



Legal Harmonization of River Basin Protection in Southern Bali Through an Ecosystem-Based Governance Framework

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Abstract. *River basin protection in South Bali faces increasing pressures from development, urbanization, and tourism activities that threaten the sustainability of river ecosystems. Although Indonesia has established a legal framework through the 1945 Constitution of the Republic of Indonesia, Law Number 17 of 2019 concerning Water Resources, environmental protection regulations, and spatial planning law, river basin protection remains constrained by regulatory fragmentation, overlapping authority, and inconsistent spatial utilization. This study aims to analyze the legal construction of river basin protection from the perspectives of water resources, environmental, and spatial planning law; identify normative disharmony and implementation challenges in South Bali; and formulate a legal harmonization model based on an ecosystem-based governance approach. This study employs normative legal research using statutory, conceptual, and analytical approaches. The results indicate that these legal regimes provide a strong normative foundation but continue to operate sectorally, limiting optimal river protection. The proposed harmonization model emphasizes the integration of legal norms, river basin-based spatial planning, strengthened institutional coordination, effective oversight mechanisms, and meaningful public participation. An ecosystem-based approach is essential to balance economic development, legal certainty, and ecological sustainability in river areas, particularly amid the growing development pressures in South Bali.*

Keywords: *Ecosystem-Based Governance; Environmental Law; Legal Harmonization; River Basins; Spatial Planning; Water Resources.*

1. Introduction

Rivers are a fundamental element in ecological systems, serving multidimensional functions, serving as natural resources, community living spaces, and instruments of environmental balance. From a modern legal perspective, rivers are no longer viewed solely as waterways with economic value, but as part of a unified ecosystem with ecological, social, and strategic functions for sustainable development (Lubis & Silitonga, 2025). Therefore, protecting river basins requires a legal approach that integrates the interests of water resource utilization with the principles of environmental protection and spatial planning control.

Indonesia, as a state based on the rule of law, has developed various regulatory instruments to ensure the sustainability of river basin management. Constitutionally, Article 33 paragraph (3) of the 1945 Constitution of the Republic of Indonesia affirms that the land, water, and natural resources contained therein are controlled by the state and used for the greatest possible prosperity of the people (Wibowo, 2018). This provision serves as the philosophical basis for the state to regulate, manage, and protect water resources as part of the public interest. In regulatory developments, water resource management is regulated through Law Number 17 of 2019 concerning Water Resources, which places conservation, utilization, and control of water's destructive power as the primary principles of water resource management (Rizaldy, 2023).

However, river basin protection cannot rely solely on the water resource legal regime. Rivers are part of the environment closely linked to ecosystem quality, environmental carrying capacity, and land use change (Sheldon et al., 2012). Therefore, environmental law, through Law Number 32 of 2009 concerning Environmental Protection and Management, provides a normative basis that all development activities must adhere to the principles of sustainability, prudence, and prevention of environmental damage (Sulistyawati & Kusumawardhani, 2023; Sulistyawati et al., 2024). Furthermore, the existence of rivers as physical spaces also positions spatial planning law as a crucial instrument in controlling human activity around river basins, particularly through the regulation of protected areas and river boundaries, as stipulated in Law Number 26 of 2007 concerning Spatial Planning.

Despite the existence of a legal framework, the practice of river basin protection in Indonesia still faces challenges in harmonizing legal regimes. Regulations concerning water resources, environmental protection, and spatial planning often operate sectorally with differing institutional approaches (Simamora & Sarjono, 2022). Water resources law tends to emphasize management and utilization aspects, environmental law focuses on preventing ecological damage, while spatial planning law focuses on regulating spatial use. This fragmented approach creates a gap between the normative objectives of river protection and the reality of spatial use on the ground (Tarigan et al., 2021; Ma'sura & Suparji, 2022).

These issues are particularly evident in South Bali, a region undergoing rapid spatial transformation due to tourism, urbanization, and infrastructure development. Areas such as

Denpasar City, Badung Regency, and the southern coastal areas of Bali are experiencing increasing pressure on river systems due to changes in land use, increased residential density, commercial development, and rising volumes of domestic waste (Eryani et al., 2014). Rivers that traverse these areas, including the Badung River, Mati River, and other river systems, face challenges such as declining water quality, narrowing of riparian areas, reduced infiltration areas, and increased flood risk due to changes in the region's hydrological characteristics (Saadiya & Najicha, 2023).

In the context of South Bali, the primary issue lies not only in the availability of regulations, but also in how these various legal instruments can be harmonized into an effective river protection system. The mismatch between spatial plans and actual spatial use conditions, weak oversight of river boundary violations, and suboptimal inter-agency coordination highlights the need to reconstruct the legal approach to river basin protection. In other words, the challenge of river protection is not solely a technical issue of water management, but also a matter of synchronizing legal norms and institutional governance.

Studies on river protection have so far focused more on the technical aspects of water resource management, environmental pollution, or the effectiveness of spatial planning policies separately (Pambudi & Kusumanto, 2023). Approaches that examine the integrative relationship between water resource law, environmental law, and spatial planning law in the context of river basin protection are still relatively limited, particularly in areas with high development pressures such as South Bali. However, the characteristics of South Bali indicate that river sustainability is strongly influenced by the interaction between development policies, economic interests, ecological protection, and spatial control.

Based on these conditions, this study aims to analyze the construction of legal harmonization between water resource, environmental, and spatial planning regimes in river basin protection in South Bali. This research starts from the argument that effective river basin protection requires an integrated legal approach that not only positions rivers as objects of resource management but also as ecosystems with ecological and social functions that must be protected. Through a normative legal approach, this research is expected to provide a conceptual contribution to the development of a river governance model based on regulatory harmonization and an ecosystem-based governance approach in supporting sustainable development.

This research contributes to the development of environmental and spatial planning law studies by offering a perspective on regulatory harmonization as an instrument for river basin protection. Unlike previous studies that tend to analyze river management from a technical perspective of water resources or partial environmental pollution control, this study positions the relationship between water resources law, environmental law, and spatial planning law as a unified legal system that determines the effectiveness of river protection. Using a normative legal approach, this study analyzes the legal norms, legal principles, and institutional structures

governing river basin protection, particularly within the context of development pressures in South Bali. To achieve these objectives, this study is designed to answer the following three research questions:

RQ1: How is the legal structure of river basin protection structured from the perspective of water resources law, environmental law, and spatial planning law in Indonesia?

RQ2: What forms of normative disharmony and challenges exist in legal implementation in river basin protection in South Bali due to the interaction between development interests, spatial utilization, and ecological protection?

RQ3: What legal harmonization model can be developed to strengthen river basin protection in South Bali through the integration of water resources, environmental law, and spatial planning law based on an ecosystem-based governance approach?

2. Research Methods

This research employs a normative legal research method (or doctrinal legal research) to analyze legal norms, legal principles, and regulatory structures governing river basin protection through the integration of water resources law, environmental law, and spatial planning law. The selection of this method is based on the research's focus on examining the consistency, synchronization, and harmonization of various legal provisions governing river basin management and protection, while simultaneously identifying legal gaps in their implementation in South Bali.

This research employs three main approaches: a statutory approach, a conceptual approach, and an analytical approach. A statutory regulatory approach was used to examine various legal instruments related to river basin protection, including the 1945 Constitution of the Republic of Indonesia, Law Number 17 of 2019 concerning Water Resources, Law Number 32 of 2009 concerning Environmental Protection and Management and its amendments through regulations related to Job Creation, Law Number 26 of 2007 concerning Spatial Planning, and various implementing regulations concerning river management, environmental protection, and riparian zone regulation. A conceptual approach was used to analyze relevant legal concepts, such as sustainable development, environmental governance, ecosystem protection, and ecosystem-based management. Meanwhile, an analytical approach was used to identify relationships, overlaps, and disharmonies between the various legal regimes governing river basin protection.

The legal materials used consist of primary legal materials in the form of laws and government policies, secondary legal materials in the form of law books, scientific journal articles, and previous research results, and tertiary legal materials in the form of legal dictionaries and other supporting sources. All legal materials are analyzed qualitatively and legally through legal

interpretation methods, especially systematic and teleological interpretations, to find the relationship between norms and formulate a legal harmonization model that can strengthen the protection of river areas in South Bali. Through this method, the research is expected to produce a more integrative legal construction by placing water resources law, environmental law, and spatial planning law as a unified regulatory system in supporting sustainable river area management.

3. Results and Discussion

3.1. Legal Construction of River Basin Protection under Water Resources, Environmental, and Spatial Planning Law in Indonesia

River basin protection in the Indonesian legal system is built through a multidimensional legal framework. Rivers are positioned not only as objects of water resource management but also as part of the environmental ecosystem and a crucial element in the spatial structure of the region (Muchtar, 2025). Consequently, the regulation of river basin protection cannot be separated from the interaction of three main legal regimes: water resources law, environmental law, and spatial planning law (Pambudi & Kusumanto, 2023; Pambudi, 2025). These three regimes have different regulatory orientations, but substantively share the same goal: ensuring the sustainability of river functions for ecological, social, and economic interests.

Constitutionally, the legal framework for river basin protection is rooted in Article 33 paragraph (3) of the 1945 Constitution of the Republic of Indonesia, which affirms that the land, water, and natural resources contained therein are controlled by the state and used for the greatest possible prosperity of the people (Wibowo, 2018). These provisions demonstrate that water resources are characterized as public trust resources, resources under state control to ensure equitable utilization while maintaining sustainability. The principle of state control over water is then translated into various sectoral regulations governing the management, protection, and control of river basin utilization (Sapiddin et al., 2018).

From a water resources legal perspective, rivers are understood as part of a water resources system that is interconnected between upstream, midstream, and downstream areas within a single river basin. Law Number 17 of 2019 concerning Water Resources emphasizes that water resource management is based on the principles of water resource conservation, water resource utilization, and controlling the destructive power of water (Wulandari & Ilyas, 2019). These three principles demonstrate a balance between the need for water utilization and the state's obligation to maintain the sustainability of the ecological function of water resources. This legal structure positions river basins as management units that are not solely defined by administrative boundaries, but rather by hydrological and ecological characteristics (Ramon & Halim, 2021). The river basin approach emphasizes that rivers must be viewed as interconnected systems encompassing the catchment area, river body, riparian zone, and downstream areas. Therefore, disruption to one part of the river system can impact the entire river ecosystem.

In the context of river basin protection, water resources law provides the basis for the state's obligation to conserve water resources through water source protection, pollution control, river function rehabilitation, and control of activities that have the potential to cause damage (Junef, 2021; Sopiani & Akhmaddhian, 2025). One important instrument for this protection is the regulation of riparian zones, which serve as a protective barrier between the river body and surrounding human activities. However, the legal framework for water resources has limitations, as it focuses more on resource management and hydrological functions. Protecting rivers from development pressures, land use change, and ecosystem degradation requires the involvement of other legal regimes, particularly environmental law and spatial planning law.

From an environmental law perspective, rivers are viewed as part of the environment with ecological functions that must be protected. An environmental law approach views rivers not only for their economic value as water sources, but also for their role in maintaining ecosystem balance (Sulistyawati & Citrawati, 2025). Therefore, river protection is closely linked to the principles of sustainable development, the precautionary principle, and the prevention principle. Law Number 32 of 2009 concerning Environmental Protection and Management provides the basis that all development policies must consider the environmental carrying capacity and carrying capacity (Saputro, 2017; Wijaya, 2025). This principle is strongly relevant to river basin protection, as the sustainability of rivers is significantly influenced by the environment's ability to maintain its ecological functions.

From an environmental law perspective, river degradation is understood not only as a matter of water pollution but also as a result of changes in the ecological structure of river basins. Narrowing of river boundaries, loss of riparian vegetation, changes in catchment areas, and increased pressure from human activities are forms of environmental degradation that can disrupt the natural function of rivers (Fahrudin, 2019). Thus, the construction of environmental law broadens the understanding of river protection from an approach oriented toward resource management to an approach focused on ecosystem protection. Rivers should be positioned as ecological infrastructure that has ecological value and provides environmental services to the community. However, environmental law presents challenges in implementation because river ecosystem protection is highly dependent on the effectiveness of other sectoral instruments, particularly spatial use controls. Environmental protection will be ineffective if development activities are permitted in areas that ecologically protect rivers.

Spatial planning law provides a spatial dimension to river basin protection. Through Law Number 26 of 2007 concerning Spatial Planning, the state has the authority to regulate spatial use to align with the area's function and principles of environmental sustainability. In the context of rivers, spatial planning serves as a preventive instrument to ensure that human activities do not diminish the protective function of river basins (Siregar et al., 2021). One of the main instruments in spatial planning law is the establishment of protected areas, including riparian areas. Riparian areas serve a crucial function as buffer zones that maintain river ecological



stability, reduce flood risk, and limit direct interaction between human activities and river bodies (Safaria et al., 2021; Huda & Najicha, 2023).

Normatively, the existence of riparian areas demonstrates that spatial planning law recognizes the importance of protecting river ecological space. However, in practice, riparian areas often face pressures due to changes in spatial function, residential development, economic activities, and tourism development (Azizah & Suheri, 2020). This demonstrates a gap between the protection functions planned in spatial planning documents and the actual use of space.

In the context of South Bali, this issue is further complicated because the river basin is located in an area with high development intensity. The growth of tourism and urbanization has led to increased competition for space use between economic interests and the need for ecological protection. Therefore, spatial planning law plays a strategic role in ensuring that development remains within the limits of environmental carrying capacity. Based on these three perspectives, it is clear that river basin protection in Indonesian law already has a relatively comprehensive normative foundation. Water resources law provides the basis for managing rivers as strategic resources, environmental law provides principles for ecosystem protection, and spatial planning law provides instruments for controlling spatial use.

However, these legal frameworks remain sectoral in nature, as each regime has different instruments, institutions, and policy orientations. Water resources law focuses more on managing water quantity and quality, environmental law emphasizes protecting ecological functions, while spatial planning law regulates the distribution of human activities within a given space. These differing orientations have the potential to lead to normative conflicts if not consolidated within a unified legal framework.

Therefore, the ideal framework for river basin protection must be guided by a model of legal harmonization that positions rivers as a unified ecosystem. This approach requires integration of water resources management, environmental protection, and spatial planning control through the principles of ecosystem-based governance. In this model, the success of river protection is measured not only by the ability to provide water or control flooding, but also by the ability to maintain the river's long-term ecological function. Thus, the legal framework for river basin protection in Indonesia has evolved from a sectoral approach to an integrative approach. The main challenge is no longer simply to create new regulations, but to ensure harmonization between norms, institutional coordination, and consistent implementation of laws in river basin management practices, particularly in areas with high development pressures such as South Bali.

3.2. Normative Disharmony and Legal Implementation Challenges in South Bali River Basin Protection: Development, Spatial Utilization, and Ecological Protection

River basin protection in South Bali demonstrates a gap between normative legal construction and practical implementation. Although the Indonesian legal system provides various regulatory instruments through water resources law, environmental law, and spatial planning law, the effectiveness of river protection still faces issues of disharmonious norms and weak implementation coordination. These issues are further complicated in South Bali because this region is experiencing highly dynamic development, particularly due to the expansion of the tourism industry, urban growth, increasing infrastructure needs, and changing land use patterns.

This disharmony does not always manifest itself in direct conflicts between regulations, but more often manifests in differences in orientation, policy priorities, and interpretations of the spatial function of rivers. On the one hand, water resources and environmental regulations position rivers as ecosystems that must be protected, while on the other hand, regional development policies often encourage the optimization of spatial use to support economic growth (Pambudi & Kusumanto, 2023; Astoni, 2025). This situation creates tension between the development-oriented approach and the ecological protection approach.

One of the main forms of legal disharmony in river basin protection in South Bali is the difference in orientation between river protection regulations and regional development policies. Normatively, water resources law and environmental law require protection of the ecological functions of rivers, including maintaining water quality, preserving catchment areas, and protecting riparian areas from potentially damaging activities (Putri & Ehsonov, 2024). However, the development of South Bali as a center of tourism-based economic activity has placed significant pressure on river areas. The growth of tourist areas, the construction of hotels, restaurants, commercial areas, and residential areas has increased the demand for strategic land, including areas surrounding rivers. The high economic value of space means that riparian areas are often viewed as potential areas for development activities, despite their ecologically important protective function (Ferianda, 2015).

From a spatial planning law perspective, this situation demonstrates a tension between the function of space as a development instrument and its function as an environmental protection instrument. Spatial plans essentially regulate local protection areas, including riparian areas, but implementation often faces pressure from investment interests and urban development (Dewi, 2019; Pahlewi & Rahman, 2023). These issues demonstrate that the existence of protective norms has not been able to fully control the dynamics of the spatial economy. In other words, the main problem lies not in the absence of regulations, but in how the law can limit economic interests to remain within the limits of ecological carrying capacity.



One of the most significant issues in river basin protection in South Bali is the issue of riparian zone utilization. Legally, river riparian zones are areas that serve a protective function for rivers and their surrounding ecosystems. Regulations regarding riparian zones aim to provide sufficient space for rivers to carry out their hydrological functions, including flood control, maintaining water quality, and maintaining ecological connectivity (Luke et al., 2019). However, in practice, riparian zones in South Bali face various pressures, such as the construction of permanent buildings, commercial activities, changes in natural vegetation, and spatial uses that do not fully align with their protective function. This situation demonstrates a gap between spatial planning legal norms and the reality of spatial use.

This issue demonstrates that licensing instruments and spatial use control are not fully capable of ensuring compliance with the river's protective function. In some cases, administrative approaches through development permits tend to be more dominant than ecological approaches that consider long-term impacts on the river system. From an environmental administrative law perspective, this situation demonstrates the weakness of the law's preventive function. Ideally, spatial control should be implemented before changes in the area's function occur, rather than solely through enforcement after violations occur. Therefore, riverbank protection requires integration between spatial planning instruments, environmental assessments, and stronger oversight mechanisms.

In addition to normative issues, another major challenge in river basin protection in South Bali is the fragmentation of authority between agencies. River management involves various institutions with varying authorities, from the central government through river basin management agencies, to provincial governments, district/city governments, to village officials and local communities. From a legal governance perspective, the large number of actors involved can actually be a strength if an effective coordination mechanism is in place. However, in practice, the division of authority often results in a sectoral approach. Water resource management institutions focus on the technical aspects of rivers, environmental agencies focus on environmental quality, while local governments have interests in regional development and investment.

These differences in institutional orientations can lead to policy inconsistencies. For example, urban development or tourism policies can increase pressure on rivers, while environmental protection policies seek to maintain the area's ecological function. Without a strong coordination mechanism, each sector tends to exercise its authority based on its own institutional interests. This condition shows that river protection requires a change from a sectoral governance approach to integrated river governance, namely governance that integrates various authorities based on the unity of the river ecosystem.

Furthermore, South Bali is characterized as a region with economic activity that is heavily dependent on investment, particularly in the tourism sector. In the context of regional development, investment is often positioned as a crucial instrument for increasing economic

growth, creating jobs, and strengthening regional competitiveness. However, an investment-driven development orientation can pose challenges to environmental protection principles if not controlled through effective legal instruments. River basin protection often faces a dilemma between providing legal certainty for investment activities and maintaining the area's ecological function.

From a modern environmental law perspective, legal certainty is not only interpreted as certainty for business actors, but also as assurance that the state is capable of ensuring environmental sustainability for current and future generations. Therefore, river protection should not be positioned as an obstacle to development, but rather as a mechanism to ensure that development proceeds within accountable ecological boundaries. This approach aligns with the principles of sustainable development, which require a balance between economic, social, and environmental interests. In the context of South Bali, the sustainability of the tourism industry itself is highly dependent on the region's ability to maintain environmental quality, including the sustainability of its river systems.

Based on this analysis, several key challenges exist in implementing river basin protection laws in South Bali. First, the gap between legal norms and spatial use practices. River protection regulations are in place, but their effectiveness depends on consistent implementation and oversight of spatial use. Second, there is weak integration between development policies and ecological protection. Regional development planning is often not fully based on environmental carrying capacity, so economic interests still dominate in determining the direction of spatial use. Third, there is institutional fragmentation in river management. Differences in authority between agencies mean that river protection has not been fully implemented through an integrated, river basin-based approach. Fourth, there is low effectiveness in law enforcement against violations of river protection areas. Without consistent oversight and enforcement mechanisms, protection norms will remain merely formal rules without adequate enforcement.

Thus, the legal disharmony in river basin protection in South Bali is not only related to conflicts between regulations but also reflects structural issues in the relationship between law, development, and environmental governance. This situation demonstrates the need for a reconstruction of the legal approach that can integrate development interests with ecological protection principles through regulatory harmonization and strengthening ecosystem-based governance.

3.3. A Legal Harmonization Model Based on an Ecosystem Approach in River Basin Protection in South Bali

Based on an analysis of legal construction and various forms of regulatory disharmony in river basin protection, a legal harmonization model is needed that can integrate water resources, environmental law, and spatial planning law in an integrated manner. This harmonization model is not only aimed at resolving conflicts between legal norms but also at establishing a new

paradigm in river management that places ecosystems at the center of decision-making (ecosystem-based governance). An ecosystem-based approach positions rivers not merely as objects of government administration or economic resources, but as an ecological entity with reciprocal relationships between water, land, vegetation, biodiversity, human activities, and regional space (Aswandi, 2022). Therefore, river protection in South Bali must be directed toward a governance model that connects hydrological, ecological, social, and economic aspects within a coherent legal framework.

The legal harmonization model proposed in this study is constructed through four main dimensions: (1) harmonization of legal norms, (2) integration of river ecosystem-based spatial planning, (3) strengthening institutions and coordination of authority, and (4) strengthening oversight instruments and public participation. The first dimension of the legal harmonization model is the alignment of norms between legal regimes that have been operating sectorally. The three legal regimes governing river basins essentially share the same goal, namely ensuring the sustainability of river functions, but employ different approaches.

Water resources law emphasizes the management and sustainability of water availability; environmental law emphasizes the protection of ecological functions and the prevention of environmental damage; while spatial planning law regulates the distribution of human activities within a specific space. These differences in approach need to be reconstructed through an understanding that all three are part of a single legal system for river protection. In this harmonization model, water resources law should serve as the basis for comprehensive river system management, environmental law serves as a limiting principle against activities that have the potential to damage ecological functions, while spatial planning law serves as a spatial implementation instrument that ensures river protection is translated into regional planning documents. Thus, every development policy related to river basins must be examined not only based on administrative and economic aspects, but also on its suitability to the river's ecological carrying capacity. This approach shifts the legal paradigm from sector-based regulation to integrated ecological regulation.

The second dimension is building a connection between river basin management and spatial planning systems. Until now, spatial planning has often been carried out based on government administrative boundaries, while rivers have ecological characteristics that transcend administrative boundaries. In the context of South Bali, the river system that traverses urban and tourist areas demonstrates that river protection cannot be solely the responsibility of a single administrative region. Development activities in one area can have ecological impacts on river basins in other areas. Therefore, a river-based spatial planning approach is needed, namely spatial planning that utilizes the river system as one of the primary foundations for determining the direction of spatial use. Through this approach, regional spatial plans must consider the carrying capacity of the river environment, the ecological function of riverbank areas, water catchment areas, connectivity between upstream and downstream areas, and the risk of hydrological disasters such as flooding and erosion.

In practice, this approach can be realized through strengthening the protection status of riparian areas, integrating hydrological data into spatial planning, and restricting development in areas with strategic ecological functions. This model is crucial for South Bali because high development pressures require preventative legal instruments to prevent economic growth from diminishing the region's ecological capacity.

The third-dimension concerns institutional reform, particularly addressing fragmented authority among agencies. Overlapping mandates and unclear responsibilities often weaken effective river basin management. The ecosystem-based governance model requires a shift from sectoral management patterns to integrated river governance, namely river management based on cross-sectoral and cross-regional coordination (Parkes et al., 2010). In this model, river management institutions must serve as an integration forum that brings together water resource management institutions, local governments, environmental agencies, spatial planning agencies, the tourism sector, village governments, and local communities. This collaborative approach encourages coordination among stakeholders and helps ensure that river management is carried out in an integrated, participatory, and sustainable manner.

This coordination should not be merely administrative but should also be directed towards developing joint policies regarding the protection and utilization of river basins. Therefore, any development decisions that could potentially impact rivers must undergo a cross-sectoral evaluation mechanism. In the context of South Bali, this model is crucial because the characteristics of river basins are directly linked to the region's primary economic activities. River protection cannot be separated from tourism policies, urban development, and investment control.

The fourth dimension is strengthening preventive instruments in legal implementation. To date, approaches to river protection have often focused on post-damage management. However, modern environmental law principles emphasize the importance of prevention through control measures from the planning stage (Saadiya & Najicha, 2023). In the context of river basin protection, preventive instruments can be strengthened by integrating environmental studies into spatial planning policies, implementing ecological risk-based licensing mechanisms, increasing oversight of river riparian areas, applying administrative sanctions for spatial use violations, and involving communities in monitoring river conditions. Community participation is crucial because rivers are public spaces directly connected to social life. Local communities can act as environmental guardians, assisting the government in more quickly detecting changes in river function. This approach also aligns with developments in environmental law, which places public access to information, participation, and environmental justice as essential elements of democratic environmental governance.

Based on the overall analysis, a model for harmonizing river basin protection laws in South Bali can be formulated as follows: First, at the normative level, synchronization is needed between water resources law, environmental law, and spatial planning law, with the principle of

ecosystem protection as a bridging principle. Second, at the planning level, an integrated river basin approach is needed in spatial planning documents so that the ecological function of rivers becomes a primary consideration in determining spatial use patterns. Third, at the institutional level, an integrated governance mechanism is needed that can eliminate sectoral barriers between agencies through river basin-based coordination. Fourth, at the implementation level, strengthening oversight, law enforcement, and community participation is needed to ensure the real effectiveness of river protection norms. With this model, river basin protection is no longer understood as the responsibility of a specific sector, but rather as a shared responsibility involving the entire legal system and governance.

The implementation of a legal harmonization model based on an ecosystem approach has important implications for sustainable development in South Bali. First, this model can strengthen legal certainty in spatial utilization by clarifying the boundaries between areas that can be developed and those that must be protected. Second, this approach can mitigate conflicts between investment interests and environmental protection through a control mechanism based on ecological carrying capacity. Third, this model supports the sustainability of the tourism sector, as river environmental quality is an integral part of the attractiveness and carrying capacity of tourist areas.

Thus, legal harmonization serves not only as an instrument for resolving regulatory conflicts but also as a development strategy that ensures a balanced relationship between economic interests, environmental protection, and the sustainability of community living spaces. In the context of South Bali, an ecosystem-based governance approach is a relevant legal paradigm for maintaining river basin sustainability amidst the pressures of increasing urbanization and economic development.

4. Conclusion

River basin protection in South Bali faces legal complexities caused by the interaction between water resource management interests, environmental protection, and the dynamics of spatial use. This research shows that, normatively, Indonesia already has a fairly comprehensive legal framework through the integration of various regulations, particularly Law Number 17 of 2019 concerning Water Resources, Law Number 32 of 2009 concerning Environmental Protection and Management, and Law Number 26 of 2007 concerning Spatial Planning. These three legal regimes substantively provide the foundation for river protection, including sustainable water resource management, ecological function protection, and spatial use control through riparian zone regulation. However, the research findings indicate that the effectiveness of river basin protection in South Bali still faces issues of disharmonious norms and implementation challenges. The main problem lies not only in the existence of regulations, but also in the fragmentation of legal and institutional approaches. The divergent orientations between economic development policies, particularly tourism and urbanization, and the principles of ecological protection have put pressure on river functions. The narrowing of riparian areas,

changes in land use, weak oversight, and suboptimal inter-agency coordination indicate a gap between legal norms and spatial planning practices.

To address these issues, this study proposes a legal harmonization model based on ecosystem-based governance, positioning rivers as integrated ecological entities requiring coordination among water resources, environmental, and spatial planning laws. The model emphasizes regulatory synchronization, river basin-based spatial planning, integrated institutional governance, and strengthened public oversight and participation. River basin protection in South Bali therefore requires an integrative and sustainability-oriented legal paradigm rather than a sectoral approach. This framework ensures that economic development, particularly tourism, remains within environmental carrying capacity. Legal harmonization thus serves as a strategic instrument to balance development interests, legal certainty, and ecological protection in future river basin management.

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