Research Article

Legal Reform of Wastewater Management under the Job Creation Law in Kendari City: Between Regulatory Conflict and Environmental Ethics

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ABSTRACT

Prior to the implementation of the Job Creation Law, wastewater management in Indonesia was governed by the granting of liquid waste management permits. Nevertheless, the implementation of the new law has supplanted these licenses with a technical approval system that mandates adherence to wastewater quality requirements. This study aims to examine the current legal framework governing wastewater management in Indonesia and assess its execution under the Job Creation Law, with a focus on environmental sustainability. The employed methodology is a normative and empirical legal research strategy, utilizing qualitative analysis via document examination and field observation in Kendari City. The findings suggest that the new legislation encounters implementation difficulties, particularly in overseeing wastewater from home and small-scale enterprises, such as laundry services, which are predominantly unregulated. The conclusion is that the existing legal framework has not adequately integrated principles of environmental ethics, including anthropocentrism and ecocentrism. Consequently, legal reform and the establishment of ethical principles are essential to guarantee environmental preservation and foster the sustainability of ecological functions.

Keywords: **Wastewater Management; Job Creation Law; Environmental Ethics; Legal Reform; Kendari**

A. INTRODUCTION

Natural resources are a divine gift bestowed upon the Indonesian people, representing invaluable wealth. Therefore, wise management of natural resources is crucial to ensure their efficient, effective, and sustainable utilization, with the goal of maximizing the prosperity of the people, both present and future generations. The availability of natural resources, both biological and non-biological, can be significantly increased. Natural resources in Indonesia, both biological and non-biological, can be classified into several main categories: water,

land, air, forests, sea, and mining. Each of these resources has different potential and benefits for human life and national development (Nugroho, 2022).

Effective laws, regulations, and public policies regarding natural resources and the environment form the essential basis for development aimed at improving economic competitiveness while simultaneously safeguarding environmental quality (U & Dewata, 2020).

The conservation of natural resources includes the protection of water resources. Water, as an essential element of water resources, is a critical sector of production necessary for the sustenance of many individuals and is regulated by the state for its use, with the objective of maximizing public welfare, in accordance with the provisions of the 1945 Constitution of the Republic of Indonesia, particularly Article 33, Paragraphs (2) and (3).

Challenges to the execution of this constitutional requirement emerge when water quality deteriorates as a result of human impact. One of the primary pollutants exerting considerable pressure on the aquatic environment is wastewater, which is defined as water resulting from commercial operations and/or other activities that contain contaminants and/or microorganisms detrimental to the ecosystem. Wastewater is released via a combined sewage system or sanitary sewer and processed in wastewater treatment plants or septic systems. Urban wastewater derives from domestic sources, specifically home activities, whereas industrial and agricultural wastewater stems from byproducts and remnants of industrial processes.

The consequences of wastewater pollution encompass diminished surface water carrying capacity, proliferation of disease outbreaks, contamination of aquatic environments, soil degradation, sedimentation at river mouths, eutrophication, alterations in surface water ecosystems, mortality of aquatic organisms, disruptions in food chains, and harm to marine ecosystems (Abila, 2021). Polluted rivers arising from indiscriminate waste disposal or contaminated effluent lead to water contamination, causing the depletion of clean water supplies and posing potential health concerns to nearby communities (Al-Khofif, 2020).

Regulations regarding wastewater in Indonesia are generally regulated in Law Number 32 of 2009 concerning Environmental Protection and Management (hereinafter referred to as "Law 32/2009") and are further regulated by Law Number 6 of 2023 concerning the Stipulation of Government Regulation in Lieu of Law Number 2 of 2022 concerning Job Creation to Become Law (hereinafter referred to as the "Job Creation Law")

Wastewater management in Indonesia already has a fairly comprehensive legal basis. However, the legal reforms proposed by the Job Creation Law have created new challenges, particularly in terms of reduced administrative control, misalignment between central and

regional governments, and weak protection against pollution by small businesses. Therefore, synchronization of central and regional regulations, increased technical oversight capacity, the development of operational technical guidelines, and incentives for small businesses to manage waste are needed.

The establishment of laws and regulations in Indonesia is governed by Law Number 13 of 2022, which pertains to the Second Amendment of Law Number 12 of 2011 about the Formation of Laws and Regulations (hereinafter referred to as the "Law on the Formation of Laws and Regulations"). This Law methodically encompasses fundamental material, including the principles of formation, classifications, hierarchy, content, and methods for the establishment of laws and regulations. The substance of legal materials pertains to the content found inside laws and regulations, categorized by its nature, function, and hierarchy. Lower-level laws and regulations must not contravene higher-level laws and regulations, according to the hierarchy of laws (Mukhlis, 2021).

Indrati S. provides a comprehensive definition of the term "legislation," which encompasses two interpretations in diverse literature: broadly, "legislation" refers to both laws and the legislative process, whereas "wetgeving" denotes the overall formation of laws applicable to the entire nation. The definition of "wetgeving" in the Juridisch Woordenboek is as follows (Indrati S, 2007): 1) Legislation refers to the process of creating or instituting state regulations at both central and regional levels; 2) Legislation includes all state regulations that arise from the establishment of these regulations at both central and regional levels. Moreover, the Law on the Formation of Legislation establishes the rules of legislative formation in Indonesia, encompassing the principles of effective legislative creation and the principles of substantive substance.

Legal principles are organized hierarchically and are embedded within a hierarchical framework. A legal norm, in practice, derives from and is founded upon the superior legal standards. Simultaneously, legal norms function as the source and foundation for subordinate legal standards. Legal rules in each country are consistently structured in layers and hierarchies. Legal standards also constitute categories beyond those that are layered and hierarchical. Legal standards within a nation can be classified into four principal categories, notably (Indrati S & Soeprapto, 2006):

1. Group I: *Staatsfundamentalnorm* (Fundamental State Norm). The Fundamental State Norm, the paramount norm inside a nation, is not derived from a superior standard but is 'presupposed' or preordained by the community of that nation. It constitutes the basis upon which the subordinate legal standards rely.
2. Group II: *Staatsgrundgesetz* (Basic State Law/Constitution). In the Republic of Indonesia, the Basic State Law/Constitution is

articulated in the preamble of the 1945 Constitution, the Resolutions of the People's Consultative Assembly, and the unwritten Basic Laws, commonly referred to as Constitutional Conventions.

3. Group III: *Formell Gesetz* (Formal Law/Statute). In contrast to the aforementioned norms, including the Fundamental State Norm and the Basic State Law/Constitution, the norms contained inside a legislation are more explicit and precise. They can immediately engage with society.
4. Group IV: *Verordnung & Autonome Satzun*g (Regulation & Autonomous Regulation). Implementation regulations originate from delegated authority, whereas autonomous regulations arise from attributive authority. Attributive authority in legislative formation pertains to the delegation of power to create legislation by the Constitution or statutory laws to a governmental entity or agency.

The formation of laws and regulations is crucial for legal protection. Good and effective laws and regulations form the basis for creating fair and effective legal protection for all citizens. The formation of regulations that are participatory, clear, and aligned with community needs will ensure that citizens' rights are properly protected and enforced. Legal protection for the community is a government action that is both preventive and repressive. Preventive legal protection aims to prevent disputes, which directs government action to be cautious in discretionary decision-making. On the other hand, repressive protection aims to prevent disputes from occurring, including their handling in the judiciary (Rahardjo, 2006).

Legal protection for the environment and environmental ethics, such as anthropocentrism and ecocentrism, are significantly relevant. Anthropocentrism, which places humans at the center of value, needs to be balanced with an ecocentric perspective that recognizes the intrinsic value of all entities in the ecosystem. Understanding this relevance is crucial to ensuring that policies and legal actions consider human and environmental well-being in a sustainable manner.

Anthropocentrism is a theoretical framework in environmental ethics that positions people at the center of the cosmos. This philosophical view posits that values and moral principles are only applicable to humans, asserting that human demands and interests possess the utmost significance. This viewpoint posits that ethics pertains solely to humans, deeming assertions about the requirement of human moral obligations and responsibilities towards the environment as superfluous, irrelevant, and inappropriate. The ethical obligations and responsibilities of humans to the environment are only to serve the interests of other humans. Duties and responsibilities towards nature solely represent moral obligations to fellow people, rather than reflecting human moral duties towards nature itself (bin Salman & Asmanto, 2024).

The ecocentrism paradigm provides a more holistic comprehension of the environment. Moral consideration is broadened to include the entire ecological community, comprising both biotic and abiotic elements. Ecocentrism further encompasses deep ecology and ecosophy, significantly contesting human comprehension of the environmental community's interests. Deep ecology advocates for a novel ethical framework that prioritizes all forms of life over human interests, with the objective of tackling environmental challenges (Prasetyaningsih et al., 2022).

The study employs a normative-empirical research methodology that entails analyzing relevant laws and regulations while concurrently assessing their societal applicability. The two issue formulations to be examined pertain to the regulation and management of wastewater in Indonesia and the effects of wastewater on environmental functionality and sustainability. A qualitative analysis method was subsequently applied based on the comprehensive data acquired in this investigation. This strategy entails delineating phenomena or facts derived from research findings based on the collected data, which includes both primary and secondary sources. The final data analysis concluded with the formulation of conclusions and recommendations for addressing the legal challenges.

This study analyzes the relevant laws and regulations concerning wastewater in Indonesia, focusing on the implementation and effects of existing wastewater governance under the Job Creation Law, as well as its significance for sustainable environmental functioning.The first part of this paper will describe the theoretical framework of both the legal aspect (the formation, hierarchy of legislation, and legal protection theory) and the environmental aspect (the anthropocentrism and ecocentrism theories). The second part will explicate the legal approaches that Indonesia applies in managing the wastewater, including an explanation of the applicable laws and regulations. The third part will bring up some analysis of the current governance of wastewater under the Job Creation Law system. Lastly, the fourth part will examine the arising legal issues surrounding the implementation of the Job Creation Law on wastewater management by showcasing a case study from Kendari City.

Kendari City was chosen as the location for this research on wastewater management policy because of its geographic, social, and governance characteristics relevant to environmental management issues, particularly wastewater. As the capital of Southeast Sulawesi Province, Kendari has experienced rapid population growth and urbanization in recent decades. This development has directly impacted the increasing volume of domestic, industrial, and commercial wastewater, which, if not properly managed, can cause environmental pollution and threaten public health.

Geographically, Kendari is a coastal city with a complex water system, including rivers, bays, and swamps that have high ecological value. The presence of this sensitive ecosystem makes Kendari a region vulnerable to water pollution, particularly due to ineffective wastewater disposal. Therefore, wastewater management is a very crucial issue in this city. Furthermore, Kendari faces various challenges in wastewater management, such as limited Wastewater Treatment Plant (WWTP) infrastructure, low public awareness of environmental sanitation, and weak coordination between institutions in enforcing environmental policies. This complexity provides a significant opportunity for researchers to examine the extent to which existing wastewater management policies are running effectively and to identify aspects that require policy updates or reforms. Research in Kendari also has high relevance to efforts to achieve the Sustainable Development Goals. Given these conditions, Kendari City can serve as a representative case study for understanding the dynamics of wastewater management policies in coastal urban areas in Indonesia.

This study differs from previous studies that discussed the review of the implementation of sustainable development: waste management in Kendari city (Sudirman & Phradiansah, 2019). The study only discussed the implementation of sustainable development related to waste management, not specifically discussing wastewater management, as this study does. Furthermore, research on the Pekalongan district government's policy on batik waste management, especially in small industries (Nurhidayat & Sulistyowati, 2018), the study has a different research location from this study. Other studies discuss policies and strategies for domestic wastewater management in Indonesia (Yudo & Said, 2017), the study discusses policies in general, unlike this study which discusses specifically the wastewater management study in Kendari city. The following study discusses the effectiveness of environmental law implementation: compliance and enforcement (Prasetyaningsih et al., 2022). This study differs from this study because it specifically discusses wastewater management. Another study, which discusses the concept of environmental management based on the green constitution in Indonesia (Amalia & Rahayu, 2021), differs from this study because it addresses a broader topic. Based on comparisons with previous studies addressing similar topics, it can be argued that this study differs from previous studies, thus providing novelty and importance.

B. RESEARCH METHODS

This study utilizes a normative-empirical research methodology, encompassing an examination of prevailing laws and regulations and their societal implementation. The two study problems examined are the regulation and management of wastewater in Indonesia and its

effects on environmental functionality and sustainability. This study employs a qualitative analysis method based on the comprehensive data obtained (Barus, 2013). This method elucidates the phenomena or facts derived from the research findings, utilizing both primary and secondary data. The conclusive data analysis provides findings and suggestions for the measures required to resolve these legal matters.

C. RESULTS AND DISCUSSION

1. Regulation of Wastewater in Indonesia

Wastewater regulations in Indonesia have undergone dynamic developments in line with industrial growth and awareness of the importance of maintaining environmental quality. From the outset, these regulations aimed to protect air resources from pollution and safeguard public health (Mukhlis, 2021). However, the complexity of environmental issues and the demands of economic development have prompted various revisions and adjustments to existing regulations. The Job Creation Law represents a new milestone in wastewater management in Indonesia, with a focus on simplifying procedures and increasing efficiency (Maskun et al., 2025).

The Indonesian legal system already contains several pertinent rules and regulations that delineate broad waste management and processing principles (Lestari & Djanggih, 2019). The laws and regulations governing wastewater in Indonesia include; The 1945 Constitution of the Republic of Indonesia (UUD 1945, Law Number 32 of 2009 concerning Environmental Protection and Management (UU 32/2009), Law Number 6 of 2023 concerning Ratification of Government Regulation in Lieu of Law Number 2 of 2022 concerning Job Creation into Law (UU Cipta Kerja), Government Regulation of the Republic of Indonesia Number 22 of 2021 concerning Implementation of Environmental Protection and Management (hereinafter referred to as "PP 22/2021"), Regulation of the Minister of Environment and Forestry Number 5 of 2021 concerning Procedures for Issuing Technical Approvals and Operational Feasibility Letters in the Field of Pollution Control (hereinafter referred to as "Permen KLHK 5/2021"), Regulation of the Minister of Environment and Forestry Number 68 of 2016 concerning Domestic Wastewater Quality Standards (hereinafter referred to as "Regulation of the Minister of Environment and Forestry Number 68 of 2016"), Regulation of the Minister of Environment and Forestry Number 16 of 2019 concerning Wastewater Quality Standards (hereinafter referred to as "Regulation of the Minister of Environment and Forestry Number 16 of 2019").

Although regulations are quite comprehensive, their implementation still faces obstacles such as weak oversight, a lack of effective sanctions, and conflicts between economic interests and environmental sustainability. Furthermore, decentralization has not fully improved regional capacity to manage

wastewater optimally. Wastewater regulations in Indonesia already reflect the principles of environmental law, but their implementation still requires strengthening. Harmonization between legal approaches, environmental policies, and risk-based oversight needs to be strengthened to ensure wastewater management truly supports sustainable development and ecological justice.

Sustainable development and ecological justice align with the objectives of the Indonesian state, which prioritizes a clean and healthy environment and acknowledges it as an essential component of the community's human rights, as articulated in the 1945 Constitution (Fauziyah, 2023). Article 28H, Paragraph (1) of the Constitution asserts that every individual is entitled to bodily and spiritual well-being, adequate housing, a healthy living environment, and access to health care. Human rights and environmental law are intricately interconnected. An unpolluted, sustainable environment is essential for the realization of numerous human rights, including the rights to life, health, food, water, and sanitation. Conversely, the safeguarding of human rights serves as a crucial foundation for environmental conservation initiatives (Nur, 2022).

The government is required to ensure the economic well and livelihoods of all citizens to maintain a healthy and safe environment. The Job Creation Law was enacted to fulfill this purpose. The Job Creation Law seeks to enhance investment, broaden employment prospects for all Indonesian residents, and streamline licensing processes. The writing process of the Job Creation Law has under criticism for purportedly disregarding public participation. This results from the omnibus law methodology employed in its formulation (Arifin, 2021).

The Job Creation Law, which modified specific elements of Law 32/2009, was subsequently accompanied by an implementing rule, GR 22/2021. This Government Regulation aims to harmonize economic interests with citizen welfare and environmental conservation, which is a fundamental right of citizens. GR 22/2021 delineates wastewater in Article 1, Point (40), as follows: "Wastewater is water originating from a process within an activity." (Government Regulation of the Republic of Indonesia Number 22 of 2021 concerning the Implementation of Environmental Protection and Management, Article 1, Point (40). Article 1 Number (40) establishes a comprehensive legal framework for categorizing water resulting from human activities as wastewater. For environmentalists, this concept serves as a foundational element that requires augmentation with quality criteria, standards, and impact parameters to transform into an effective instrument for environmental protection. In the absence of such detail, the designation of "wastewater" may prove inadequate to initiate targeted and effective pollution management and prevention strategies.

Enterprises and/or activities are required to submit an environmental impact assessment,

environmental management plan, and environmental monitoring documents via the environmental document information system to the minister, governor, or regent/mayor, in accordance with their respective jurisdictions (Wagner & Suteki, 2019). Documents pertaining to the filing of environmental impact assessments, environmental management initiatives, and environmental monitoring efforts must include technical approvals. Technical approvals include adherence to wastewater quality standards, conformity with emission regulations, management of hazardous and toxic waste (B3), and examination of traffic impact.

Technical approval refers to the authorization granted by the national or regional government, outlining environmental protection and management standards and/or assessments related to the impact of enterprises and/or traffic activities under a regulation. Technical approval is governed by MoEF Regulation 5/2021. The ministerial rule governs the procedures for granting technical permits and establishing operational feasibility standards for activities, particularly with wastewater disposal and/or usage and emission disposal.

The MoEF Regulation 68/2016 establishes criteria for home wastewater management. Domestic wastewater comprises effluent produced by households and/or companies and/or activities that may contaminate the environment, requiring treatment prior to environmental release. Wastewater quality standards denote the permissible limits or concentrations of pollutants in wastewater that may be discharged into water sources from a company or activity.

This ministerial regulation seeks to assist provincial governments in formulating more stringent domestic wastewater quality standards, while also guiding the central government, provincial governments, and district/city governments in the regulation of environmental permits, environmental impact assessments, management plans, and/or wastewater discharge permits, as well as delineating the responsibilities of parties involved in domestic wastewater treatment and the preparation of environmental documentation.

Wastewater quality standards are a clear boundary line for maintaining environmental and human health. Without these standards, wastewater from various human activities, both industrial and domestic, can freely pollute the environment without any restrictions. This will have a very bad impact on aquatic ecosystems, human health, and various other aspects of life (Ardiansah & Oktapani, 2022).

Why are these standards so crucial? First, to prevent environmental pollution. Air waste containing hazardous substances such as heavy metals, organic chemicals, and pathogenic microorganisms can damage rivers, lakes, and seas, damage the habitats of various air organisms, and disrupt the food chain. Second, to protect human health. Consumption of polluted air

can cause various diseases, ranging from mild diseases such as diarrhea to serious diseases such as cancer. Third, to maintain the sustainability of the ecosystem. Wastewater pollution can cause damage to aquatic ecosystems, loss of biodiversity, and disrupt the balance of nature (Putrijanti, 2020).

Wastewater quality standards also play an important role in supporting economic activities. Clean and healthy water is very important for the tourism, fisheries, and agriculture sectors. By maintaining air quality, we can ensure the continuity of these sectors and improve community welfare.

The implementation of wastewater quality standards involves various parties. The government plays a role in setting standards, conducting supervision, and imposing sanctions on violators. Industries are required to process their waste in accordance with applicable standards. The community also has an important role in maintaining environmental quality by not littering and reporting if they find environmental pollution.

2. Wastewater Management within the Framework of the Job Creation Law

The Job Creation Law has brought a breath of fresh air to environmental management in Indonesia, especially in wastewater management. This law regulates licensing regulations and shifts the focus from wastewater discharge licensing to providing quality standards. The goal is clear: to encourage investment, increase efficiency, and ultimately, improve environmental quality. Thus, companies are now more obliged to ensure that the wastewater they discharge meets the established quality standards, rather than simply issuing permits. This paradigm shift certainly has significant consequences, both for business actors and for the environment.

On the one hand, the simplified licensing procedure is expected to limit convoluted bureaucracy and create a more favorable investment climate. Business actors, especially small and medium enterprises, are expected to be able to run their businesses more easily without being constrained by overly complicated regulations. However, on the other hand, there are concerns that this simplification can regulate supervision of companies, especially those on a small and medium scale. If not balanced with effective supervision, the potential for environmental pollution will be even greater.

The role of the government in this regard is very crucial. The government is not only responsible for setting quality standards, but also for conducting supervision, imposing sanctions on violators, and providing support to industry to meet the standards set. In addition, the government also needs to build its supervisory capacity, both in terms of human resources and technology. Collaboration with the private sector and civil society is also very important to ensure the effectiveness of supervision.

The community also has an equally important role in wastewater management. The

community needs to be actively involved in the supervision and reporting process if they find any violations (Riyanto & Kovalenko, 2023). Community participation can be done in various ways, such as forming environmental care community groups, filing complaints, or even carrying out conservation actions. In addition, the community also needs to be given an adequate understanding of the importance of maintaining environmental quality and the negative impacts of air pollution.

Technology also plays a strategic role in wastewater management. With the rapid development of technology, various types of air waste treatment technologies are now available that are more efficient and environmentally friendly. Companies can use this technology to treat their wastewater so that it meets the established quality standards. In addition, technology can also be used to maintain wastewater quality in real time and provide early warnings if contamination occurs (Astriani et al., 2023).

Prior to the implementation of the Job Creation Law, Law 32/2009 mandated that all business plans and/or activities get an environmental permit. Business proponents were mandated to conduct an environmental impact analysis to secure an environmental permit, which is one of two available methods for acquiring such a permission (Nugroho, 2022). Alongside the environmental impact assessments, other prerequisites for businesses and/or activities included environmental management and monitoring initiatives. According to environmental documents, business plans and activities were classified into three categories: those required to conduct an environmental impact analysis, as specified in Minister of Environment Regulation 5/2021; those required to implement environmental management and monitoring, as designated by the governor or regent/mayor in accordance with their authority through a gubernatorial or regent/mayor regulation; and those required to submit a commitment statement for environmental management and monitoring, as stipulated by a gubernatorial or regent/mayor regulation (similar to the environmental management and monitoring efforts of the business plan and/or activity) (Sulistyani, 2019).

The Job Creation Law has revoked specific permits, as articulated in Article 22 Paragraph (36), which asserts that "To facilitate access to environmental approval, this Law modifies, abolishes, or introduces new regulations concerning various provisions related to Business Licensing as governed by Law Number 32 of 2009 on Environmental Protection and Management."

An examination of the Job Creation Law indicates that, in alignment with the stipulations outlined in the relevant laws and regulations regarding licensing, modifications and removals have been implemented to streamline licensing and company operations, as articulated in the Law. The repeal of Articles 36 and 40 in Law

32/2009 following the implementation of the Job Creation Law seeks to modify environmental permissions as a prerequisite for business establishment (Fauziyah, 2023).

The aim of streamlining environmental permits, as outlined in the scholarly document of the Job Creation Law, is attributed to the swift expansion of enterprises or activities necessitating an Environmental Impact Analysis (AMDAL) or Environmental Management Efforts (UPL) and Environmental Monitoring (UPL), thereby necessitating environmental permits. The AMDAL procedure necessitates significant time to meet these standards, which are intended to enhance governmental supervision of business permits. Article 40 was rescinded as environmental permits are no longer a need for commercial activities. Consequently, commercial operations may commence while documentation or prerequisites are still under review.

Consequently, enhanced efforts are required to uphold the integrity of the processes for securing environmental approvals for business permits. Concerns emerge as, from an administrative law standpoint, transitioning environmental permit criteria to an approval procedure is perceived to diminish the efficacy of governmental regulation and oversight activities (Setyaningrum & Wisnaeni, 2019). This discrepancy originates from Article 40 of Law 32/2009, potentially resulting in environmental permit requirements and business permits contingent upon environmental approval (Fauziyah, 2023).

The Job Creation Law defines "environmental approval" as a determination of environmental feasibility or a declaration of commitment to environmental management sanctioned by the federal or regional government. The approval from the national or regional government is considered distinct from environmental approval, since the latter solely necessitates the completion and review of the environmental management effort and environmental monitoring form. Government approval regulations are employed to regulate the environmental sector, particularly when enterprises or activities plan to dispose of waste in environmental media, necessitating adherence to environmental quality standards and authorization from the central and/or regional government (Law Number 6 of 2023 on the Stipulation of Government Regulation in Lieu of Law Number 2 of 2022 on Job Creation to Become Law, Article 22 Point (35)).

Consequently, although environmental approval is normatively linked to government permission, a practical distinction exists between environmental and governmental approval in the realm of environmental management. This idea is seen in the various objects of approbation. GR 22/2021 establishes an additional term in environmental management within its operating standards. It can be inferred that it is a derived norm stemming from governmental approval, distinct from environmental approval, as the

delegated standards are subsequently established by more technical endorsement. GR 22/2021 designates it as a technical approval (Baihaki, 2021).

Moreover, technical approvals may encompass the prevention of water pollution quality norms. Technical approvals encompass adherence to air pollution standards, non-mobile source emission standards, marine wastewater discharge regulations, and hazardous waste management (Putrijanti & Sulistyawan, 2023). Diverse licensing regulations are implemented with differing criteria. Consequently, while standardized regulations, approvals are assessed through distinct procedures among different agencies. This suggests a predilection for the notion of single-media licensing. Consequently, as envisioned by Law 32/2009, the intended internal integration initiatives are effectively overlooked due to the presence of the Job Creation Law (Baihaki, 2021).

The Job Creation Law shifts the focus from wastewater discharge permits to meeting quality standards. This is a positive step because it emphasizes the quality of the discharged water, rather than merely a licensing formality. Therefore, companies are required to ensure that the wastewater they produce meets established standards, thereby reducing the potential for environmental pollution. Simplifying licensing procedures is expected to reduce bureaucracy and accelerate business processes. This can stimulate investment and economic growth. However, it is important to remember that this simplification should not sacrifice oversight of compliance with quality standards.

Simplifying procedures also has the potential to loosen oversight of companies, especially small and medium-sized enterprises. If not balanced with effective oversight, the potential for environmental pollution will increase. These companies may lack the capacity to meet established quality standards, or may even deliberately violate regulations (Sudirman & Disemadi, 2021).

The government plays a crucial role in ensuring the success of wastewater management following the Job Creation Law. In addition to establishing quality standards, the government must also improve oversight capacity, impose strict sanctions on violators, and support industry in meeting these standards. The public also plays a crucial role in monitoring and reporting any violations (Fasha & Saraswati, 2022).

The drafting of legislation, particularly the Job Creation Law, using the theory of regulatory formation related to wastewater management, demonstrates an effort to simplify bureaucracy (in accordance with the principles of efficiency and effectiveness), but has faced sharp criticism regarding both formal aspects (transparency and participation) and substantive aspects (balancing economic and environmental interests). While the intention to simplify regulations may be good, it should not compromise environmental protection standards. Meaningful public participation is key

to ensuring effective and sustainable policies. Regulations derived from the Job Creation Law (such as Government Regulation 22/2021) must be highly detailed and stringent in establishing quality standards and oversight mechanisms, so that "technical approvals" do not become loopholes for greater pollution. Thus, although the Job Creation Law formally attempts to fulfill several principles of regulatory formation, existing criticism indicates that its implementation in the case of wastewater management remains far from ideal, according to most environmental experts, particularly regarding the principles of participation and balancing interests.The Job Creation Law could provide a partial solution to Indonesia's wastewater management problems, in terms of bureaucratic efficiency and regulatory modernization. However, it is not a final solution, as concerns remain about weak oversight and public participation. From a legislative theory perspective, this law still leaves behind procedural (participation) and substantive (environmental protection) issues.

3. Current Wastewater Management Issues in Indonesia: Lessons from Kendari City

Kendari City is the capital of Southeast Sulawesi Province, located in the southeastern part of Sulawesi Island. The city covers an area of approximately 296.54 km² and comprises 11 districts and dozens of villages spread across lowland and hilly areas. Kendari enjoys a strategic geographical position, directly overlooking Kendari Bay, a natural bay that serves as the city's icon and a major sea transportation route. Demographically, Kendari City is home to over 350,000 people, with a relatively high population density in the downtown area.

Despite its continued growth, Kendari faces various challenges in spatial planning and environmental management. One key issue is suboptimal wastewater management, particularly in densely populated residential areas and coastal areas directly connected to Kendari Bay. Much domestic waste and household business waste is discharged into open drains or rivers without adequate treatment, contributing to water pollution and damage to the bay's ecosystem.

The Kendari City Government has undertaken various development efforts, including the development of a domestic wastewater management system, the construction of a communal Wastewater Treatment Plant (WWTP), and community-based sanitation campaigns. However, significant challenges remain, particularly in terms of regional regulations, financing, and public awareness and participation in environmental protection. With its unique geographic and social profile, Kendari is an important city to study in the context of sustainable development and urban environmental management, particularly the issue of wastewater management, which directly impacts the quality of life and public health.

Wastewater management in Indonesia remains a major challenge. Kendari City, for example, faces problems such as a lack of

adequate wastewater treatment infrastructure, weak law enforcement, and low public awareness. As a result, river and sea water pollution is worsening, endangering ecosystems and public health. Currently, approximately 60%–70% of rivers in urban areas in Indonesia do not meet water quality standards according to the Ministry of Environment and Forestry. Approximately 60% of rivers are polluted in general, primarily by domestic and industrial waste, plastic waste, and agricultural waste. Improperly disposed domestic and industrial waste is a major contributor to this problem. Addressing this problem requires a comprehensive effort involving the government, industry, and the community, as well as investment in appropriate wastewater treatment technologies such as screening: Using filters to separate large waste such as plastic, wood, and other solid materials from the wastewater stream. Sedimentation: Sedimenting solid particles at the bottom of the tank using gravity (Prananda et al., 2023).

Kendari, with its potential as a coastal city, should be able to manage wastewater effectively. However, the reality on the ground shows otherwise. Weak oversight of industrial and domestic waste disposal, coupled with rapid population growth, has led to a decline in air quality around the city. The case of Kendari serves as a reminder to other cities in Indonesia about the importance of good spatial planning, integrated waste management, and active community participation in protecting the environment. Wastewater management in Kendari City requires comprehensive reforms from a regulatory, institutional, and public awareness perspective. Without a specific regulation and a clear legal system, the principles of environmental sustainability and the protection of the community's right to a healthy environment (Article 28H paragraph 1 of the 1945 Constitution) cannot be optimally realized.

Wastewater management issues in Indonesia are systemic and multidimensional, encompassing regulatory, funding, technological, institutional, and community behavior. Without comprehensive and coordinated intervention, liquid waste will continue to be a major source of surface water pollution and a threat to public health and environmental sustainability. Wastewater management is not solely the responsibility of the government but also the community. In Kendari City, community participation in household waste and sewage management is crucial. The public needs to be educated about the negative impacts of indiscriminate waste disposal and encouraged to adopt clean and healthy lifestyles. Furthermore, the formation of environmentally conscious community groups can be a powerful force in urging the government to take this issue more seriously (Sari, 2022).

The government plays a central role in addressing wastewater management issues. In Kendari City, for example, the local government

needs to strengthen regulations, improve monitoring capacity, and allocate adequate funding for wastewater treatment infrastructure development. Furthermore, the government needs to involve the community in decision-making processes and provide education on the importance of maintaining a clean environment.

The government unequivocally ensures the constitutional rights of each citizen to a sound and healthy environment, as articulated in Article 28H Paragraph (1) of the 1945 Constitution of the Republic of Indonesia. This assurance is unequivocal, positioning civilians under the protection of the government, which has complete responsibility. Consequently, it is essential for the community to proactively enhance the sustainability of a healthy environment to ensure the continuity of normal living. Consequently, prudent development, particularly in the environmental domain, must be grounded in ecological understanding to attain sustainability and safeguard the well-being of current and future generations. The abundance of natural resources in Indonesia is a vital asset in the national development process (Abidin, Akli, & Johari, 2020).

Modern industrial development by corporations produces beneficial effects, including job creation and enhanced government revenue via taxation. Nonetheless, it also substantially results in adverse effects, particularly environmental degradation, which presents intrinsic hazards (Imamulhadi, 2021). This case study from Kendari City, Southeast Sulawesi Province, Indonesia, can be utilized for introspection and evaluation of the efficacy of wastewater management under the Job Creation Law.

In Kendari City, wastewater management is executed by the Environmental and Forestry Agency in accordance with Regional Regulation Number 3 of 2016, which defines domestic wastewater management in Article 1, Point 11 as “an integrated effort involving planning, arrangement, processing, maintenance, supervision, control, recovery, and development of domestic wastewater.”

Prior to the enactment of the Job Creation Law, wastewater management in Kendari City was regulated through a "Liquid Waste Management Permit." Following the implementation of the Job Creation Law, this regulation was abolished. The Kendari City Environment and Forestry Service introduced a technical approval mechanism to ensure compliance with wastewater quality standards. Under this framework, businesses must submit a request for technical approval documents pertaining to wastewater management during the establishment of their operations.

All business entities engaged in activities that result in wastewater discharge and are subject to environmental impact assessments, management initiatives, and monitoring must manage wastewater effectively and secure technical approval for compliance with quality

standards, as well as an operational eligibility certificate for the aforementioned assessments and efforts. For businesses under environmental monitoring, obtaining technical approval is not mandatory; however, they are required to manage wastewater and conduct quality testing. The purpose of technical approval is to guarantee that the wastewater managed by these entities, upon discharge into the environment, meets quality standards and does not contribute to environmental pollution.

In the case of hotel development planning, the hotel entity must acquire technical approval for wastewater management. Before submitting the approval request, technical calculations are conducted concerning capacity, employees, hotel visitors, and bedding, which are then incorporated into the technical approval document, detailing the management of wastewater from toilets, kitchens, etc. Business entities submit a request for technical approval, which, upon careful examination by experts assessing the alignment of wastewater management characteristics and compliance with quality standards, results in the issuance of technical approval (Pinilih et al., 2022). Newly established hotels are mandated to seek approval from the Environmental and Forestry Agency for technical approval. For existing hotels holding valid liquid waste disposal permits (IPLCs), these permits remain effective until expiration, typically after a five-year period. Upon expiration, hotels or other businesses must seek technical approval.

The Department of Environment and Forestry advised against the discharge of wastewater into the Kadia River. Consequently, The Park Mall chose to secure technical approval to utilize treated wastewater for irrigation within its premises. The treated wastewater from the wastewater treatment plant (WWTP) is employed to irrigate the mall's land. Thus, The Park Mall refrains from discharging wastewater into the Kadia River due to its failure to meet quality standards, opting instead to reuse the treated wastewater for irrigation purposes.

In the realm of healthcare service development from an environmental standpoint, it is imperative to implement measures for the prevention and control of environmental pollution. Hospitals generate diverse types of waste, including liquid, solid, and gaseous forms, during their operations. The management of hospital waste is essential to environmental sanitation, which seeks to safeguard the public from ecological hazards. Hospital liquid waste is classified into domestic and infectious categories.

Hospital wastewater management entails the utilization of wastewater treatment facilities employing both aerobic and anaerobic systems to decompose potential contaminants in hospital effluent. Aerobic treatment plants receive wastewater from emergency departments, surgical suites, morgues, and laboratories, where it is equalized and filtered for preliminary assessment, followed by pre-treatment, processing at the treatment facility, and

subsequent lactonization prior to discharge. Hospitals necessitate the presence of bacteria that eliminate pathogens or impurities from blood and other pollutants before discharge via lactonization. Additionally, the quality of the wastewater is evaluated against established wastewater quality standards.

In addition to hospitals, hotels, and shopping centers, laundry services must also manage their wastewater, as the water utilized in laundering becomes wastewater post-washing. Laundry services encompass the washing of garments and textiles, both during the washing process and within the facility itself. Observations of a laundry operator in Kendari City, specifically Laundry Express Pratama, reveal that wastewater is managed by discharging it through pipes into the roadside drainage system. This practice is not exclusive to large laundries like Laundry Express Pratama; smaller establishments such as Alya Laundry in Andonohu, Kendari, similarly release their wastewater directly into the drainage system without employing machinery or pipes.

In Kendari, the majority of enterprises, particularly medium to large-scale ones, possess technical approvals for wastewater standards and operational permits, which are directly assessed by the Kendari City Environmental Agency. The execution of "Water Wisdom" in Kendari encompasses the diversion of wastewater for irrigation purposes. Numerous businesses in Kendari redirect their wastewater for irrigation, thereby preventing direct discharge into water bodies.

The laundry industry exerts a considerable influence, encompassing both beneficial and detrimental effects. For instance, the administration of a prominent laundry enterprise in Kendari, Laundry Express Pratama, has recognized issues pertaining to the management of laundry wastewater. There exists an absence of explicit governmental regulations governing laundry wastewater management. As a laundry service provider, we release wastewater from laundering garments into the public drainage system.

Comparable challenges regarding laundry wastewater disposal are present in smaller laundry enterprises, where wastewater is released into residential sewers for commercial use. Alya Laundry, a representative of such businesses, expressed views akin to those of larger corporations, stating, "Alya Laundry's wastewater is discharged into household sewers, particularly as we function within a residential complex." Consequently, our waste disposal methods resemble those of other families; there is no specialized wastewater management system in place.

Based on the overall description above, legal awareness among laundry operators in Kendari City remains at a low to moderate level, characterized by minimal knowledge and understanding of the law, passive attitudes, and behavior that does not reflect compliance with environmental law principles. This low awareness

is not entirely caused by internal factors within the business operators, but also by the government's inadequate role in outreach, guidance, supervision, and specific regulations that reach small businesses. Therefore, a systemic approach is needed through legal education, technical training, and appropriate incentives and sanctions to build better legal awareness among laundry operators in Kendari City.

This scenario underscores human moral responsibility in relation to environmental ethics, integrating both anthropocentric and ecocentric ideas. Anthropocentrism views people as the focal point of the universal ecological system. Ecocentrism relates to comprehensive environmental ethics, distinct from biocentrism, which is exclusively concerned with ethical issues (Triana, Turistiati, & Monk, 2024).

The lack of effective wastewater management techniques, despite the requirements established in the Job Creation Law and later approved as regional regulations, highlights human moral responsibility. This discrepancy between regulation and practice indicates a deficiency in environmental accountability and ethical wastewater management (Putri, Naili, & Natalis, 2024).

The predominant concern is that the government has not yet addressed wastewater from small enterprises such as laundries and households. As a result, business operators and people require assistance in controlling their wastewater, resulting in unregulated disposal. The unregulated disposal may cause water pollution, resulting in detriment to the adjacent community. It may ultimately result in soil and water contamination and might pose health dangers to humans. Consequently, the implementation of environmental ethics, encompassing both anthropocentrism and ecocentrism, may prove to be more efficacious.

Wastewater from small businesses is a complex and widespread environmental problem. Although the scale of production is smaller than large industries, the large number of small businesses makes the total waste produced significant. This waste often contains chemicals, oils, or organic substances that can pollute air and soil sources. Lack of awareness, limited capital, waste complexity, and minimal information are some of the main obstacles in managing wastewater from small businesses.

To overcome this problem, a comprehensive approach is needed. One solution that can be applied is to build a communal waste treatment facility. In this way, several small businesses can share one treatment facility, thereby reducing operational costs. In addition, the development of simple, cheap, and easy-to-operate waste treatment technology is also very important, especially for small businesses with limited production scales. Increasing awareness through socialization and education is also key to changing the behavior of small entrepreneurs.

The government has an important role in managing good waste among small businesses.

Incentive policies such as tax reductions or easy access to capital can motivate entrepreneurs to invest in waste treatment technology (Mukhlis et al., 2024). In addition, the government also needs to strengthen law enforcement against business actors who dispose of waste carelessly. Partnerships between government, business actors, and the community are also very important to create synergy in waste management.

Waste utilization can also be an interesting solution. Several types of waste can be processed into value-added products, such as organic fertilizer or biogas. This not only reduces the volume of waste disposed of, but also provides additional economic value for entrepreneurs. Thus, wastewater management from small businesses is not only an effort to protect the environment, but can also be a profitable business opportunity.

In conclusion, wastewater management from small businesses is a complex but surmountable challenge. With the right approach and involving various parties, this problem can be overcome effectively. Increasing awareness, technology development, government support, and community participation are the keys to success in realizing a clean and sustainable environment.

Community support is the key to success in clean water management. Active community participation in monitoring, reporting, and air conservation activities is essential. By involving the community, efforts to change wasteful water use behavior become more efficient and effective. In addition, the community can also act as agents of change at the local level, by providing training and knowledge about clean water management. The government needs to facilitate community participation through education, socialization, and incentives. Thus, clean water management can be carried out sustainably and meet the needs of all levels of society.

Based on a study of the geographic and demographic conditions, regulatory policies, and technical implementation of wastewater management in Kendari City, it can be concluded that Kendari City is not yet fully worthy of being an ideal example of wastewater management in Indonesia, but it has strong potential in that direction with the provision of continuous systemic reform. Although the Kendari City Government has Regional Regulation Number 3 of 2016 concerning Domestic Wastewater Management and has taken several strategic steps, such as the construction of communal wastewater treatment plants and the implementation of technical approvals following the Job Creation Law, its implementation still faces various challenges. These include weak oversight of waste from small businesses such as laundries, low public awareness, and the suboptimal overall wastewater treatment infrastructure, particularly in densely populated and coastal areas. Cases such as The Park Mall, which utilizes treated wastewater for irrigation, demonstrate good practices that can be emulated. However, other

cases such as laundry businesses discharging waste directly into drainage reflect the still weak control and participation of small business actors.

From a sustainability and ecological justice perspective, the mismatch between policy and practice highlights an environmental accountability gap that must be addressed. The lack of wastewater treatment facilities for small businesses and households, along with weak law enforcement, underscores the inclusiveness and ineffectiveness of the existing system. Therefore, Kendari City is more appropriately considered a learning study for wastewater management transition practices a city on the road to sustainable wastewater management, rather than a perfect model. With regulatory reforms, increased public awareness, support for appropriate technology, and partnerships between the government, the private sector, and residents, Kendari has strong potential to become a successful coastal city in wastewater management in the future.

D. CONCLUSION

Wastewater management in Kendari City is a clear illustration of the complexity of environmental issues in urban areas in Indonesia, particularly in coastal areas. Although the local government has adopted various policy instruments, such as Regional Regulation No. 3 of 2016 concerning Domestic Wastewater Management and implemented technical approvals in accordance with the provisions of the Job Creation Law, implementation on the ground still faces various obstacles. Uneven wastewater treatment infrastructure, weak oversight and law enforcement, and low public and business awareness of the importance of waste management are key factors hindering the achievement of a healthy and sustainable urban environment. Overall, wastewater management in Kendari is still not a model ideal, but rather a learning study towards an inclusive and sustainable transformation of wastewater management. Therefore, several strategic and integrated steps are needed. First, the local government needs to develop specific and technical regulations governing wastewater management from micro and small businesses, along with incentive and sanction mechanisms.

Nonetheless, difficulties remain in the management of domestic and laundry wastewater. Households lack explicit regulations from the Environmental Agency for the management of wastewater via treatment facilities. Domestic wastewater infiltrates drainage systems, leading to water contamination. As a result, all collected residential wastewater is discharged into the drainage system, ultimately harming aquatic bodies such as the Kadia River. The challenge in controlling domestic wastewater arises from the Environmental Agency's incapacity to oversee it. These difficulties lead to water pollution that might negatively impact the adjacent neighborhood. Such issues do not embody environmental ethics, specifically anthropocentrism and ecocentrism,

which propose that human duty includes the preservation of environmental functions for the advantage of both humanity and the ecosystem.

Secondly, the establishment of wastewater treatment infrastructure, including communal wastewater treatment plants (WWTPs) in heavily inhabited regions and commercial districts, should be prioritized. Third, the ongoing enhancement of legal and environmental education for the public and enterprises is essential to cultivate legal knowledge within the community. Moreover, a framework of environmental ethics that integrates both anthropocentric and ecocentric viewpoints should underpin public policy formulation. The government, community, and enterprises must collaborate towards a unified objective: achieving equilibrium between economic advancement and environmental sustainability for a more promising future. By implementing these measures, Kendari City possesses significant potential to serve as a paradigm for resilient and sustainable coastal urban wastewater management.

REFERENCES

JOURNALS

Abidin, Z., Akli, Z., & Johari, J. A. (2020). Perlindungan Hukum terhadap Masyarakat yang Terpapar Limbah B3. *Reusam: Jurnal Ilmu Hukum*, Vol.4, (No.2), p.29. https://ojs.unimal.ac.id/reusam/article/view/3660/2142

Abila, S. (2021). How Nigeria Deals with Environmental Damages? An Environmental Legal Perspective. *Journal of Law and Legal Reform*, Vol.2, (No.1), pp.51–64. https://doi.org/10.15294/jllr.v2i1.39041

Amalia, A. N., & Rahayu, R. (2021). Environmental Management and Protection Based on The Green Constitution Concept. *Jurnal IUS Kajian Hukum dan Keadilan,* Vol.9,(No.3),pp.534-544. https://doi.org/10.29303/ius.v9i3.944

Ardiansah, A., & Oktapani, S. (2022). Kendala dan Upaya Pemerintah Kota Dalam Pengurangan Sampah di Kota Pekanbaru. *Legalitas: Jurnal Hukum,* Vol.14, (No.2), pp.323-329. http://dx.doi.org/10.33087/legalitas.v14i2.303

Arifin, S. (2021). Illiberal Tendencies In Indonesian Legislation: The Case Of The Omnibus Law On Job Creation. *The Theory And Practice Of Legislation*, Vol.9,(No.3),pp.386-403. https://doi.org/10.1080/20508840.2021.1942374

Astriani, N., Wibisana, A. G., Nastiti, A., Mutia, A. A., & Nuraini, H. (2023). Identifying the Use of Smart Enforcement in Citarum River Environmental Law Enforcement. *Padjajaran Jurnal Ilmu Hukum*, Vol.10, (No.1),pp.36-58. https://doi.org/10.22304/pjih.v10n1.a3.

Baihaki, M. R. (2021). Persetujuan Lingkungan Sebagai Objectum Litis Hak Tanggung

Gugat di Peradilan Tata Usaha Negara (Telaah Kritis Pergeseran Nomenklatur Izin Lingkungan menjadi Persetujuan Lingkungan dalam Undang-Undang Nomor 11 Tahun 2020 Tentang Cipta Kerja). *Majalah Hukum Nasional*, Vol.51, (No.1), pp.14–15. https://doi.org/10.33331/mhn.v51i1.137

Barus, Z. (2013). Analisis Filosofis Tentang Peta Konseptual Penelitian Hukum Normatif Dan Penelitian Hukum Sosiologis. *Jurnal Dinamika Hukum,* Vol.13, (No.2), pp.307-318.http://dx.doi.org/10.20884/1.jdh.2013.13.2.212

Fasha, M. G. N., & Saraswati, R. (2022). Politik Hukum Penghapusan Hak Gugat Administratif Pada Persetujuan Lingkungan dalam Sistem Hukum Nasional. *Jurnal Pembangunan Hukum Indonesia,* Vol.4, (No.2),pp.256-279. https://doi.org/10.14710/jphi.v4i2.256-279

Fauziyah, F. (2023). Pengelolaan Limbah Domestik Berdasarkan Perda Nomor 6 Tahun 2018 di Kabupaten Lumajang Pasca Berlakunya UU Cipta Kerja. *National Multidisciplinary Science*, Vol.2, (No.4), pp.325–330. https://doi.org/10.32528/nms.v2i4.311

Imamulhadi, I. (2021). The Sustainable Environmental Protection Deregulation Concept During the Covid-19 Pandemic. *Padjajaran Jurnal Ilmu Hukum,* Vol.8, (No.3),pp.379-400. https://doi.org/10.22304/pjih.v8n3.a4

Lestari, S. E., & Djanggih, H. (2019). Urgensi Hukum Perizinan Dan Penegakannya Sebagai Sarana Pencegahan Pencemaran Lingkungan Hidup. *Masalah-Masalah Hukum,*Vol.48,(No.2),pp.147-163. https://doi.org/10.14710/vol%viss%ipp117-125

Maskun, M., Violetta, K. V., Mukhlis, M. M., Normiati, N., & Tajuddin, M. S. (2025). The Dilemma of Administrative Sanctions in Legalizing Palm Oil Plantations in Indonesian Forest Areas. *Volksgeist: Jurnal Ilmu Hukum Dan Konstitusi*, Vol.8, (No.1), pp.171–190. https://doi.org/10.24090/volksgeist.v8i1.13114

Mukhlis, M. M. (2021). Tanggung Jawab Negara terhadap Pencemaran Laut dari Limbah Buangan PLTU di Kawasan Pesisir Pantai. *Yudisia: Jurnal Pemikiran Hukum Dan Hukum Islam*, Vol.12, (No.1), pp.1–16. http://dx.doi.org/10.21043/yudisia.v12i1.9341

Nur, A. I. (2022). Human Rights Aspect in the Indonesian Energy Transition: the Challenges of Promoting the Right to a Clean, Healthy and Sustainable Environment. *Human Rights in the Global South,*Vol.1,(No.2),pp.17-29. https://doi.org/10.56784/hrgs.v1i2.15

Nurhidayat, A., & Sulistyowati, S. (2018). Kebijakan Pemerintah Kabupaten

Pekalongan Dalam Pengelolaan Limbah Batik (Studi Kasus Pengelolaan Air Limbah Pada Industri Kecil). *Journal of Politic and Government Studies,* Vol.7, (No.04), pp.121-130. https://ejournal3.undip.ac.id/index.php/jpgs/article/view/21641

Pinilih, S. A. G., Sitepu, H. G. P., Saraswati, R., & Tyesta, L. A.L.W. (2022). An Ethical Perspective of Animal Rights Protection in Indonesia. *International Journal of Design and Nature and Ecodynamics*, Vol.17, (No.4),pp.529-535. https://doi.org/10.18280/ijdne.170406

Prananda, R. R., Hananto, P. W. H., Ramadhan, M. D., Simanjuntak, G. T., & Ahamat, H. (2023). Legal Consideration Towards Eco-Terrorism As A New Form Of The Environmental Law Crime And Torts. *Diponegoro Law Review,* Vol.8, (No.2), pp.287-300. https://doi.org/10.14710/dilrev.8.2.2023.287-300.

Prasetyaningsih, D. M., Hendarto, E., Anwar, N., & Elfaki, K. E. (2022). Effectiveness of Environmental Law Implementation: Compliance and Enforcement. *Volksgeist: Jurnal Ilmu Hukum Dan Konstitusi*, Vol.5, (No.2),pp.215–225. https://doi.org/10.24090/volksgeist.v5i2.6826

Putri, M. P. D. S., Naili, Y. T., & Natalis, A. (2024). Balancing Environmental Preservation and Economic Interests: Building Corporate Social Responsibility in The Era of Sustainable Development. *Brazilian Journal of International Law,* Vol.21, (No.3),pp.263-280. https://doi.org/10.5102/rdi.v21i3.9324

Putrijanti, A. (2020). Judicial Activism in Judge's Verdict to Law Enforcement of Environment. *E3S Web of Conferences*, Vol.202, Article No.03018. https://doi.org/10.1051/e3sconf/202020203018

Putrijanti, A., & Sulistyawan, A. Y. (2023). Green Court Towards Ecojustice. *E3S Web of Conferences,* Vol.448, Article No.03058. https://doi.org/10.1051/e3sconf/202344803058

Riyanto, M., & Kovalenko, V. (2023). Partisipasi Masyarakat Menuju Negara Kesejahteraan: Memahami Pentingnya Peran Aktif Masyarakat Dalam Mewujudkan Kesejahteraan Bersama, *Jurnal Pembangunan Hukum Indonesia,* Vol.5, (No.2),pp.374-388. https://doi.org/10.14710/jphi.v5i2.374-388

bin Salman, A. M., & Asmanto, E. (2024). Islamic Environmental Stewardship: A Sociological Approach to Hadith and Legal Frameworks for Ecological Responsibility. *Volksgeist: Jurnal Ilmu Hukum Dan Konstitusi*, Vol.7, (No.2),pp.361–378. https://doi.org/10.24090/volksgeist.v7i2.12205

Sari, W. A. N. (2022). Penegakan Hukum

terhadap PT Rayon Utama Makmur Akibat Limbah Tekstil yang Merugikan Warga. *Volksgeist: Jurnal Ilmu Hukum Dan Konstitusi,* Vol.5, (No.1), pp.69–79. https://doi.org/10.24090/volksgeist.v5i1.6423

Setyaningrum, C. A., & Wisnaeni, F. Pelaksanaan Fungsi Badan Permusyawaratan Desa Terhadap Penyelenggaraan Pemerintahan Desa. *Jurnal Pembangunan Hukum Indonesia*,Vol.1,(No.2),pp.158-170. https://doi.org/10.14710/jphi.v1i2.158-170

Sudirman, F. A., & Phradiansah, P. (2019). Tinjauan Implementasi Pembangunan Berkelanjutan: Pengelolaan Sampah Kota Kendari. *Sospol: Jurnal Sosial Politik,* Vol.5,(No.2),pp.291-305. https://doi.org/10.22219/sospol.v5i2.9821

Sudirman, L., &. Disemadi, H. S. (2021). Kebijakan Corporate Social Responsibility: Investasi Sosial dalam Pengembangan Masyarakat selama Pandemi Covid-19. *Jurnal Pembangunan Hukum Indonesia*, Vol.3,(No.3),pp.281-298. https://doi.org/10.14710/jphi.v3i3.281-298

Sulistyani, W. (2019). Environmental Crime Victims under Criminal Justice System: A Study on the Development of Environmental Victimology. *Padjajaran Jurnal Ilmu Hukum,* Vol.6, (No.1), pp.50-68. https://doi.org/10.22304/pjih.v6n1.a3

Triana, N., Turistiati, A. T., & Monk, L. J. F. (2024). Alternative Dispute Resolution in Marine Pollution: Advancing Ecological Justice through the Polluter Pays Principle. *Volksgeist: Jurnal Ilmu Hukum Dan Konstitusi,*Vol.7,(No.1),pp.89–107.https://doi.org/10.24090/volksgeist.v7i1.10047

Wagner, I., & Suteki, S. (2019). Independensi Penilaian Amdal Sebagai Wujud Perlindungan Terhadap Lingkungan Hidup. *Jurnal Pembangunan Hukum Indonesia,* Vol.1,(No.3),pp.404-424. https://doi.org/10.14710/jphi.v1i3.404-424

Yudo, S., & Said, N. I. (2017). Kebijakan dan Strategi Pengelolaan Air Limbah Domestik di Indonesia. *Jurnal Rekayasa Lingkungan,* Vol.10,(No.2),pp.58-75. DOI:10.29122/jrl.v10i2.2847

BOOKS

Al Khofif, M. (2020). *Pengelolaan Limbah Air Domestik*. Surabaya: Scopindo Media Pustaka.

Indrati S, M. F., & Soeprapto, S. (2006). *Ilmu Perundang-Undangan: Dasar-Dasar dan Pembentukan*. Yogyakarta: Kanisius.

Indrati S, M. F. (2007). *Ilmu Perundang-undangan 2: Proses dan Teknik Pembentukannya*. Yogyakarta: Kanisius.

Mukhlis, M. M., Maskun, M., Tajuddin, M. S., & Rahman, A. (2024). *Hukum Otonomi Pemerintahan Daerah dan Pemerintahan Desa di Indonesia.* Yogyakarta: Jejak Pustaka.

Nugroho, S. S. (2022). *Hukum Sumber Daya Alam di Indonesia.* Klaten: Lakeisha.

Rahardjo, S. (2006). *Ilmu Hukum.* Bandung: PT Citra Aditya Bakti.

U, Iswandi., & Dewata, I. (2020). *Pengelolaan Sumber Daya Alam*. Sleman: Deepublish