CoPAR Contemporary Public Administration Review

Department of Public Administration
Parahyangan Catholic University
Ciumbuleuit 94, Bandung 40141, Indonesia
copar@unpar.ac.id

The Dynamics of Water Resource Governance in Post-Omnibus Indonesia: Centralization, Sustainability, and Social Inclusion

Andi Setyo Pambudi[1], Bambang Pramujo[2]
[1]National Development Planning Agency/Bappenas, Jakarta, Indonesia
[2]River Basin Organization of Kalimantan V Tanjung Selor, Ministry of Public Works, Tarakan, Indonesia
Correspondence Author E-mail: andi.pambudi@bappenas.go.id

Keywords:
Omnibus Law; Regulatory Reform; Sustainable Development; Water Governance.

Abstract

Water governance in Indonesia faces increasing complexity due to urbanization, climate change, and regulatory fragmentation. Although water is a philosophical entity in sustaining life and development, its management continues to suffer from gaps between policy and field-level implementation. This study is urgent in light of the Job Creation Law (Omnibus Law), which has significantly amended sectoral regulations related to water resources, yet its impact on water resilience and sustainable development remains underexplored. The objective of this research is to evaluate how the Omnibus Law influences water governance, particularly in balancing social, economic, and environmental sustainability. A qualitative approach is employed, using document analysis, selected watershed case studies, and Focus Group Discussions (FGDs) with multi-sector stakeholders. Findings reveal that the Omnibus Law promotes centralization of authority, simplifies licensing procedures, and encourages private sector involvement, but risks weakening environmental safeguards and widening inequalities in water access. Key recommendations include the need for a more inclusive and adaptive policy framework, stronger intersectoral coordination, and active community participation in watershed management as a strategy to achieve long-term water resilience.

Kata kunci:
Undang-Undang Cipta Kerja; Reformasi Regulasi; Pembangunan Berkelanjutan; Tata Kelola Air.

Abstrak

Fenomena krisis tata kelola air di Indonesia semakin kompleks akibat tekanan urbanisasi, perubahan iklim, dan fragmentasi regulasi. Meskipun air merupakan entitas filosofis yang menopang kehidupan dan pembangunan berkelanjutan, pengelolaannya masih menghadapi kesenjangan antara kebijakan dan implementasi di lapangan. Penelitian ini menjadi mendesak karena hadirnya Undang-Undang Cipta Kerja (Omnibus Law) telah mengubah berbagai regulasi sektoral terkait sumber daya air, namun dampaknya belum dianalisis secara komprehensif terhadap ketahanan air dan keseimbangan pembangunan berkelanjutan. Tujuan penelitian ini adalah mengevaluasi pengaruh Omnibus Law terhadap tata kelola air, khususnya dalam konteks keberlanjutan sosial, ekonomi, dan lingkungan. Metodologi yang digunakan adalah pendekatan kualitatif melalui analisis dokumen, studi kasus DAS terpilih, dan diskusi kelompok terarah (FGD) dengan pemangku kepentingan lintas sektor. Temuan menunjukkan bahwa Omnibus Law mendorong sentralisasi kewenangan, penyederhanaan perizinan, dan keterlibatan swasta, namun berisiko memperlemah perlindungan lingkungan dan memperbesar kesenjangan akses air. Rekomendasi utama meliputi perlunya kerangka kebijakan yang lebih inklusif dan adaptif, penguatan koordinasi antar sektor, serta partisipasi aktif masyarakat dalam pengelolaan DAS sebagai strategi menuju ketahanan air yang berkelanjutan.

Submitted on 8 January 2026; revisions on 15 February 2026; online publication on 27 February 2026

1. Introduction

Water governance has emerged as a strategic focal point in Indonesia's sustainable development agenda, reflecting a growing recognition of water's foundational role in ecological integrity, social equity, and economic resilience. Within the framework of the triple bottom line, water management must reconcile environmental sustainability, distributive justice, and economic efficiency in a balanced and coherent manner. However, field-level implementation continues to face systemic challenges, including regulatory fragmentation, weak institutional coordination, and escalating pressures driven by urban expansion, demographic growth, and climate variability. These misalignments across development objectives underscore the urgent need for governance (Pambudi, 2025).

Water is not merely a commodity—it is a philosophical entity that underpins life and civilization. Within the paradigm of sustainable development, water embodies the delicate equilibrium between economic necessity, social justice, and ecological harmony. Food security, industrial productivity, and energy transition are intrinsically dependent on a water supply that is equitable, enduring, and governed with wisdom as a public right and a reservoir of collective value (Maheshwari et al., 2016).

Social equity in water governance is increasingly critical as spatial distribution reveals acute disparities. Java Island is experiencing water scarcity, while Bali and the Nusa Tenggara region face severe hydrological stress. These imbalances demand equitable water allocation policies grounded in fundamental rights and tailored to the imperatives of regional sustainability (Bappenas, 2020). On the social dimension, access to clean water and sanitation is a fundamental human right and serves as a primary indicator of societal well-being (Hutton & Chase, 2016; Pambudi, 2024). Access to clean water plays a pivotal role in enhancing community resilience against disasters. Beyond reducing the prevalence of waterborne diseases and supporting children's education, sustainable water governance safeguards ecosystems, preserves biodiversity, and serves as a critical mitigation strategy against floods, droughts, and environmental degradation (Bellfield et al., 2016; Pribadi et al., 2021).

From 2000 to 2024, the ecological dynamics of Sulawesi, Maluku, and Papua have been profoundly shaped by forest and land conditions. To ensure the long-term sustainability of water supply, the Ministry of Forestry initiated a Forest and Land Rehabilitation program spanning 2015–2025. This strategic conservation effort includes reforestation of degraded lands, encompassing mineral zones and mangrove ecosystems. By 2024, the program had covered 217,970 thousand hectares of critical land and constructed 44,000 erosion and sedimentation control

infrastructures. These interventions are vital for achieving water self-sufficiency and safeguarding the quality and quantity of water resources across sectors. Despite the proliferation of policies aimed at sustainable water resource management, implementation remains hindered by regulatory overlaps and weak intersectoral coordination. Conflicting mandates among forestry, agriculture, spatial planning, and environmental regulations often result in fragmented governance, impeding effective decision-making on the ground. A salient example is the tension between industrial demands and water conservation imperatives, which frequently leads to overexploitation of water resources, ultimately disadvantaging local communities whose daily livelihoods depend on equitable and reliable access to water (Fulazzaky, 2014; Sulistyaningsih et al., 2021).

The Job Creation Law (Law No. 11 of 2020), commonly referred to as the Omnibus Law, was designed as a legal instrument to streamline regulatory frameworks and enhance the investment climate across multiple sectors, including water resource management. This legislation introduces substantial reforms, notably the adoption of risk-based licensing, the simplification of Environmental Impact Assessment (AMDAL) procedures, and the promotion of private sector engagement in water governance. These shifts reflect a broader effort to recalibrate regulatory burdens while accelerating infrastructure and service delivery in strategic domains (Luhukay, 2021; Pambudhi & Ramadayanti, 2021). Through this approach, it is anticipated that greater investment opportunities will emerge, water infrastructure will be enhanced, and resource utilization will become more efficient—advancing a governance model that aligns economic growth with sustainability imperatives (Harahap & Kurniawan, 2021; Pambudi & Kusumanto, 2023).

The reforms introduced by the Omnibus Law have also sparked criticism from various stakeholders. A primary concern centers on the potential for environmental degradation resulting from regulatory simplification. The AMDAL procedures, for instance, may undermine critical safeguards, particularly in projects with substantial implications for water resources and ecological integrity (Siregar, 2020). Moreover, the growing involvement of private entities in water management carries the potential to trigger social conflict, particularly when public access to clean water is jeopardized. In certain cases, water privatization may constrict opportunities for impoverished communities to secure equitable access to this essential resource, thereby exacerbating existing inequalities (Bappenas, 2015).

The approach advanced by the Omnibus Law also presents challenges in maintaining equilibrium among the three pillars of sustainable development. On one hand, regulatory simplification may stimulate economic growth through

increased investment and job creation. On the other, accelerated development often proceeds at the expense of social equity and environmental integrity. This tension underscores the need for more rigorous analysis to ensure that adopted policies genuinely support the long-term sustainability of water resources (Gleick, 2018; Luhukay, 2021).

This study addresses the lack of a comprehensive and integrative analysis that systematically examines the implications of the Omnibus Law for water resource governance within a unified conceptual framework linking regulatory reform, institutional restructuring, and water resilience. Existing scholarship on water governance in Indonesia has largely concentrated on sectoral policies, technical hydrological management, or conservation strategies developed prior to the recent wave of regulatory transformation. Conversely, studies addressing the Omnibus Law have predominantly emphasized investment facilitation, licensing simplification, and general environmental law debates, without critically exploring its specific ramifications for water governance structures.

Moreover, there remains limited empirical inquiry into how the centralization of authority, the recalibration of environmental impact assessment procedures, and the adoption of risk based licensing collectively influence distributive justice, ecological safeguards, and long term sustainability at the watershed level. The interplay between regulatory change and the balance among economic efficiency, social equity, and environmental integrity has not been sufficiently articulated in the Indonesian context. This conceptual and empirical gap provides the foundation for the present study, which seeks to advance a multidimensional understanding of post Omnibus water governance and its implications for sustainable development and systemic water resilience.

Water resource resilience has emerged as a critical issue that must be systematically integrated into sustainable development policies. This resilience encompasses a system's capacity to deliver sufficient quantities of high-quality water to meet societal needs, sustain economic activities, and preserve ecological balance. Moreover, water resilience is intricately linked to spatial planning and regulatory frameworks, including those shaped by the Omnibus Law (Fatanen, 2021; Pambudi & Sitorus, 2021; Wira et al., 2024). In the Indonesian context, water resource resilience is confronted by a constellation of challenges, including mounting population pressures, rapid urbanization, climate change, and excessive exploitation. Addressing these complexities demands a holistic management approach, one that transcends purely technical solutions and embraces a balanced integration of social, economic, and environmental dimensions to ensure long-term sustainability (Bappenas, 2020).

Against the backdrop of sweeping regulatory reform under the Omnibus Law, this study advances six focused research questions to structure a critical and systematic analysis: (1) How has the Omnibus Law reshaped the institutional configuration and normative orientation of water resource governance in Indonesia?; (2) In what ways have changes in authority allocation and risk based licensing transformed watershed management practices across central and regional levels?; (3) What economic implications arise from the revised governance framework in terms of investment expansion, efficiency, and the risk of excessive water extraction?; (4) How do these regulatory shifts influence equity in water access, public participation, and the protection of indigenous and local water rights?; (5) To what extent has the modification of environmental safeguards, particularly the AMDAL regime, affected ecological protection and hydrological stability in major river basins?; (6) Overall, how does post Omnibus water governance recalibrate the balance among economic growth, social inclusion, and environmental sustainability in advancing long term water resilience?

As part of the effort to address these challenges, a critical inquiry into the relevance of the Omnibus Law for water resource governance becomes imperative. This study aims to evaluate the impact of the new regulatory framework on water resilience and the three pillars of sustainable development. By examining the interlinkages between regulatory shifts, policy implementation, and their effects on the social, economic, and environmental balance, the analysis is expected to yield more comprehensive and sustainability-oriented policy recommendations.

This study also underscores the critical importance of a participatory approach in water resource governance. The active engagement of local communities, regional governments, and the private sector is essential for crafting solutions that are both inclusive and sustainable (Loviscek, 2020; Nahib et al., 2025; Sebestyén et al., 2020). In this context, watershed management serves as a tangible example of how multi-stakeholder collaboration can drive the success of water resource conservation. By engaging a diverse array of actors—from local communities to policymakers, watershed governance can be pursued in a more integrated manner, aligning local needs with the imperative of long-term ecosystem sustainability.

To reinforce the study's analytical coherence, existing scholarship on water governance, regulatory reform, and sustainable development is systematically synthesized to inform the construction of its conceptual framework. Rather than serving only as contextual support, prior studies are mobilized to clarify the causal relationships linking regulatory transformation, institutional reconfiguration, and multidimensional water resilience. While the body of literature is substantial, this

research sharpens its analytical positioning by critically engaging divergent perspectives on regulatory centralization, environmental protection, and market-oriented governance. By examining the inherent tensions between efficiency driven reform and sustainability imperatives, the study delineates the conceptual gap it seeks to address within contemporary debates on water governance.

2. Methods

This study employs a qualitative approach, utilizing document analysis as its principal method to explore the influence of the Omnibus Law on water resource governance in Indonesia (Poth, 2023). Data for this study were obtained from a range of secondary sources, including scholarly journals, government reports, statutory regulations, and relevant policy documents. These materials were systematically analysed to identify the impacts of the new regulatory framework on the social, economic, and environmental dimensions of water resource management. The study adopts a descriptive-critical technique to evaluate the nexus between regulatory changes and field-level policy implementation. This approach enables the identification of regulatory overlaps and emerging challenges in realizing sustainable development goals. Furthermore, the research employs selected watershed case studies as empirical representations of Omnibus Law implementation across various regions in Indonesia. To enhance the validity and reliability of the findings, data triangulation was conducted by cross-referencing academic literature, government documentation, and international policy insights. Comparative analysis with water governance practices in other countries was also incorporated to provide additional perspectives for identifying policy improvement opportunities in Indonesia's water resource governance.

This study employs a descriptive critical qualitative design grounded in a regulatory governance framework integrating institutional analysis, sustainable development principles, and water resilience. The unit of analysis comprises regulatory provisions, institutional arrangements, and watershed governance practices within selected river basins. Case studies were conducted in Citarum, Brantas, Kapuas, Mahakam, and Limboto. Data were collected through systematic document review and FGDs involving 18 purposively selected participants representing central ministries, provincial agencies, river basin organizations, academics, and civil society. Informants were selected based on policy authority, technical expertise, and direct involvement in watershed management. FGDs were conducted in Jakarta and two basin locations, recorded, transcribed, and documented. Data analysis proceeded through a structured process of regulatory mapping, open coding, thematic categorization, cross case comparison, and

interpretive synthesis to identify patterns linking regulatory change, institutional dynamics, and sustainability outcomes.

3. Results And Discussion

Regulatory Analysis of the Omnibus Law in Relation to Water Resource Governance

To foster a more conducive investment climate, the administration of President Joko Widodo enacted Law No. 11 of 2020 on Job Creation, widely known as the Omnibus Law. This legislation has sparked considerable debate among the public, drawing both support and criticism from civil society groups, academics, and community organizations. The regulatory framework introduced significantly amends various pre-existing statutes related to business activities and investment, including laws that directly affect watershed management, such as Law No. 41/1999, Law No. 37/2014, Law No. 17/2019, Law No. 32/2009, and key government regulations, most notably Government Regulation No. 21/2021 on Spatial Planning Implementation.

Table 1. Impacts of the Omnibus Law (Law No 11/2020) on Regulatory Frameworks Governing Water Resource Management in Indonesia

Regulation	Impact
Indonesian Law Number 37 of 2014 concerning Soil and Water Conservation	The enactment of the Job Creation Law (Omnibus Law) left Law No. 37 of 2014 on Soil and Water Conservation fully intact, underscoring its enduring legal and ecological significance. This law remains a cornerstone of Indonesia's watershed governance, delineating obligations among landowners, users, and permit holders to implement conservation measures grounded in sustainable land management principles. Articles 7 and 29 codify this duty, while Articles 18 and 20 safeguard land-use integrity by prohibiting the conversion of vital protected and cultivated zones. Moreover, Articles 32–33 institutionalize environmental service payments, and Article 36 mandates government support through financial and non-financial incentives for conservation practitioners. Beyond its regulatory scope, the law embeds accountability through penal provisions (Articles 59–64), ensuring compliance via fines and imprisonment. As climate pressures intensify, Law No. 37/2014 serves as both a normative and operational framework for restoring hydrological balance and preventing ecological degradation. Its sustained enforcement reinforces Indonesia's broader agenda of environmental resilience and integrated, sustainable watershed management.
Indonesian Law Number 17 of 2019 concerning Water Resources	The enactment of Indonesia's Omnibus Law has restructured key provisions of Law No. 17/2019 on Water Resources, signaling a major institutional and regulatory shift. While most amendments are linguistic—replacing "permits" with "business licensing"—several articles, notably 12, 17, and 19, introduce substantial policy changes. Article 12 redefines the role of regional governments, mandating compliance with norms, standards, procedures, and criteria (NSPK) dictated by the central government, thereby strengthening top-down control. Article 17 extends governance to the village level, requiring local authorities to consider inter-village interests in managing shared water

Regulation	Impact
	resources. Conversely, Article 19 removes provisions assigning State- and Region-owned Enterprises explicit duties in water infrastructure operation and service delivery, weakening their statutory obligations. These revisions mark a transition from a decentralized to a centralized model of watershed governance, particularly in the regulation of NSPK for water utilization and supervision. Such centralization, while promoting uniformity and national coherence, risks constraining locally adapted practices and reducing community agency. Consequently, local deviations from prescribed national standards may now incur legal or administrative sanctions, signaling a profound recalibration of Indonesia's environmental governance landscape.
Indonesian Law Number 41 of 1999 concerning Forestry	The Omnibus Law fundamentally reconfigures Indonesia's forestry governance by amending Law No. 41/1999, particularly Article 18 concerning watershed management. Previously, the law prescribed a fixed ecological baseline—requiring at least 30% forest cover per watershed to maintain hydrological and ecological stability. The 2020 amendment eliminates this explicit quantitative threshold, replacing it with a more flexible mandate to ensure "adequate" forest area and cover determined by the central government, considering each watershed's biophysical and socio-economic context. This transformation reflects a paradigmatic shift from rigid regulation to adaptive, outcome-oriented management. It aligns with contemporary sustainability principles that integrate environmental, social, and economic objectives. However, this flexibility also introduces institutional ambiguity, as it centralizes authority while weakening clear ecological benchmarks. The new framework's effectiveness will depend on the government's capacity to develop scientifically grounded criteria, enforce compliance, and maintain ecological integrity across heterogeneous landscapes. Thus, while the amendment enhances policy adaptability, it simultaneously exposes critical governance challenges in ensuring consistent, evidence-based forest conservation nationwide.
Indonesian Law Number 26 of 2007 concerning Spatial Planning	The Omnibus Law marks a decisive legal shift in Indonesia's spatial governance by dismantling ecological safeguards previously enshrined in Law No. 26 of 2007. Article 17(5), which mandated a minimum of 30% forest cover within watershed landscapes and 30% urban green space, was repealed—removing key spatial parameters that anchored environmental balance and urban resilience. Beyond its ecological implications, the Omnibus Law also centralizes decision-making authority. Articles 10 and 11 eliminate detailed competencies once vested in provincial, district, and municipal governments, consolidating licensing power within the central administration. This centralization simplifies bureaucratic hierarchies but constrains local autonomy to adapt spatial policies to distinctive ecological and socio-economic realities. The reform thus represents not merely a legal adjustment but a paradigm shift from decentralized, context-sensitive spatial planning to a nationally standardized framework emphasizing efficiency and investment facilitation, yet potentially at the expense of local environmental stewardship and adaptive governance capacity.
Indonesian Law Number 32 of 2009 concerning Environmental	The enactment of the Omnibus Law profoundly reshaped the institutional and legal landscape of environmental governance. It amended Law No. 32/2009 on Environmental Protection and Management, redefining the AMDAL mechanism. Environmental feasibility assessments are now centralized under an evaluation team within the national environmental institution, diminishing

Regulation	Impact
Protection and Management	the participatory role previously held by environmental observers—now limited to directly affected communities. Moreover, the revocation of the article regulating AMDAL preparers' certification has created a legal vacuum pending new government regulation. Substantively, Article 69 reinforces the prohibition of pollution and hazardous waste disposal, while acknowledging exceptions grounded in local wisdom. The law further introduces Articles 82A–82C, detailing administrative sanctions—ranging from fines to license revocation—for environmental negligence not causing direct human harm. Most significantly, the amendment to Article 88 eliminates the strict liability clause ("without proof of fault"), shifting the legal burden onto businesses. Consequently, operators handling hazardous materials must now undergo judicial proof, signaling a paradigm shift from preventive accountability toward evidentiary-based enforcement.

Source: Author's Analysis (2025)

Table 1 demonstrates a coherent pattern of regulatory centralization and normative recalibration, revealing how institutional restructuring under the Omnibus Law systematically alters authority distribution, environmental safeguards, and governance coherence across water related legal frameworks. Following the enactment of the Omnibus Law, the Indonesian government issued a series of implementing regulations across various sectors, including those closely tied to watershed management. As of June 2021, one of the most consequential regulations affecting watershed governance is Government Regulation No. 21 of 2021 on Spatial Planning Implementation, which replaces Government Regulation No. 15 of 2010. Several other regulations and ministerial decrees relevant to watershed management remain unchanged or have yet to be revised, including Government Regulation No. 37 of 2012 on Watershed Management, Government Regulation No. 26 of 2008 on the National Spatial Plan (as amended by Government Regulation No. 13 of 2017), Ministerial Regulation P.39/Menhut-II/2009 on Guidelines for Integrated Watershed Management Planning, and Ministerial Regulation P.61/Menhut-II/2013 on the Watershed Management Coordination Forum.

The regulatory shifts introduced by the Omnibus Law aim to harmonize and accelerate development. However, they also pose significant risks to the long-term sustainability of watersheds. The centralization of authority and the removal of several protective provisions may weaken the institutional capacity for sustainable watershed governance. This underscores the urgent need for robust oversight and complementary policies to safeguard the hydrological and ecological functions of watersheds over time.

The transition from Government Regulation No. 15/2010 to No. 21/2021 brought several critical provisions relevant to watershed governance, notably Articles 11, 12, 16, 18, 22, 23, 34, 109, 113, 237, and 238. Article 11 affirms that spatial plans must consider environmental carrying capacity and assimilative capacity, including within watershed landscapes. Articles 12, 16, 18, and 23 mandate that the formulation of national, provincial, and municipal spatial plans be informed by integrated analyses of environmental capacity, aligned with strategic environmental assessments.

Article 22 stipulates that urban spatial plans must allocate at least 20% of city land for public green open spaces and 10% for private green open spaces, with any total exceeding 30% required to be preserved. In urban watershed contexts, green open spaces are strategic for water conservation and hydrological support. A notable regulatory shift is the removal of the mandatory minimum 30% green open space requirement, which diminishes watershed protection amid urbanization and environmental degradation.

Article 34 of Government Regulation No. 21/2021 introduces criteria for designating National Strategic Areas based on their role in maintaining water balance and mitigating annual loss risks. A new provision absent in the previous regulation is the establishment of a Spatial Planning Forum (Article 113), tasked with advising on business activity approvals related to spatial utilization. Articles 237 and 238 authorize the Minister to form this forum, comprising regional agencies, professional associations, academic institutions, and community leaders.

Insights from FGDs with key stakeholders reveal that the Omnibus Law has significantly reshaped water resource governance in Indonesia, particularly in terms of management and distribution. A primary impact of the law is authority centralization—transferring responsibilities previously held by local governments to the central government. This shift is reflected in amendments to Law No. 17/2019 on Water Resources, which now requires water management to adhere to centrally defined norms, standards, procedures, and criteria (NSPK). While intended to streamline regulation and attract investment, this centralization reduces the flexibility of locally grounded water management approaches, potentially sidelining traditional practices that have long supported sustainable water use in regions with distinct hydrological and socio-cultural characteristics.

Changes to water licensing mechanisms also represent a key impact of the Omnibus Law. The previous "water use permit" system, which was tailored to specific needs, has been replaced by a broader "business licensing" framework oriented toward industrial and commercial interests. Although this facilitates investment and economic growth, it heightens the risk of overexploitation by

private actors. Meanwhile, rural communities face increasing challenges in securing water access for basic needs and subsistence agriculture. These shifts may exacerbate inequalities in water distribution, particularly in water-scarce regions such as Java and Bali, where population pressures on water resources are already acute.

Economic Consequences of Water Resource Governance within the Framework of the Omnibus Law

Water resource management plays a pivotal role in driving economic growth across key sectors such as agriculture, industry, and energy. Through regulatory simplification, the Omnibus Law is expected to stimulate increased investment in water infrastructure development. For instance, the acceleration of risk-based business licensing, as stipulated in the law, opens avenues for private sector participation in water infrastructure projects, ranging from dam and reservoir construction to the expansion of clean water distribution networks. This has the potential to enhance economic productivity by ensuring more reliable water supply for industrial and service sectors.

However, this regulatory streamlining also presents significant challenges. A primary concern is the risk of excessive exploitation of water resources, particularly by industries with high water demands. In the absence of adequate oversight, accelerated investment may lead to unsustainable water extraction that exceeds the ecological carrying capacity, thereby disrupting environmental balance. In certain cases, the dominance of large-scale investors may marginalize small and medium enterprises (SMEs), which require equitable access to water to sustain their operations. Moreover, ensuring that the economic benefits are broadly distributed remains a critical challenge. The government must establish clear water allocation priorities, ensuring that domestic needs are safeguarded before resources are diverted to commercial activities. This includes implementing progressive tariff systems for large-scale water users to curb excessive consumption and promote efficient water use

The Societal Implications of Water Resource Governance in the Era of the Omnibus Law

Regulatory changes introduced through the Omnibus Law have generated diverse social implications. One of the primary concerns is the potential for social conflict arising from water privatization. The Law enables greater private sector involvement in water resource management, which, in certain cases, may lead to increased costs for accessing clean water. This poses significant risks in rural and remote areas, where communities often rely on natural water sources for daily

needs. Poorly regulated privatization may restrict access for low-income populations, exacerbate social inequality, and trigger horizontal conflicts.

Conversely, the Omnibus Law also presents opportunities to enhance the quality of clean water services through private investment. With appropriate regulatory safeguards, the private sector can contribute to the development of water infrastructure, such as potable water supply systemsthat improve public access to clean water. To realize this potential, the government must ensure that private sector engagement is accompanied by stringent oversight to maintain affordability and service quality.

Findings from FGDs with relevant stakeholders reveal that the Omnibus Law also affects traditional water rights held by indigenous and local communities. Traditional water management systems, which have been practiced for centuries, are often not formally recognized within the framework of NSPK. As a result, indigenous communities risk losing access to their water resources when their territories are allocated for commercial or large-scale infrastructure projects without adequate consultation or compensation. This impact is further compounded by changes to the AMDAL process, which now limits consultation to directly affected communities, excluding environmental observers. Such exclusion undermines transparency and accountability in projects that affect local water resources.

Addressing these challenges requires strategic measures that balance water resource management for economic growth with the protection of local rights. The government must expand public participation in decision-making processes, particularly by involving indigenous and local communities who depend on these resources. Recognition of traditional water governance systems should be integrated into the NSPK framework, accompanied by legal safeguards for community rights. Furthermore, transparency in business licensing and robust oversight of project implementation must be reinforced to prevent excessive exploitation. With a balanced approach, the Omnibus Law can be leveraged to improve water governance efficiency without compromising sustainability or long-standing local entitlements.

Community participation in water resource management remains a critical aspect that must be strengthened. The policy formulation and implementation processes under the Omnibus Law should actively engage local communities, especially those residing in areas directly impacted by regulatory changes. Such engagement can foster more inclusive and sustainable solutions while mitigating the risk of social conflict.

Ecological Consequences of Water Resource Governance under the Omnibus Law

Water resources are a critical element in maintaining ecological balance. Poor management can lead to a range of environmental issues, including water pollution, wetland degradation, and the deterioration of aquatic ecosystems. The Omnibus Law, through its simplification of the AMDAL process, poses significant implications for environmental sustainability. A key criticism of the Law includes the weakening of environmental protection mechanisms by streamlining AMDAL procedures. Large-scale projects with substantial environmental impacts can now obtain business permits more easily, thereby increasing the risk of damage to aquatic ecosystems. Moreover, the risk-based approach to licensing often fails to account for the long-term complexity of environmental impacts, such as declining water quality or reduced catchment capacity.

Insights from FGDs with relevant stakeholders indicate that environmental impact has emerged as one of the most prominent concerns associated with the Omnibus Law. Amendments to Law No. 32/2009 on Environmental Protection and Management have curtailed broader public and environmental stakeholder participation in the AMDAL process. Currently, only directly affected communities are involved, while the role of environmental observers has been eliminated. Additionally, the removal of the principle of 'strict liability without proof of fault' in cases of environmental pollution undermines legal enforcement against polluters, including companies that discharge hazardous waste into rivers. Consequently, the risk of water contamination has increased, particularly in river basins that serve as the backbone of ecosystem sustainability and local livelihoods. Weak regulatory oversight of industrial activities may further degrade water quality, threaten biodiversity, and impair the hydrological functions of river systems.

On the other hand, the Omnibus Law also offers opportunities to accelerate the development of water conservation infrastructure, such as retention basins and recharge zones. When properly managed, these projects can enhance water storage capacity, reduce flood risks, and support the sustainability of water supply during dry seasons. The success of such policy implementation depends heavily on rigorous oversight and the integration of modern technologies in water resource management. For instance, the use of technology-based monitoring systems, such as Internet of Things (IoT) sensors, can facilitate real-time detection of water pollution and help ensure the maintenance of water quality.

An In-Depth Analysis of Watershed Management Practices

The quality of watershed management is a key indicator of the environmental impacts resulting from the implementation of the Omnibus Law. In several major watersheds across Indonesia, such as the Citarum and Brantas river basins, there has been a marked increase in pressure on water resources due to rapid population growth and urbanization. Population pressure at the watershed scale can be quantified to assess the balance between community water demand and the availability of water within the region. This involves identifying the watershed area to be analyzed, including its geographic boundaries, population size, and water availability. Required data include the total population within the watershed, annual water availability volume, and average per capita domestic water demand. The Citarum River Basin is experiencing extremely high population pressure (80%) driven by massive urbanization (85%). Water quality in this basin has reached a critical threshold (45%), with severe pollution stemming from domestic and industrial waste. Meanwhile, the Brantas River Basin also faces significant population and urbanization pressures, at 70% and 75% respectively. Although its water quality is slightly better than that of Citarum (55%), it still requires urgent attention to mitigate the impacts of domestic waste.

Table 2. Analysis of Sustainable Development Challenges in Selected Watersheds

No	Watershed	Economy	Social	Environment
1	Kapuas	Supports fisheries and transportation; illegal mining degrades water quality	Local populations depend on water resources for daily needs, yet access is increasingly compromised by environmental contamination	Intensive agricultural practices accelerate sediment deposition, thereby diminishing the hydraulic capacity of watershed channels and impairing overall flow efficiency
2	Mahakam	A hub for oil, gas, and coal exploration, where extractive activities have led to significant environmental degradation	Conflicts between corporations and communities over access and environmental impacts	Intensive agricultural practices accelerate sediment deposition, thereby diminishing the hydraulic capacity of watershed channels and impairing overall flow efficiency
3	Brantas	Supports power generation; excessive exploitation threatens sustainability	Domestic and agricultural dependence; significant pressure on water resources	Intensive agricultural practices accelerate sediment accumulation, thereby diminishing the hydraulic capacity of river channels and watershed systems

No	Watershed	Economy	Social	Environment
4	Limboto	Supports agriculture and tourism; sedimentation poses a constraint	Clean water challenges due to sedimentation and reduced lake capacity	Intensive agriculture increases sedimentation and reduces flow capacity
5	Citarum	Sources of agricultural irrigation and industrial water; poor water quality due to pollution	Urbanization increases water demand; disparities in community access persist	Urbanization increases water demand; disparities in community access persist

Source: (Devi et al., 2023; Ekasari et al., 2022; Harahap & Kurniawan, 2021; Mustakim, 2021; Nahib et al., 2025; Nurcahyaningtyas et al., 2024; Pambudi, 2022; Pambudi et al., 2023; Ramadhan et al., 2025; Suhendra et al., 2024; Wira et al., 2024)

Table 2 comparatively reveals watershed specific sustainability pressures, illustrating how economic activities, social dependence, and environmental degradation interact unevenly across regions, thereby substantiating the need for context sensitive and adaptive water governance strategies. The implementation of the Omnibus Law presents opportunities to accelerate infrastructure development within watershed areas, including the construction of dams and the reinforcement of embankments.

However, a key challenge lies in ensuring that such projects do not compromise the ecological integrity of the watershed. One notable impact is the reduction of green open spaces and the degradation of wetlands, which serve as critical water recharge zones. The Kapuas River Basin experiences moderate levels of population and urbanization pressure (60% and 65% respectively), yet maintains relatively good water quality (65%). The primary concern in this region is the uncontrolled exploitation of natural resources. Interestingly, the Mahakam River Basin faces lighter pressures (50% population, 55% urbanization) and shows improving water quality (70%). Nonetheless, its dominant activities—mining and oil extraction—pose distinct environmental challenges.

A participatory approach to watershed management represents a critical solution for enhancing environmental resilience. The Limboto River Basin experiences relatively low population pressure (40%) and moderate urbanization (45%), with water quality reaching 80%, indicating stronger potential for environmental protection compared to other watersheds. Engaging local communities in watershed rehabilitation efforts, such as reforestation and sustainable land management, can significantly improve the effectiveness of conservation programs. Furthermore, integrated watershed governance that involves multiple stakeholders, including government agencies, the private sector,

and civil society organizations—can foster synergy in advancing water resource conservation.

Implications for the Three Pillars of Sustainable Development

Integrated water resource resilience, encompassing economic, social, and environmental dimensions lies at the heart of the sustainable development paradigm. The Omnibus Law presents both opportunities and challenges in achieving a balanced approach across these three pillars. In the current Indonesian context, where water distribution remains uneven and many regions face water scarcity, the implementation of the Omnibus Law raises concerns, particularly regarding the risk of overexploitation that may further undermine environmental carrying capacity. Inadequate oversight in certain areas has also led to disparities in water access, disproportionately affecting rural communities and vulnerable groups. Moreover, the regulatory framework has drawn criticism for its limited public engagement in water resource governance.

To ensure long-term sustainability, the government must strengthen monitoring mechanisms, uphold transparency in licensing processes, and actively involve communities in the planning and implementation of water-related policies. With prudent management, the Omnibus Law can serve as a strategic instrument to address Indonesia's water challenges while fostering inclusive and sustainable development.

From an economic perspective, the regulation has the potential to stimulate investment and infrastructure development that supports the growth of strategic sectors. Nonetheless, the risk of uncontrolled water resource exploitation must be mitigated through robust regulatory safeguards. On the social front, expanding equitable access to clean water should be a central priority in water governance. Environmentally, the protection of aquatic ecosystems must be embedded throughout all stages of development to ensure long-term ecological sustainability.

The findings and analysis demonstrate that the Omnibus Law generates multidimensional consequences for water resource governance in Indonesia. The reform does not merely adjust procedural aspects of regulation but reshapes the structural configuration of authority, market participation, and environmental oversight. When implemented with robust supervision and institutional accountability, the regulatory framework holds potential to support sustainable development objectives. Conversely, insufficient control and weak enforcement risk deepening social disparities, accelerating ecological decline, and encouraging unsustainable patterns of resource exploitation.

Analytically, the study synthesizes these dynamics by showing how regulatory centralization, economic liberalization, and the recalibration of environmental safeguards interact to produce imbalances across social equity, ecological integrity, and institutional coherence in watershed governance. This integrative perspective advances water governance scholarship beyond fragmented sectoral or technical discussions toward a reform oriented governance framework grounded in sustainability principles. By conceptualizing the linkage between centralization, risk based licensing, and water resilience, the study enriches broader debates on governance reform in environmental administration and natural resource management.

This research recognizes its limitations, particularly its qualitative design and focus on selected watershed cases. Future studies may incorporate quantitative analysis or comparative cross-national approaches to further examine and validate the broader applicability of the proposed framework.

4. Conclusion

The conclusion synthesizes the findings by affirming that the Omnibus Law has restructured water governance through centralization, licensing reform, and reduced environmental safeguards, producing a systemic tension between investment acceleration and sustainability imperatives. This recalibration reshapes institutional balance, ecological protection, and distributive equity, ultimately redefining Indonesia's trajectory toward long term water resilience.

Indonesia continues to grapple with complex challenges in water resource management that significantly influence the nation's sustainable development trajectory. Uneven water distribution, escalating pollution, deforestation disrupting hydrological cycles, and rising demand driven by population growth and industrial expansion are among the most pressing issues. Within this context, the Omnibus Law is pivotal in streamlining regulatory frameworks, accelerating investment flows, and enhancing the efficiency of water governance. The simplification of licensing procedures is expected to catalyze the development of water infrastructure, which is essential for supporting strategic sectors. Moreover, the Law enables private sector participation through public-private partnerships, thereby expanding national water infrastructure capacity.

However, these opportunities coexist with critical risks that must be addressed with nuance and foresight. The centralization of authority under the Omnibus framework may undermine local flexibility and marginalize traditional water management practices rooted in indigenous wisdom, approaches that often align more closely with the ecological and cultural characteristics of specific

regions. While privatization may offer gains in operational efficiency, it also risks deepening inequalities in water access, particularly for impoverished and remote communities. The AMDAL procedures further compounds environmental vulnerabilities, increasing the likelihood of pollution and ecosystem degradation. These shifts in governance structures have also heightened tensions among local communities, government actors, and private entities over water allocation and utilization.

Addressing these multidimensional challenges requires a collaborative governance model that actively engages all stakeholders. The government must play a central role in safeguarding the balance between economic growth, social equity, and environmental integrity. Strengthened oversight, transparent licensing mechanisms, and inclusive policy planning are essential to ensure accountable and responsive water governance. Integrating traditional knowledge systems into national frameworks will help preserve local identity and ecological relevance in decision-making processes. Equitable water access policies must be designed to reduce disparities, such as through progressive tariffs for large-scale users while protecting basic water needs for vulnerable populations.

Reinforcing AMDAL procedures is also imperative. Broader stakeholder engagement, including environmental experts and local communities, will enhance transparency and accountability in project assessments. To navigate these complexities, multi-stakeholder dialogue mechanisms offer a strategic pathway toward consensus-building and sustainable resource management. If governed wisely, the Omnibus Law holds the potential to become a transformative instrument for inclusive and sustainable development. However, without adequate safeguards and participatory mechanisms, regulatory shifts may exacerbate social inequality, environmental degradation, and unsustainable economic exploitation.

The theoretical implication of this study lies in advancing an integrated governance framework that connects regulatory reform, institutional centralization, and water resilience within a sustainable development paradigm. Its broader academic contribution is the articulation of a multidimensional analytical model that bridges environmental law, public administration, and watershed governance in post reform Indonesia.

References

Bappenas. (2015). *Kajian Pengaruh Kebijakan Konservasi Sumber Daya Air di dalam DAS Terhadap Sektor Kehutanan dan Sektor Lainnya*.

Bappenas. (2020). *Dokumen Kajian Lingkungan Hidup Strategis Rencana Pembangunan Jangka Menengah Nasional (KLHS RPJMN) 2020- 2024*.

Bellfield, H., Leggett, M., Trivedi, M., Pereira, J., & Gangga, A. (2016). *How Can Indonesia Achieve Water, Energy and Food Security?* www.cdkn.

Devi, N., Herawati, H., & Saziati, O. (2023). Daya Dukung Lingkungan berdasarkan Ketersediaan Air dan Produktivitas Lahan di Daerah Kecamatan Putussibau Utara Kabupaten Kapuas Hulu. *Jurnal Ilmu Lingkungan*, *21*(2), 257–268. https://doi.org/10.14710/JIL.21.2.257-268

Ekasari, A. M., Burhanudin, H., & Fardani, I. (2022). Analisis Kualitas Sub DAS Citarum Hulu. *Media Komunikasi Geografi*, *23*(1), 44–57. https://doi.org/10.23887/MKG.V23I1.40612

Fatanen, A. (2021). Eksistensi Kewenangan Daerah dalam Perlindungan dan Pengelolaan Lingkungan Hidup Pasca diterbitkannya Undang-Undang Cipta Kerja. *Khazanah Hukum*, *3*(1), 1–7. https://doi.org/10.15575/kh.v3i1.10009

Fulazzaky, M. (2014). Challenges of Integrated Water Resources Management in Indonesia. *Water*, *6*(7), 2000–2020. https://doi.org/10.3390/w6072000

Gleick, P. H. (2018). *Water Security and Its Role In Sustainable Development Goals*. Stanford University Press.

Harahap, S. H., & Kurniawan, A. (2021). Tekanan Populasi Terhadap Perubahan Kualitas Air DAS Mahakam. *Environmental Science and Pollution Research*, *28*(1), 124–136.

Hutton, G., & Chase, C. (2016). The Knowledge Base for Achieving the Sustainable Development Goal Targets on Water Supply, Sanitation and Hygiene. *International Journal of Environmental Research and Public Health*, *13*(6), 536. https://doi.org/10.3390/ijerph13060536

Loviscek, V. (2020). Triple Bottom Line toward a Holistic Framework for Sustainability: A Systematic Review. *Revista de Administração Contemporânea*, *25*(3 Special Issue), e200017. https://doi.org/10.1590/1982-7849RAC2021200017.EN

Luhukay, R. S. (2021). Penghapusan Izin Lingkungan Kegiatan Usaha Dalam Undang Undang Omnibus Law Cipta Kerja. *Jurnal Meta-Yuridis*, *4*(1). https://doi.org/10.26877/m-y.v4i1.7827

Maheshwari, B., Thoradeniya, B., & Singh, V. P. (2016). *Balanced Urban Development: Options and Strategies for Liveable Cities* (Vol. 72). Springer International Publishing. https://doi.org/10.1007/978-3-319-28112-4

Mustakim, M. (2021). Analisa Fungsi Tampungan Sedimen pada Checkdam Sungai Alo Terhadap Laju Sedimen ke Danau Limboto. *Gorontalo Journal of Infrastructure and Science Engineering*, *4*(1), 34–44. https://doi.org/https://doi.org/10.32662/gojise.v4i1.1084

Nahib, I., Widiatmaka, W., Tarigan, S. D., Ambarwulan, W., & Ramadhani, F. (2025). Determining Conservation Priorities in the Urban Citarum Watershed, West Java: An Ecosystem Services Approach. *International Journal of Sustainable Development and Planning*, *20*(1), 195. https://doi.org/10.18280/IJSDP.200119

Nurcahyaningtyas, D., Harisuseno, D., & Fidari, J. S. (2024). Flood Prone Mapping based on Surface Runoff Analysis using the SWAT Model at the Upstream Side of Brantas. *Jurnal Teknik Pengairan: Journal of Water Resources Engineering*, *15*(1), 37–49. https://doi.org/10.21776/UB.PENGAIRAN.2024.015.01.4

Pambudhi, H. D., & Ramadayanti, E. (2021). Menilai Kembali Politik Hukum Perlindungan Lingkungan dalam UU Cipta Kerja untuk Mendukung Keberlanjutan Ekologis. *Jurnal Hukum Lingkungan Indonesia*, *7*(2), 297–322. https://doi.org/10.38011/jhli.v7i2.313

Pambudi, A. S. (2022). Balancing infrastructure, ecosystem conservation, and community approaches on integrated development planning of Citarum Watershed. *Indonesian Journal of Applied Environmental Studies (InJAST)*, *3*(1), 34–41. https://doi.org/10.33751/injast.v3vi1i.4209

Pambudi, A. S. (2024). Drinking Water Development Plan Evaluation Through Transfer to Regions Fund. *Jurnal Perencanaan Pembangunan: The Indonesian Journal of Development Planning*, *8*(3), 410–434. https://doi.org/10.36574/jpp.v8i3.484

Pambudi, A. S. (2025). Pengaruh Regulasi terhadap Aksesibilitas Sumber Daya Air Berkelanjutan di Indonesia. *Journal Transformation of Mandalika*, *6*(6), 184–197. https://doi.org/https://doi.org/10.36312/jtm.v6i6.4742

Pambudi, A. S., Junaidi, R., & Pramujo, B. (2023). Strategi Konservasi untuk Mengurangi Erosi Hulu Daerah Aliran Sungai Brantas, Jawa Timur. *Jurnal*

Kebijakan Pembangunan Daerah, *7*(2), 121–139. https://doi.org/10.56945/jkpd.v7i2.257

Pambudi, A. S., & Kusumanto, T. (2023). Water Resources Governance in Indonesia Towards Environmental Sustainability Along with Social and Economic Development. In *Environmental Governance in Indonesia* (Vol. 61, pp. 289–311). Springer, Cham. https://doi.org/10.1007/978-3-031-15904-6_16

Pambudi, A. S., & Sitorus, S. R. P. (2021). Omnimbus Law dan Penyusunan Rencana Tata Ruang: Konsepsi, Pelaksanaan dan Permasalahannya di Indonesia. *Jurnal Ilmiah Wahana Bhakti Praja*, *11*(2), 198–216. https://doi.org/10.33701/jiwbp.v11i2.2216

Poth, C. N. . (2023). *The Sage Handbook of Mixed Methods Research Design*. SAGE Publications Ltd.

Pribadi, K. S., Abduh, M., Wirahadikusumah, R. D., Hanifa, N. R., Irsyam, M., Kusumaningrum, P., & Puri, E. (2021). Learning from past earthquake disasters: The need for knowledge management system to enhance infrastructure resilience in Indonesia. *International Journal of Disaster Risk Reduction*, *64*, 102424. https://doi.org/https://doi.org/10.1016/j.ijdrr.2021.102424

Ramadhan, M., Nurfaika, N., & Pratama, M. I. L. (2025). Analisis Perubahan Tutupan Lahan Di DAS Limboto, Kabupaten Gorontalo, Provinsi Gorontalo. *Jurnal Riset Dan Pengabdian Interdisipliner*, *2*(3), 457–461. https://doi.org/10.37905/JRPI.V2I3.31780

Sebestyén, V., Domokos, E., & Abonyi, J. (2020). Focal points for sustainable development strategies—Text mining-based comparative analysis of voluntary national reviews. *Journal of Environmental Management*, *263*, 110414. https://doi.org/10.1016/J.JENVMAN.2020.110414

Siregar, F. Y. D. (2020). Aspek Hukum Penyederhanaan Perizinan Badan Usaha di Bidang Lingkungan Hidup dalam Undang-Undang Cipta Kerja. *Jurnal Ilmiah Penegakan Hukum*, *7*(2), 184–192. https://doi.org/10.31289/jiph.v7i2.3968

Suhendra, A., Millenia, Y., B, J., & Alaydrus, A. (2024). Strategi Pemerintah dalam Pengelolaan Daerah Aliran Sungai (DAS) Mahakam Kalimantan Timur. *NeoRespublica : Jurnal Ilmu Pemerintahan*, *5*(2), 1031–1044. https://doi.org/10.52423/NEORES.V5I2.294

Sulistyaningsih, T., Nurmandi, A., Salahudin, S., Roziqin, A., Kamil, M., Sihidi, I. T., Romadhan, A. A., & Loilatu, M. J. (2021). Public Policy Analysis on Watershed

Governance in Indonesia. *Sustainability*, *13*(12), 6615. https://doi.org/10.3390/su13126615

Wira, M., Sutera, A. B., Soeryamassoeka, S. B., Yulianto, E., Sutera, M. W. A. B., & Yulianto, E. (2024). Determination of Representative Mock Model Parameters for Monthly Discharge Curve Development in The Upper Kapuas River Basin. *Jurnal Teknik Sipil*, *24*(2), 1036–1051. https://doi.org/10.26418/JTS.V24I2.69008