law No. 17 of 2019 concerning Water Resources, the state is reaffirmed as the principal authority responsible for controlling and ensuring water utilization for public welfare. This research employs a normative juridical method using legislative, conceptual, and comparative approaches. Data were collected from primary legal materials, including statutes, implementing regulations, and court decisions, as well as secondary materials such as books, scientific journals, and relevant studies. The analysis uses descriptive-analytical and interpretative techniques to examine norms and principles of environmental administrative law. The findings reveal that the state exercises authority through administrative instruments such as licensing, supervision, and administrative sanctions. However, overlapping authority between central and regional governments, weak environmental oversight, and limited integration between administrative and ecological instruments reduce governance effectiveness. In addition, the principles of participation, transparency, and precaution have not been optimally implemented, affecting environmental protection and community rights to water. The study concludes that strengthening legal instruments, harmonizing authority, enhancing institutional capacity, and consistently applying principles of good governance and precaution are essential for sustainable and equitable water resource management. This article contributes by offering an integrated analysis of post-2019 water governance and its implications for environmental administrative law reform in Indonesia.

1. Introduction

Water resource management is crucial because it holds dual status as both public law and a source of life. This importance stems from the fact that water is a basic human need and a crucial element for ecosystem sustainability.[1] The urgency of water management as public law: As public law, water resource management is urgent because it regulates common interests and prevents conflicts in its use. State control: Water is a vital sector of production that affects the livelihoods of many people. Therefore, the state has an obligation to control and manage water for the prosperity of the people, as mandated by the constitution. Preventing excessive privatization: Without strong regulations, water resources can become the target of excessive privatization, threatening public access to clean water. Reducing conflict: Poorly regulated management can lead to conflict between users, between sectors, and between regions. Public law serves to regulate water use fairly and equitably, thereby reducing the potential for disputes.[2] Guaranteeing basic community rights: The state plays a role in ensuring the availability of sufficient clean water for the community's daily basic needs.

Regulation of authority: Public law regulates the duties and authorities of central and regional governments in water resource management, including monitoring water quality and infrastructure maintenance. Bathing and sanitation: Good management ensures the availability of clean, quality water to meet these basic needs, thereby preventing diseases caused by poor water quality. Supporting ecosystem sustainability: Proper management ensures the preservation of environmental functions and carrying capacity. Supporting economic production: Water is a vital resource for various sectors, including agriculture, industry, and energy.[3] Optimal management enables efficient water use to support sustainable economic and social development. Reducing the risk of natural disasters: Effective management also includes efforts to mitigate water-related disasters, such as floods and erosion. By regulating water flow, the risk of damage to property and lives can be minimized. Ensuring future sustainability: Sustainable water management means meeting current needs without compromising the availability of water for future generations. This includes conservation efforts to prevent overexploitation of renewable water resources.[4] Overall, the urgency of water resource management lies in the combination of these two aspects: ensuring fairness and equitable access through a public legal framework, while simultaneously guaranteeing its availability and quality as a vital life source for all living things. The urgency of water management as a life source: As a life source, wise water management is crucial to ensuring the survival of humans and nature.

The conflict of authority between the central and regional governments regarding privatization and environmental sustainability is a complex issue involving competing interests, overlapping regulations, and often detrimental impacts on communities and the environment. The main issue: This conflict typically centers on the management of natural resources (SDA) in the regions. Aspects of Privatization: Central Authority: The central government has the authority to create strategic policies and grant permits for major investments, including the privatization of natural resources, such as water or mining. Economic Impact: The rationale for privatization is often based on the desire to reduce the government's financial burden, increase efficiency, and promote professional management. Risks for Regions: Privatization can trigger conflicts of interest, where private companies seeking profit ignore

[1] Akbareldi Affan and Candra Kirana Rosita, "Politik Hukum Pengelolaan Sumber Daya Air Dalam Undang-Undang Sumber Daya Air," *Jurnal Ilmiah Wahana Pendidikan* 10, no. 22 (2022): 56–63.

[2] Sri Rezky Wulandari Andi and Ilyas Anshori, "Pengelolaan Sumber Daya Air Di Indonesia: Tata Pengurusan Air Dalam Bingkai Otonomi Daerah," *Jurnal Gema Keadilan* 6, no. 3 (2019): 287 – 299.

[3] Weningtyas Annisa and Widuri Endang, "Pengelolaan Sumber Daya Air Berbasis Kearifan Lokal Sebagai Modal Untuk Pembangunan Berkelanjutan," *Volkgeist: Jurnal Ilmu Hukum Dan Konstitusi* 5, no. 1 (2022): 129 – 144.

[4] Kirana K. Chandra, "Pengelolaan Sumber Daya Air Berdasarkan Perspektif Hukum Indonesia," *Jurnal Indonesia Sosial Teknologi* 2, no. 11 (2021).

the interests of local communities and neglect their obligations to conserve the environment.[5] Such conflicts often occur in water management, coastal areas, and mining.[6] Aspects of Environmental Sustainability: Regional Authority: Regional governments have the authority to create regional regulations (perda) regarding environmental protection and management within their jurisdictions. Weak regional regulations: Some regional regulations in the field of natural resource management still minimally incorporate sustainable development principles, making it difficult to control environmental damage caused by privatization activities.

Environmental impacts: Massive privatization and exploitation of natural resources can result in severe environmental damage, such as pollution, deforestation, and depletion of natural resources. Points of conflict: Overlapping regulations: The lack of harmony in regulations between the central and regional governments creates legal uncertainty and often harms the public interest. Struggles over economic resources: Regional autonomy can give rise to horizontal and vertical conflicts in competing for natural resources as a source of regional income, especially in border areas.[7] Lack of coordination: Weak coordination between the central and regional governments results in ineffective policy implementation and has the potential to cause problems in the field.[8] Resolutions and solutions: Regulatory harmonization: Clear and firm regulatory harmonization is needed between the central and regional governments, prioritizing the principles of legality and public interest. Strengthening regional institutions: The capacity of regional governments needs to be improved, both in terms of human resources and institutions, so that they can manage natural resources effectively in accordance with the principles of sustainable development. Recognition of customary rights: It is important to recognize and respect the rights of indigenous peoples in the management of natural resources, which are often marginalized due to privatization policies.

Article 33 paragraph 3 of the 1945 Constitution is the legal basis that mandates that the land, water, and natural resources contained therein are controlled by the state and used for the greatest prosperity of the people. Control by the State: "Controlled by the state" means the state has the authority to regulate, manage, and supervise these natural resources. The Goal of "The Greatest Prosperity of the People": This goal mandates that natural resource management be carried out fairly and equitably, not solely for the benefit of certain groups or for the benefit of the state. It also includes the responsibility to preserve nature for future generations.[9] Derivative Legal Basis: Article 33 paragraph 3 serves as the basis for more specific regulations, such as laws in the fields of mining, energy, and other natural resources, as well as their implementing regulations, among others regulated by the Ministry of Energy and Mineral Resources. The relevant legal basis for Law No. 17 of 2019 is the 1945 Constitution of the Republic of Indonesia, which states that water is an important branch of production that controls the livelihoods of many people and is controlled by the state. In addition, Law No. 17 of 2019 itself was formed as a follow-up to the decision of the Constitutional Court of the Republic of Indonesia No. 85/PUU-XI/2013 which affirms water as a basic human need. Main legal basis: The 1945 Constitution of the Republic of Indonesia: Serves as a philosophical foundation that regulates the management of water resources.

The Decision of the Constitutional Court of the Republic of Indonesia No. 85/PUU-XI/2013: Serves as the legal basis for the formation of Law No. 17 of 2019 because it affirms water as a basic human need that is bestowed by God Almighty for all Indonesian people. Other relevant legal basis: Law No. 7 of 2004 concerning Water Resources: Law No. 17 of 2019 is a replacement for the previous

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[5] Hidayati Deni, "Memudarnya Nilai Kearifan Lokal Masyarakat Dalam Pengelolaan Sumber Daya Air," *Jurnal Kependudukan Indonesia* 11, no. 1 (2016): 39–48.

[6] Ghina Annaifah Salsabila, "Tata Kelola Sumber Daya Air Berkelanjutan-Berkeadilan: Bagaimana Indonesia Memperkuat Poros Maritim?," *Jurnal EcoProfit* 1, no. 2 (2024): 90–106.

[7] Kuslasanti Uni, Pambudi Bagus, and Ratu Sawitri Dian, "Hubungan Antara Kebijakan Lingkungan Dengan Prilaku Pro-Lingkungan: Sebuah Kajian Literatur Sistematis," *Jurnal Litbang* 18, no. 1 (2022): 31 – 46.

[8] Ricko Anas Extrada and K Kamarusdiana, "The Constitutionality of State Authority Over Water Resources Management Based on Human Rights Principles," *STAATSRECHT: Indonesian Constitutional Law Journal* 5, no. 1 (2025), https://doi.org/10.15408/siclj.v5i1.20769.

[9] Dimas Putra Pradhyksa, "Pengaturan Pendayagunaan Sumber Daya Air Dalam Undang-Undang Cipta Kerja Dan Korelasinya Dengan Pasal 33 UUD 1945," *Ascarya: Journal of Islamic Science, Culture, and Social Studies*, 2024, https://doi.org/10.53754/iscs.v1i2.16.

law, namely Law No. 7 of 2004. Law No. 23 of 2014 concerning Regional Government: Regulates the authority and responsibilities of regional governments in managing water resources in their regions, which also serves as the basis for Law No. 17 of 2019. The legal basis relevant to Law No. 32 of 2009 is the 1945 Constitution of the Republic of Indonesia which states that a good and healthy environment is a human right, Law No. 11 of 2020 concerning Job Creation which has amended several provisions in Law No. 32 of 2009, as well as various government and ministerial regulations which further regulate the provisions contained in the law. The main legal basis and which amends the 1945 Constitution of the Republic of Indonesia: Becomes a constitutional basis because a good and healthy environment is a human right of citizens.[10] Law No. 11 of 2020 concerning Job Creation: Amends several important articles in Law No. 32 of 2009. For example, changes to Article 88 concerning absolute responsibility and provisions relating to environmental permits. Derivative regulations Government Regulations (PP): Further regulate environmental quality standards, environmental damage criteria, and environmental economic instruments. Ministerial Regulations: Regulate in more detail environmental quality standards and environmental permits. Other regulations: Law No. 32 of 2009 also regulates various provisions that serve as the legal basis for environmental law enforcement, whether through administrative, civil, or criminal channels. Relationship with the previous law Law No. 23 of 1997 concerning Environmental Management: Law No. 32 of 2009 revokes this law and declares it no longer valid, as a form of legal reform to ensure better legal certainty.

2. Method

Normative or doctrinal jurisprudence: Normative or doctrinal jurisprudence is a legal research approach that focuses on legal norms, such as statutes, regulations, and legal doctrine. This approach analyzes positive law by examining legal theories, concepts, and principles and using secondary data from literature studies to discover, assess, and draw legal conclusions relevant to the research issue.[11] Use of literature studies: relies on secondary data such as laws and regulations, books, and court decisions. Objectives: analyze the consistency between norms, describe the application of positive law, and seek solutions to legal problems based on applicable rules.

Reasoning method: tends to use deductive logic to analyze and draw conclusions about legal problems.[12] Differences from other approaches: a) Unlike empirical juridical research, empirical juridical research examines how the law is applied and its impact on societal behavior, while normative juridical research does not directly examine these social aspects. b) Unlike normative-empirical juridical research, this combined approach combines both, analyzing legal norms while simultaneously examining their implementation in the field.

Conceptual and comparative approaches (are two methods in legal research). The conceptual approach focuses on analyzing legal concepts and doctrines to understand their meaning and implications, while the comparative approach compares legal systems (regulations, decisions) between countries or over a specific time period to examine similarities and differences.[13] The conceptual approach helps establish a common understanding of multi-interpretable legal terms, and the comparative approach is used to find solutions to specific legal issues.[14]

a) Conceptual approach, focus: analyzing legal issues through the lens of evolving legal concepts, doctrines, and ideas. Objective: understanding the meaning and implications of specific legal concepts and exploring legal definitions and principles relevant to the issue being researched.

[10] Nadia Astriani, "Legal Politics of Water Resources Management in Indonesia: Environmental Perspective," *Mimbar Hukum, Universitas Gadjah Mada*, 2023, https://doi.org/10.22146/jmh.28664.

[11] B. Baxter, *A Theory of Ecological Justice* (London: Routledge., 2004).

[12] Iskandar Iskandar, "Pengaturan Pengelolaan Air Tanah Di Daerah (Ius Constituendum).," *Sustainable Environmental and Optimizing Industry Journal*, 2025, https://doi.org/10.36441/seoi.v2i1.232.

[13] I. Nursantosa et al., "Analisis Pengelolaan Sumber Daya Air Oleh BUMN, BUMD Dan BUMS Sebagai Bentuk Kerjasama Dalam Meningkatkan Perekonomian Nasional," *Jurnal Ilmiah Wahana Pendidikan* 9, no. 12 (2023): 219–230, https://doi.org/10.5281/zenodo.8078649.

[14] M. Q. Oktohandoko, "Pengelolaan Sumberdaya Air Pada Perusahaan Daerah Air Minum (PDAM) Kota Yogyakarta Pasca Putusan Mahkamah Konstitusi Nomor: 85/PUU-XI/2013," *Jurnal Penegakan Hukum Dan Keadilan*, 2024, https://doi.org/10.18196/jphk.1104.

Example: examining the concept of "prudence" in banking law based on banking legal doctrine, or analyzing the meaning of "good faith" in civil law.

b) Comparative approach, focus: comparing laws and regulations, legal systems, or court decisions between two or more countries, or across different time periods within a single country. Objective: to identify similarities and differences in legal rules or practices, and to gain new perspectives for resolving legal issues. Example: comparing consumer protection laws in Indonesia with those in Singapore.

Data sources: primary legal materials (laws, implementing regulations) and secondary (journals, books, research results). Analysis techniques: The descriptive-analytical method involves presenting existing data (descriptive) and then analyzing it to draw deeper conclusions.[15] This method is specifically outlined in qualitative research, as explained below.

a) Analytical descriptive, description: "analytical descriptive" combines two types of writing. 1) Descriptive: Explains what exists or happened, what facts exist in the field, or what data is available. 2) Analytical: goes further to explain the meaning, impact, or relevance of the data, and looks for relationships between variables. 3) Purpose: Provides a clear and systematic description of the data, then analyzes it to draw accurate conclusions. 4) Example: Describing consumer behavior data (such as demographics and the number of new/returning customers) and then analyzing it to understand patterns and trends.
b) Interpretive, 1) purpose: providing deeper meaning and understanding based on the research subject's perspective and social context. 2) Focus: exploring the subjective meaning behind the data and facts presented. 3) Example: interpreting how a student interprets their own online learning experience within their social and cultural context. c) Relationship Between Three, 1) descriptive-analytical: combining both approaches, describing a phenomenon and then analyzing the relationships between variables within it. 2) Descriptive-interpretative: complementing data analysis with in-depth interpretation, linking the data to broader social meanings. 3) Comprehensive approach: in complex research, these three approaches can be used sequentially or simultaneously to generate a holistic understanding, from a basic overview to deeper meaning.[16]

3. Results and Discussion

3.1 Authority to Regulate Water Resources Management: Role of Central and Regional Governments

The primary legal basis currently is Law Number 17 of 2019 concerning Water Resources (UU SDA). This law also allows for the involvement of village governments and communities in natural resource management, as part of decentralization and community participation efforts.[17] The basic principles of natural resource management, according to the regulation, include conservation, utilization, control of water's destructive power, community empowerment, and data and information transparency. From a constitutional and human rights perspective, the state is obliged to guarantee the people's right to water as a basic right. Implication: Water management and regulation cannot be left solely to the private sector without state oversight the state is obligated to ensure water availability for the people's well-being and environmental sustainability.

The central government, through the Ministry of Public Works and Public Housing (PUPR) particularly the Directorate General of Water Resources is actively building and maintaining water infrastructure: dams, reservoirs, irrigation, raw water networks, and others. In 2023, there were 223 dams, 3,464 reservoirs, and 114 lakes in Indonesia. For example, in the 2023 dry season, the main dam

[15] E. Erwinsyah, A. Gunarsa, and A. Mappanyukki, "Kinerja BUMD Air Minum: Studi Komprehensif Atas Kebijakan Tarif, Motivasi Finansial, Tingkat Kehilangan Air, Dan Jumlah Pelanggan," *Tangible Journal* 10, no. 1 (2025): 1–15, https://doi.org/10.53654/tangible.v10i1.618.

[16] A. D. P. Irhamna, "Kelembagaan Sumber Daya Air Untuk Swasembada Pangan," 2024.

[17] J. I. Manik and M. I. I. Rambe, "Implementasi Prinsip-Prinsip Hukum Lingkungan Dalam Pengelolaan Sumber Daya Alam Di Indonesia," *Innovative: Journal Of Social Science Research*, 2024, https://doi.org/10.31004/innovative.v4i4.14099.

was able to supply 3.73 billion m³ of its effective capacity of 5.52 billion m³ representing drought mitigation efforts and ensuring water availability for communities and agriculture. However, a major challenge remains: equitable access to clean water: according to 2023 public data, access to improved drinking water in Indonesia reached approximately 91.72%.[18] On the piped water supply side (drinking water through piped networks), coverage is relatively small many households still rely on wells or other water sources. Implication: The central government's role in infrastructure development is crucial, but to ensure equitable access to natural resources, local governments need support both through regulations, funding, technical capacity, and coordination mechanisms.

Several studies have stated that private water management especially exclusive or commercial contradicts the spirit of the constitution and the human right to water, as the state is supposed to maintain control over water for the welfare of the people. Following the revocation of several previous regulations (for example, some provisions deemed to grant extensive water use rights to the private sector), new regulations attempt to restore the state's role as the primary controller of natural resources. However, implementation at the regional level is sometimes hampered: regional regulations can overlap, technical/financial capacity is limited, and coordination between agencies is suboptimal which risks inequality in water access and quality. Implication: It is crucial to maintain the management of natural resources under state and public control (not solely commercial), and to strengthen regulation and oversight including at the regional level.

Table 1. Clean Water Access and Infrastructure Capacity in Indonesia (2019–2023) (Ministry of Public Works and Public Housing of the Republic of Indonesia, 2023)

No	Indicators	Figures / Facts	Brief Explanation
1.	National access to safe drinking water (2023)	91.72% of households.	Shows significant progress in providing basic water services, but not yet 100%.
2.	Coverage of piped services (drinking water through piped networks)	Relatively low many households still rely on wells/non-piped water.	Indicates service disparities between urban/city areas and rural/remote areas.
3.	Dam/reservoir/lake/irrigation/raw water infrastructure (2023)	223 dams, 3,464 reservoirs, 114 lakes; significant total storage capacity.	Demonstrates significant efforts by the central government through the Ministry of Public Works and Public Housing (PUPR) to ensure water security and irrigation.
4.	Surface water utilization	The average annual surface water in Indonesia reaches 2.78 trillion m³/year.	The potential is enormous but distribution and management must be efficient to ensure availability for all.

Data shows that despite Indonesia's vast water resource potential and extensive infrastructure development, the biggest challenge remains equitable access particularly to piped water and distribution services across all regions. The gap between potential and realized services indicates the need to strengthen regulations, regional capacity, and governance coordination.[19] The constitution and national regulations emphasize that water and water resources are under state control, with shared responsibility between the central and regional governments in accordance with the 2019 Water Resources Law. Water privatization carries the risk of violating people's rights and conflicts with the principle of state

[18] L. Farihah and F. Angraini, "Prinsip Kehati Hatian Dan Kerugian Potensial Dalam Perkara Tata Usaha Negara Terkait Lingkungan Hidup," *Jurnal Yudisial*, 2022, https://doi.org/10.29123/jy.v5i3.123.

[19] J. Rusydi, J. Januri, and R. Santina, "Tanggungjawab Pemerintah Dalam Penegakan Hukum Lingkungan Hidup Di Indonesia," *Audi et AP: Jurnal Penelitian Hukum*, 2023.

control over water; current regulations and legal studies emphasize that water resources management must remain under public control and oriented toward the welfare of the people.

3.2 Inter-institutional Relationships: Ministry of Public Works and Public Housing (PUPR), Ministry of Environment and Forestry (KLHK), Regional Governments, and State-Owned Enterprises/Regional-Owned Enterprises

With the issuance of Government Regulation Number 30 of 2024 (PP 30/2024) concerning Water Resources Management, it is stipulated that natural resource management must be carried out comprehensively, integratedly, and with an environmental perspective. According to the PP and implementing regulations, natural resource management can be carried out by the Central Government, Regional Governments (provinces, regencies/cities), or State-Owned Enterprises/Regional-Owned Enterprises, depending on their respective authority. The licensing and approval procedures for natural resource use are regulated in Ministerial Regulation Number 2 of 2024 (Permen PUPR 2/2024) where the Minister, Governor, or Regent/Mayor are authorized to issue permits/approvals.

The Ministry of Environment and Forestry's (KLHK) role is generally related to environmental aspects such as conservation, water pollution control, and ecosystem protection. However, in institutional practice, fragmentation of authority often occurs between infrastructure management and water allocation (PUPR/Pemda/BUMN/BUMD) and environmental aspects (KLHK). This requires cross-agency coordination to balance conservation and utilization goals. With the above regulations, BUMN/BUMD (for example, the regional drinking water company PDAM) is mandated to provide drinking water services to the public. In this case, BUMN/BUMD are "extensions" of the state/region in the provision and distribution of clean water, under the control of government laws and regulations. Implications: A clear division of regulatory authority between PUPR, KLHK, Pemda, and BUMN/BUMD is essential to ensure the proper differentiation and management of water conservation, allocation, and service tasks.[20]

BUMD Drinking Water, as part of the BUMD/BUMN, plays a strategic role in translating natural resource management policies into concrete services: providing drinking water to communities in cities/regencies. A study of PDAM Tirtamarta Yogyakarta shows that following the 2013 Constitutional Court ruling, PDAM continues to perform its functions in accordance with regional and national regulations as a water resource manager for drinking water. According to the evaluation report (BUMD Drinking Water Performance Book 2024) released by the Ministry of Public Works and Public Housing (PUPR), several BUMD Drinking Water received performance assessments covering financial, service, operational, and human resource aspects.

However, various real-world problems remain: many BUMDs face challenges with tariffs, water loss (non-revenue water), operational efficiency, and uneven service coverage which impact public water access.[21] Furthermore, the legal and policy review states that when the private sector/Private-Owned Enterprises (BUMS) are involved, they must ensure that the public interest and the people's right to water are prioritized given that water is a public resource. Implications: BUMN/BUMD play a key role as implementers of water services but their performance is highly dependent on regulations, tariffs, management, and operational capacity. To ensure equitable and sustainable access, policy, regulatory, and resource support are needed for BUMDs to operate effectively.

As criticized in the policy opinion, water management in Indonesia is currently "spread across many institutions," making the effectiveness and efficiency of natural resource management a dilemma. Although there are coordinating institutions such as the National Water Resources Council (DSDAN) established under Presidential Regulation Number 53 of 2022 this institution is non-structural and only acts as a coordinator, without an independent budget or full authority. This limits the DSDAN's role in enforcing comprehensive water management.

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[20] A. Julianti, A. Frinaldi, and R. Roberia, “Prinsip–Prinsip Hukum Administrasi Negara Dalam Pengelolaan Sumber Daya Alam (Air Bersih),” 2022.

[21] A. B. Prastyo, R. A. Saputra, and D. Dauri, “Model Perlindungan Dan Pengelolaan Lingkungan Hidup Dalam Mewujudkan Good Governance,” 2023.

The combination of fragmentation between the following sectors: infrastructure (PUPR), environment (KLHK), public services (Pemda/BUMD), regulations & permits (PUPR/Pemda), and conservation sometimes operating separately without effective integration mechanisms risks duplication, conflict, or neglect of certain aspects (e.g., conservation or public access). Other challenges include inconsistent data & information on natural resources, differences in regional institutional capacity, and disparities in the capabilities of BUMDs which result in uneven water provision, conservation, and utilization of natural resources.[22] Implications: Without institutional reform and effective coordination mechanisms, the role of multiple institutions can become a burden not a solution. These risks include uneven service delivery, conflicts of authority, and even environmental degradation or water crises in some regions.

PP 30/2024 represents the latest regulation updating the way natural resources are managed in Indonesia replacing previous PPs. This regulation emphasizes that natural resource management must be carried out in an integrated and environmentally sound manner, allowing for the involvement of the central and regional governments, as well as state-owned enterprises (BUMN) and regional-owned enterprises (BUMD) within their respective jurisdictions. However, in policy and institutional practice, there is criticism that the current institutional structure is inadequate for example, the DSDAN, as a non-structural coordinating agency, is insufficient to address the complexities of national water management (conservation, services, irrigation, distribution, sanitation, the environment, climate adaptation, etc.).

In terms of drinking water services, state-owned enterprises (BUMN) and regional-owned enterprises (BUMD) (including PDAM) remain a crucial component but for their role to be effective, they require regular support from the central and regional governments, data transparency, performance audits, and regulatory incentives to ensure clean water services reach all communities equitably. The 2025 study demonstrated variability in BUMD performance based on tariffs, operational efficiency, and water loss. Implications: The future of natural resource management in Indonesia depends heavily on how policies, regulations, and institutional structures are adapted to address complexities from conservation to distribution in the context of demographic pressures, urbanization, climate change, and public service needs.

Table 2. Performance of Regionally-Owned Water Companies and Service Access in Indonesia (Ministry of Public Works and Public Housing of the Republic of Indonesia, 2024)

No	Indicators/Aspects	Findings/Data	Brief Explanation
1.	Performance Assessment of Regionally Owned Water Companies (2024)	Available in the 2024 Regionally Owned Enterprises (BUMD) Drinking Water Performance Book published by the Ministry of Public Works and Public Housing (PUPR).	This book is a national evaluation of the performance of regionally owned enterprises (BUMD) in financial, operational, service, and human resource aspects critical indicators for measuring the effectiveness of drinking water provision.
2.	Health/Status of Regionally Owned Water Companies (healthy/unhealthy/sick)	Of the 389 BUMDs evaluated, most were categorized as "healthy," while the remainder were "less healthy" or "sick."	It shows that although many BUMDs operate well, some require special attention for example, regarding water loss, tariffs, or operational efficiency.
3.	Factors Affecting Regionally Owned Water Companies' Performance	Quantitative studies show that tariff policies, financial motivation, water loss	This illustrates that management and financial aspects beyond just policy or

[22] A. S. Pambudi and T. Kusumanto, "Water Resources Governance in Indonesia Towards Environmental Sustainability Along with Social and Economic Development," *In: Environmental Governance in Indonesia*, 2023, 289–311, https://doi.org/10.1007/978-3-031-15904-6_16.

		levels, and customer numbers significantly influence BUMD performance.	regulation are crucial in determining whether BUMDs can provide adequate water services.

The data shows that the existence and role of regionally-owned enterprises (BUMD) as providers of drinking water services is important, but their performance varies widely. This underscores the need for supporting regulations, sound management, and oversight mechanisms to achieve the goal of equitable and sustainable water access.[23] The relationship between the Ministry of Public Works and Housing (PUPR), the Ministry of Environment and Forestry (KLHK), regional governments, and state-owned enterprises (BUMN/BUMD) in managing natural resources in Indonesia is built through a fairly comprehensive regulatory framework (PP 30/2024, Permen PUPR 2/2024), enabling multi-stakeholder roles: infrastructure, conservation, public services, and drinking water providers. However, in practice, institutional fragmentation and overlapping roles pose serious challenges: inter-agency coordination is suboptimal, natural resource data and information are not yet integrated, and the capacities of regions and BUMDs vary. BUMN/BUMD (including PDAM) as providers of drinking water services play a crucial role but their performance is inconsistent across regions: many BUMDs are healthy, while others struggle with efficiency, tariffs, water loss, and service coverage. To address today's challenges (rapid urbanization, climate change, increasing water demand for agriculture and industry, and access to clean water), institutional reforms are needed that enable holistic integration, coordination, planning, and implementation.

3.3 Principles of Environmental Administration Law in Water Management: Implementation of environmental permits, AMDAL, and monitoring

Environmental permitting regulations in Indonesia are cumulative: every business or activity estimated to have a significant impact on the environment is required to obtain an environmental permit usually through an AMDAL document (or UKL-UPL if the impact is less significant). Following regulatory revisions through Government Regulation No. 22 of 2021 (PP 22/2021) as an implementation of the environmental cluster in the omnibus law, environmental approval (environmental permit) has again become a basic prerequisite for business licensing as a condition for operating a business or activity.

The AMDAL document (containing KA-ANDAL, ANDAL, RKL, RPL) which includes an environmental impact analysis, management plan, and environmental monitoring remains considered a crucial instrument in determining the feasibility of a project.[24] For example, a SPAM + dam project is included in the AMDAL. Implications: The environmental permit system and AMDAL provide the legal and technical foundation to ensure that infrastructure development or water management activities do not damage the environment and that decisions are made based on comprehensive scientific considerations and environmental impacts, not solely economic aspects.

According to data from the Ministry of Environment and Forestry (KLHK), since 2023, Indonesia has accelerated the environmental approval process KLHK targets completing 3,000 AMDAL/environmental approval documents per year. However, despite the progress of digitalization/simplification, there is criticism that the post-omnibus regulation (PP 22/2021, the implementing regulation) allows for flexibility, potentially leading to business permits being issued without adequate environmental assessments (e.g., through SPPL instead of AMDAL for "small-medium" scale projects), which risks ignoring environmental impacts.

Cases in protected areas and large projects demonstrate that if environmental permits/AMDAL are not processed or ignored e.g., automatic permits, SPPL projects can proceed without adequate impact mitigation. Implications: Although environmental permit and AMDAL mechanisms continue to

[23] I. Renaldi and A. Frinaldi, "Implementation of Batang Arau Watershed Management with Good Environmental Governance Perspective," *Jurnal Bina Praja* 14, no. 2 (2022): 225–237, https://doi.org/10.21787/jbp.14.2022.225-237.

[24] A. T. Khithobi, S. Asmorowati, and N. J. Hariani, "WHY IS THE IMPLEMENTATION OF GOOD ENVIRONMENTAL GOVERNANCE ESSENTIAL? (A Systematic Literature Study)," *Jurnal Kebijakan Pemerintahan* 7, no. 2 (2024): 14–24, https://doi.org/10.33701/jkp.v7i2.4455.

be updated and streamlined through digitalization, field practices demonstrate tensions between the desire to accelerate development/permitting and the need for environmental protection and therefore, implementation must be monitored, particularly for water and natural resource projects.[25]

To strengthen the effectiveness of environmental management, the government recently tightened sanctions and supervision through Ministerial Regulation No. 14 of 2024 which allows for the imposition of administrative fines for environmental violations before criminal sanctions, as part of environmental law enforcement efforts. Environmental monitoring data from the Directorate General of Environmental Management and Management of the Ministry of Environment and Forestry (MoEF) shows regular efforts to monitor marine and coastal water quality (e.g., the Marine Water Quality Index, IKAL) as part of efforts to control the impacts of human activities and pollution. While this relates more to marine/coastal water, it is relevant as part of water quality monitoring in downstream rivers/watersheds.[26]

Obstacles arose when business permits were simplified through the Online Single Submission (OSS) system and environmental approvals were replaced by SPPL (Environmental Impact Assessment) systems. Some critics argue that this could weaken in-depth environmental impact assessments, increasing the potential for violations. Implications: Oversight and law enforcement mechanisms need to be strengthened in terms of regulation, capacity, transparency, and public participation so that environmental permits and AMDALs do not merely function on paper, but are able to prevent damage and ensure sustainability.

As part of water management regulations, groundwater use permits are now regulated by the Ministry of Energy and Mineral Resources (ESDM). The latest data shows that since the new regulations (2024), 4,700 groundwater exploitation permits have been issued across Indonesia by mid-2025. From an environmental perspective, this presents challenges: potential overexploitation of groundwater, groundwater level decline, and impacts on the environment and communities making it crucial that groundwater exploitation permits are accompanied by environmental impact assessments (AMDAL/UKL-UPL), as well as strict monitoring of water quality and quantity. Furthermore, the industrial sector and its demand for water for production also place significant pressure on natural resources.

This demonstrates that environmental regulations and permits (AMDAL, groundwater use permits), water management, and natural resource management must be implemented simultaneously to ensure that water development and utilization do not compromise environmental sustainability and the rights of current and future generations. Implication: Amidst the pressures of groundwater demand and industrial/development needs, the implementation of environmental permits and AMDAL and their oversight is more crucial than ever. Without them, water exploitation could lead to environmental damage, ecological degradation, and future water crises.

Table 3. Indicators related to environmental/water management relevant to the implementation of environmental permits & AMDAL in Indonesia (KLHK, 2023)

No	Indicators/Context	Latest Data/Facts	Relevance to Environmental Permits & AMDAL
1.	Environmental approval application at the Ministry of Environment and Forestry (2022–2023)	Applications increased sharply: from 356 (2021) to 1,399 (2022) to 1,607 (as of November 2023).	Indicates that many projects including those in the water and infrastructure sectors require environmental permits, necessitating AMDAL/UKL-UPL processes and oversight.

[25] S. G. Annaifah, "Tata Kelola Sumber Daya Air Berkelanjutan-Beredikanan: Bagaimana Indonesia Memperkuat Poros Maritim?," *EcoProfit: Sustainable and Environment Business* 1, no. 2 (2024): 90–106, https://doi.org/10.61511/ecoprofit.v1i2.2024.328.

[26] S. R. Devie et al., "Transparansi Dalam Tata Kelola Perusahaan Air Minum Di Kabupaten Minahasa," *Academy of Education Journal* 15, no. 1 (2021), https://doi.org/10.47200/aoej.v15i1.2233.

2.	Expedited AMDAL document completion target for 2024	The Ministry of Environment and Forestry (KLHK) targets 3,000 AMDAL/environmental approval documents per year.	Demonstrates commitment to regularizing environmental permits but also challenges with administrative capacity and impact assessment.
3.	Groundwater exploitation permit (2024–2025)	Approximately 4,700 groundwater permits have been issued (November 2024–October 2025).	Highlights pressures on natural resources emphasizing the importance of rigorous environmental assessments and permits ("water governance").
4.	Sea and coastal water quality monitoring (2023)	National Sea Water Quality Index (IKAL) 2023: 78.84 points; monitoring at 563 monitoring points in 36 provinces.	Reflects that environmental and water quality monitoring is in place relevant for upstream-downstream water management and conservation.

The data shows high dynamics in permit requests, groundwater permits, and environmental/water quality monitoring efforts. This illustrates that environmental regulations and practices remain key elements in natural resource management and development projects especially water projects. However, the large volume of permits and pressure on natural resources indicate risks if permits and environmental impact assessments (AMDAL) are not strictly implemented.[27] Environmental regulations in Indonesia have undergone updates to align with investment and governance needs including through Government Regulation 22/2021, process digitization (AmdalNet), and accelerated approvals but this also brings challenges: potential weakening of environmental assessments (through SPPL, automated permits), and pressure on natural resources. The demand for groundwater use permits and the number of infrastructure projects demonstrate that water management must take environmental aspects seriously otherwise, exploitation can lead to water resource degradation and long-term ecological impacts.

3.4 Case study: Regional Water Management Permit Conflicts (West Java, Kalimantan, NTT)

Regulatory, water resource projects or utilization such as irrigation, water extraction for industry, dams, or water allocation for communities/farmers should ideally consider permits, environmental impact analyses, and environmental administration procedures. This principle is part of environmental law and environmental administration. However, reality shows that regulation and permit issuance do not always prevent conflicts. For example, in the study of Conflicts in the Utilization of Water Resources for Irrigation in Minggir District, Sleman Regency despite being regulated (the 2006 Irrigation Government Regulation) a conflict of interest arose due to the diversification of water use (irrigation converted to fish ponds), so that the water source was no longer solely for agriculture as originally intended.

This conflict demonstrates that permits or legal status (e.g., "water use rights for irrigation") alone are insufficient without consistent monitoring and enforcement of regulations, changes in use can harm other groups (farmers, communities), especially when water demand increases and supplies are limited.[28] Conversely, formal regulations and documentation are sometimes absent or inadequate making water access, distribution, and control vulnerable to conflict. This highlights the gap between the legal/permit framework and the social, economic, and environmental realities on the ground. Implications: The permit and AMDAL systems while designed to prevent conflict must be accompanied

[27] S. L. Harjanta and D. P. Ningrum, "Inhibiting Factors for Collaborative Water Governance: A Case Study of Mount Merapi Ecosystem in Yogyakarta, Indonesia," *CHANNEL: Jurnal Komunikasi* 11, no. 1 (2025): 225, https://doi.org/10.12928/channel.v11i1.225.

[28] J. Jundiani et al., "Urban Green Space Regulation: Challenges to Water Resources Conservation in Indonesia and Australia," *Journal of Human Rights, Culture and Legal System* 4, no. 1 (2024): 128, https://doi.org/10.53955/jhcls.v4i1.128.

by monitoring, use control, and flexibility (periodic evaluation) to ensure the regulatory function remains relevant to the dynamics of water use in the community.

These conflicts don't always take the form of physical clashes they often manifest in inequitable access: local communities or farmers lose access to water, and water quantity and quality decline because a significant portion of it is diverted for industrial/private use. A recent study in the Citarum Watershed area of West Java, for example, in the article "Spatial-Temporal Changes in Water Supply and Demand in the Citarum Watershed, West Java, Indonesia Using a Geospatial Approach," shows that spatial-temporal changes in water supply and demand indicate pressure on water availability due to population growth, urbanization, and water use by various sectors which can trigger water distribution conflicts if regulations and allocations are unfair.[29] These conflicts over water use by the private sector or non-agricultural sectors are usually exacerbated by weak public access to environmental information and permits thus lacking adequate bargaining power and making it difficult for communities to demand justice. Implications: Permit and environmental regulations must consider aspects of access equity especially for local communities, farmers, and indigenous communities and not simply pursue efficiency or economic profit. Transparency of permits, allocations, and hydrological data is crucial.

One important study is "Water and Conflict: A Case Study of South Central Timor Regency" a region in East Nusa Tenggara (NTT) Province. The research shows that although technically the water supply and per capita demand may be sufficient, water accessibility and distribution are highly unequal, resulting in many villages experiencing drought and water shortages. This demonstrates that conflicts over water do not always result in violence or formal disputes they can also take the form of structural injustice, marginalization, and disparities in services. However, the lack of visible conflict does not necessarily mean conditions are just or sustainable.

This phenomenon indicates that formal regulations and permits need to consider the local socio-cultural context, as well as accessibility and distribution, not just the quantity of water resources.[30] Implications: Natural resource management and water permits must take into account geographic aspects, distribution, and access especially in areas with challenging natural conditions (low rainfall, difficult topography) and regulation alone is insufficient without supporting services and distribution.

Based on the results of various water conflict studies, permitting regulations/EIAs must be accompanied by equitable water distribution and allocation policies and consider aspects of ecological sustainability and social justice. This aspect is crucial in addressing the increasingly complex dynamics of water needs (irrigation, industry, drinking water, conservation, ecosystems).[31] Local public and community participation, as well as data transparency (permit status, water quantity and quality, allocation, watershed maps) are crucial to avoid unequal access and conflict and to safeguard communities' right to water.

Conflict resolution mechanisms must be clear: legal regulations, mediation procedures, arbitration, and environmental monitoring to ensure conflicts are resolved fairly and sustainably, without victimizing vulnerable groups. Regular evaluation and adaptation of regulations are necessary: for example, when land use changes or the conversion of irrigation to other uses occur, permit reviews, new impact analyses, and revisions to water allocations must be carried out.

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[29] I. W. Rideng, I. K. K. A. Wijaya, and H. Saripan, "Dimensions of Water Resources Regulation in Philosophy of Justice and Human Rights Perspective," *Journal of Indonesian Legal Studies* 7, no. 1 (2022): 31–56, https://doi.org/10.15294/jils.v7i1.53820.

[30] I. B. Cahaya and F. A. Y. Ramadhan, "Problematik Pengaturan Sumber Daya Air Dan Pemenuhan Hak Atas Air Bagi Masyarakat," *Simbur Cahaya: Journal of Water Law & Policy* 30, no. 2 (2025), https://doi.org/10.28946/sc.v30i2.2744.

[31] I. Nafiana, J. Parlindungan, and I. N. S. Wijaya, "Faktor Dan Tingkat Partisipasi Dalam Pengelolaan Air Bersih," *Jurnal Tata Kota Dan Daerah* 16, no. 1 (2024): 93–100, https://doi.org/10.21776/ub.takoda.2024.016.01.9.

Table 4. Findings of Water Conflicts/Access in the Regions and Relevance to Permits/Regulations in Indonesia (PUPR Indonesia, 2025)

No	Area/Case	Types of Conflicts/Issues	Key Factors	Relevance of Permits/Environmental Administration
1.	Minggir District, Sleman (Yogyakarta)	Irrigation water use conflicts vs fishponds	Diversification of water use, lack of regulation/supervision	Shows that permits/water use rights require regular evaluation to prevent misuse.
2.	Cikeruh Sub-watershed (in the Citarum Watershed, West Java)	Water deficits/supply-demand pressures	Increased domestic and industrial water demand, changes in land use	Stresses the importance of watershed management and water allocation based on environmental analysis and official permits.
3.	South Central Timor Regency (TTS), East Nusa Tenggara	Drought, limited access to clean water in some villages	Uneven water distribution, geographic and climatic conditions, limited-service facilities	Shows that permits or regulations alone are not enough they require infrastructure, equitable distribution, and access management.
4.	Citarum Watershed, West Java (supply-demand mapping)	Potential conflicts over urban-industrial water allocation vs agriculture & communities	Urbanization, industrialization, population growth	Supports the need for integrated watershed planning and regulations that are responsive to dynamics.
5.	Communities' vs corporations/entrepreneurs (several districts)	Community access to water is excluded when water is diverted to private companies	Legalization of water for private use without controlling public access	Supports the importance of permit transparency, community involvement, and accountability mechanisms in granting permits/water use.

Conflicts over water management in Indonesia arise not only from limited resources, but also often from weak, unresponsive environmental regulations, permits, and administration, or the absence of oversight and equitable distribution. Cases in areas such as Sleman, Citarum, and TTS demonstrate that without equitable and transparent management, water use risks conflict, inequality, and degradation. However, local wisdom and social solidarity can prevent conflict although they are not structural solutions. Therefore, the principles of environmental administration law (transparency, participation, accountability, and prudence) must be implemented effectively from permitting and allocation to distribution and oversight to ensure that water, as a vital resource, remains available, equitable, and sustainable.

3.5 Challenges and Improvement Efforts: Need for Governance Reform based on Good Environmental Governance

The context of pressure on natural resources in Indonesia is significant: urbanization, population growth, climate change, increasing water demand for domestic, industrial, and irrigation purposes while ecosystems and natural capacity are limited. This makes traditional water governance (based on sectors, projects, and infrastructure alone) no longer sufficient. Good Environmental Governance offers a more holistic and sustainability-oriented governance framework: involving legal aspects (the rule of law),

transparency, public participation, accountability, multi-stakeholder collaboration, and integration between environmental, social, and economic aspects.

If not adopted seriously many natural resource/water regulations can overlap, institutional coordination is weak, and economic priorities can override conservation risks environmental degradation, unequal access to water, and future uncertainty. Implications: GEG-based governance reform is not merely a normative idealism but rather a pragmatic necessity to ensure that water as a natural resource remains available, equitable, and sustainable amidst environmental pressures and human use.[32]

Here's how these elements are relevant to water management: Clear Rule of Law and Regulation: The government needs to establish consistent, coherent, and non-overlapping regulations for water management including environmental regulations, spatial planning, watershed management, and groundwater/surface water utilization to ensure clear authority and responsibility. Public and Multi-Stakeholder Participation: Involve the public, local communities, the private sector, and government in water management planning and decision-making to account for local needs, equity of access, and local wisdom.[33]

Transparency & Access to Information: Information regarding regulations, permits, water allocation, water quality and quantity, and watershed management plans must be transparent so the public can monitor and provide input. Accountability & Oversight: Water management institutions must be accountable for decisions, implementation, and environmental and social impacts, with mechanisms for control, audits, and sanctions in place for violations. Collaboration & Integration Across Sectors and Scales: Water management must involve various sectors (environment, spatial planning, agriculture, public services, drinking water) and across regions (downstream–upstream, various watersheds), as well as involving the central government, regional governments, communities, and the private sector. Implications: By implementing the elements of GEG, water governance can be more responsive to human and ecosystem needs, and flexible to social pressures, climate change, and changing patterns of natural resource use.

Several efforts and empirical studies have demonstrated that the application of GEG in water management is feasible and yields positive results although still limited: A concrete example: river basin/watershed management with a GEG perspective in the Batang Arau Watershed demonstrates that collaborative management, community participation, and institutional coordination can help maintain water and environmental sustainability.

A systematic literature review suggests that GEG implementation can help mitigate the adverse impacts of climate change, environmental degradation, and pressure on natural resource use, provided there is institutional commitment, transparency, and public participation.[34] Regulatory and policy reform efforts for natural resources and water when accompanied by operational and oversight mechanisms have the potential to bridge the gap between regulation and practice, ensuring equitable and sustainable access. Implications: There is practical and conceptual evidence that GEG is not merely an ideal theory it can be applied in Indonesia to water management and can result in more equitable, effective, and sustainable management.

Based on the above analysis and recent literature, here are concrete recommendations to strengthen water governance reform in Indonesia through the principles of Good Environmental Governance: Regulatory Harmonization & Institutional Simplification: Evaluate and simplify regulations related to water, the environment, spatial planning, and irrigation, so that there is a clear, single, integrated regulation facilitating implementation and avoiding overlap. Data Transparency and Public Participation: Publish water quantity and quality data, allocations, permits, and management

[32] T. Afriadi and H. Wahyono, "Partisipasi Masyarakat Dalam Penyediaan Air Minum Dan Sanitasi Berbasis Masyarakat (PAMSIMAS)-Studi Di Kecamatan Simpur, Hulu Sungai Selatan," *Jurnal Pembangunan Wilayah Dan Kota*, 2021, https://doi.org/10.14710/pwk.v8i4.6489.

[33] Susilawati Sri, "Analisis Partisipasi Masyarakat Dalam Penyediaan Air Minum Dan Sanitasi Berbasis Masyarakat," *Public Health Journal (PHJ)* 13, no. 1 (2023), https://doi.org/10.51888/phj.v13i1.97.

[34] A. Syaprillah, "Lingkungan Hidup Melalui Partisipasi Masyarakat Terhadap Pengendalian Pencemaran Air (Sungai)," *KNAPHTN–HAN*, 2023, https://doi.org/10.55292/xz68be69.

plans; facilitate community forums so that citizens can participate, monitor, and provide input. Capacity & Resource Enhancement: Invest in human resources, regional institutions, funding mechanisms, training, information systems, and monitoring and evaluation to ensure consistent GEG practices.

Latest Data & Indicators Relevance of GEG to the Reality of Water Management: A recent national study found that despite Indonesia's vast water resource potential, management practices are often hampered by ambiguous regulations, weak coordination, and weak implementation leading to less-than-ideal access and sustainability. According to the 2024-2025 study report, despite regulatory efforts and infrastructure investment, approximately 15% of Indonesia's population still lacks reliable access to clean water representing inequitable access, particularly in areas with weak governance.

This data confirms that without GEG-based governance reforms with clear regulations, coordination, transparency, and participation the potential of natural resources will not automatically translate into equitable access and sustainable services for all. Barriers such as overlapping regulations, sectoral institutions, weak capacity, and unequal access can be overcome if there is a commitment to transparency, participation, accountability, and multi-stakeholder collaboration. There is already evidence and early practice that GEG can be implemented in water management (e.g., watershed management, regulatory improvements) so governance transformation is not impossible, but rather possible and urgent.[35] For the future, reform must be implemented systematically: from regulations, institutions, funding, to public participation to ensure water remains a basic right for all citizens and natural resources are preserved.

4. Conclusion

This study found that state authority in the regulation and utilization of water resources still faces overlapping regulations and disharmony between levels of government. Administrative instruments such as permits, supervision, and sanctions have not been consistently implemented to ensure compliance with the principles of good governance. The findings also indicate that the precautionary principle and environmental protection have not fully influenced the administrative decision-making process related to water utilization. Weak coordination between agencies has resulted in suboptimal implementation of water management within the context of ecological sustainability. Based on these findings, the study concludes that the regulation and utilization of water resources must be based on the principles of ecological justice and state responsibility.

The state is obliged to ensure that water utilization is not solely economically oriented but also guarantees the sustainability of ecosystems and community rights. Harmonization of central and regional authorities is necessary to ensure that administrative instruments can operate effectively and avoid conflicts of authority. This study emphasizes the need to strengthen the role of administrative oversight as a primary instrument for environmental protection. The novelty of this article lies in the integration of an analysis of state administrative authority with the principle of ecological justice as a basis for evaluating water policy. Furthermore, this study offers a new conceptual framework for assessing the effectiveness of water management through a more sustainable and equitable approach to environmental administrative law.

Based on findings regarding overlapping authority and weak implementation of administrative instruments, strengthening regional government authority in regulating and utilizing water resources is necessary. To close gaps identified in this study, policy synchronization between the central and regional governments must be systematically implemented to prevent regulatory disharmony. This study concludes that improving administrative oversight is key to ensuring water utilization is carried out in accordance with the principles of ecological justice and state responsibility. Based on findings regarding the lack of accountability, increasing public participation is recommended as an important instrument for strengthening transparency and legitimacy in decision-making. The novelty of this article is reflected in recommendations based on the integration of administrative authority analysis ecological justice principles, resulting in adaptive, sustainable, and equitable policy directions.

[35] I. Budiono and F. A. Y. Ramadhan, "Problematik Pengaturan Sumber Daya Air Dan Pemenuhan Hak Atas Air Bagi Masyarakat," *Simbur Cahaya: Journal of Water Law & Policy* 30, no. 2 (2025), https://doi.org/10.28946/sc.v30i2.2744.

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Conflict of Interest

The authors declare no conflicts of interest.

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