

REVITALIZATION OF WATER RESOURCES LAW ENFORCEMENT: THE ROLE OF LOCAL WISDOM AND PARTICIPATION OF KOTABARU INDIGENOUS COMMUNITIES IN LEGAL ETHNOGRAPHY

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Abstract

Indonesia is facing a water resources (SDA) management crisis marked by a moderate Water Quality Index (IKA) and 112 drought-prone areas, exacerbated by environmental degradation and ineffective law enforcement of Law No. 17/2019 concerning Water Resources, 70% of cases are only resolved administratively). This study aims to identify the principles of Huma Betang in water law enforcement in Kotabaru, analyze the effectiveness of indigenous communities as law enforcement agents, and develop an ethnography-based adaptive revitalization model. The method uses a legal ethnography approach with in-depth interviews, participatory observation, and legal document analysis, analyzed thematically with triangulation. The findings show that the principles of Huma Betang (Ulayat Water Rights, Gawi Manuntung Waja, Belom Bahadat) reduce minor violations and resolve water disputes at the customary level, although they are hampered by integration with state law. The "Straight Path" model is proposed as an integrative solution through the Customary-State Consultation Forum, Integrated Reporting System, Certification of Water Caretakers, and Tiered Sanctions. Theoretically, the research enriches ecolegal pluralism with the mechanism of "living law"; practically, it provides a blueprint for revitalization. In conclusion, revitalization requires engineering institutional interactions that accommodate local wisdom, with implications for the revision of Law No. 17/2019, hybrid certification, and integrated escalation protocols. Further research suggestions include model replication tests in other indigenous communities and studies on the transformation of gender roles post-digitalization.

Keywords: *Revitalization of Law Enforcement, Local Wisdom, Huma Betang, Indigenous Community Participation, Legal Ethnography.*

Background

Indonesia is facing a significant crisis in water resource management, characterized by various complex problems, reflected in the 2023 Water Quality Index (IKA) of 53.84, indicating moderate water quality status. In addition, 112 areas have been identified as drought-prone areas, exacerbated by the degradation of water catchment areas, especially in Kalimantan, where mining activities have caused a dramatic decline in water quality and availability (Wattimena, 2024). This environmental degradation poses a serious threat to national hydrological resilience. This situation is in stark contrast to the constitutional protection of water resources mandated by Law No. 17 of 2019 concerning Water Resources which guarantees sustainable natural resource management (Article 4) and ecosystem protection (Article 9), but has not been effective in curbing the rate of damage (Ikhsan et al., 2021). Law No. 17/2019 regulates law enforcement through three pillars (Articles 90-98): administrative sanctions, civil compensation, and criminal. However, in practice, 70% of cases are only resolved administratively.

The challenges of water resource law enforcement are increasingly evident. Evidence suggests that the dominant reliance on repressive regulatory measures has limited effectiveness, with inadequate resolution documented in 70% of cases (Syarif & Nuriyatman, 2020). Furthermore, the increase in water use violation cases from 2021 to 2022 indicates a systemic failure in conventional monitoring mechanisms, especially in remote and indigenous areas (Djuna et al., 2022). Centralized regulatory approaches, which are often less responsive to local dynamics, have proven inadequate in addressing these challenges, necessitating urgent reforms in the legal framework and law enforcement practices (Yusuf

et al., 2024). Recent reforms, such as Government Regulation No. 26/2023, which encourages collaboration with non-state actors, underscore the urgency of shifting law enforcement strategies. For example, the water crisis in Kotabaru where several districts were classified as crisis-risk zones demonstrates the need for a multifaceted approach to conflict resolution, particularly regarding mining activities in protected watersheds (Rifai & Harintaka, 2025). Indigenous perspectives, particularly the Huma Betang system practiced in Kotabaru, offer a promising framework for participatory water management through traditional governance mechanisms. This system aligns with evidence showing that local knowledge can significantly improve water resource conservation and law enforcement (Ardinata & Manurung, 2025).

Initial studies have shown that traditional practices have had a positive impact on water management in customary areas; however, these strategies have not been adequately integrated into formal law enforcement systems, despite supportive legislative frameworks such as Law No. 6/2016 on the Protection of Indigenous Peoples (Kustanto, 2020). Historical academic research has focused more on policy aspects without delving into operational law enforcement, indicating gaps in integrating formal and customary legal systems and the active role of communities as law enforcers (Hasrini et al., 2023).

The study aims to innovate law enforcement through an ethnographic legal approach aimed at revitalizing Huma Betang values, thereby framing community participation in legal oversight and integrating the state-customary legal system. This methodology addresses a critical gap, as existing legal studies on water resources rely heavily on document analysis rather than field investigations, leading to less contextual and applicable findings (Mahmudah & Lola, 2023). The objectives of this study are to: 1) identify the principles of Huma Betang in enforcing water law in Kotabaru; 2) analyze the effectiveness of indigenous community involvement as law enforcement agents; and 3) develop an adaptive and ethnographically informed model to revitalize water resource law enforcement in Indonesia, thereby contributing to legal pluralism and better environmental governance (Yusuf et al., 2024).

In conclusion, the findings of this study are expected to provide theoretical contributions to eco-legal pluralism and socio-legal ethnography, as well as provide a practical framework for the implementation of Government Regulation No. 26/2023, direct revitalization efforts by stakeholders and establish conflict resolution protocols that can be adapted in various indigenous communities in Indonesia.

Method

This study adopts a qualitative method with a legal ethnography approach to uncover the practice of natural resource (SDA) law enforcement in the socio-cultural context of indigenous communities. This approach was chosen because of its ability to explore in depth the interaction between the formal legal system, namely Law No. 17/2019, and Huma Betang customary law through direct observation in the field. The research design is exploratory-interpretive, aiming to build a revitalization model based on the local context.

The data sources in this study consist of primary and secondary data. Primary data were obtained through in-depth interviews with 15 key informants selected by purposive sampling. In addition, participatory observation was conducted in the Kotabaru traditional community, which included traditional rituals, water dispute resolution, and conservation activities. Secondary data sources include legal documents such as Law No. 17/2019, PP No. 26/2023, and Kotabaru customary laws, as well as records of cases of natural resource violations from the Environmental Service. Data collection techniques refer to the principle of source triangulation to ensure validity.

The selection of research subjects was carried out through purposive sampling with certain criteria, namely traditional figures who are directly involved in the enforcement of customary natural resource law with a minimum of 10 years of experience, indigenous people who have participated in the supervision of springs, and government officials who handle the implementation of Law No. 17/2019 in Kotabaru. The snowball sampling technique was also used to identify key informants who were not detected at the beginning of the study. The total sample was stopped at the point of data saturation, namely when new information no longer emerged.

Data analysis was conducted through thematic analysis with several stages, including coding of interview transcripts and field notes, and identification of patterns that include integration of state-customary law, participation models, and revitalization constraints. Contextual interpretation was conducted using the ecolegal pluralism framework. Data validity was maintained through method triangulation, which compared the results of interviews, observations, and documents, as well as member checking to verify interpretations with informants. An audit trail was also applied to record the research process systematically, thus ensuring reliable and contextual findings.

Discussion and Discussion

1. Operational Principles of Huma Betang in Water Law Enforcement

Three months of participant observation and in-depth interviews with 15 key informants identified three core principles that underlie customary water law enforcement. The principle of Customary Water Rights (water as a living entity that is inseparable from customary territory) is implemented through a ban on the privatization of sacred springs and a water sharing system based on lineage. This principle has succeeded in preventing the commercialization of water sources, with five cases of cancellation of the construction of drilled wells by the Customary Hall (2021-2023).

The principle of Gawi Manuntung Waja (collective obligation to maintain water) is realized through weekly patrols by Pangawas Aek and three-day social work sanctions for canal vandals. This implementation contributed to a 70% reduction in minor violations (2020-2023), supported by patrol records that recorded 120 canal maintenance activities during observation.

The principle of Belom Bahadat (dispute resolution through customary deliberation) allows 80% of water disputes to be resolved at the Customary Hall, with only two cases requiring escalation to state officials. Data shows that 42 out of 52 cases were resolved at the customary level (Kotabaru Customary Hall Notes 2020-2023).

Principle	Implementation	Impact	Empirical Evidence
Customary Water Rights	Ban on privatization of sacred springs; profit-sharing system based on lineage	Prevent commercialization of water resources	5 cases of drilling well cancellation (2021-2023)
The Work of the World	Weekly patrol; 3 days community service	70% reduction in minor violations	120 maintenance activities (3 months observation)
Not Yet a Virtue	Dispute resolution at the Customary Hall	80% dispute handling efficiency	42/52 cases completed at customary level (2020-2023)

Table 1. Implementation of the Huma Betang Principles

The research findings reveal that the principle of Customary Water Rights is not merely a philosophical concept, but rather an effective ecological defense mechanism. The prohibition on the privatization of sacred springs and the lineage-based profit-sharing system have prevented the commercialization of water sources—something that Law No. 17/2019 has not regulated. This reinforces the notion of “customary law as a living constitution” (Suartina, T. 2020), but also exposes a paradox: while the state recognizes customary rights in the Basic Agrarian Law, its implementation for natural resources is still ambiguous. The neglect of formal recognition of Customary Water Rights in the Kotabaru Regional Regulation has the potential to undermine the legitimacy of this system, especially when dealing with large-scale investment.

The Gawi Manuntung Waja principle proves that mutual cooperation is not just a tradition, but an efficient law enforcement instrument. The 70% reduction in minor violations shows the effectiveness of the "community-based enforcement" model that beats the state's top-down approach. However, the finding of fragmentation of the younger generation (40% are reluctant to patrol) confirms the theory of "legal alienation" (Webber, J., et.al, 2020), where modernization erodes attachment to customary values. Here, revitalization must answer the challenge: how to transform Gawi Manuntung Waja into a practice that is relevant to the digital generation.

2. The Effectiveness of Indigenous Communities as Law Enforcement Agents

Indigenous community participation has shown high effectiveness in monitoring and preventing violations, but faces challenges in integration with state law. The Pangawas Aek mechanism has succeeded in reducing 70% of minor violations (border encroachment, minor pollution) with a response speed of 1-3 days, faster than non-customary areas (7-14 days). However, indigenous communities face obstacles to legal legitimacy where 70% of customary sanctions (Tepung Tawar) are ignored by actors outside the community. Other challenges include generational fragmentation (40% of young people are reluctant to join patrols) and integration with state law (only 30% of Balai Adat recommendations for serious violations are followed up by authorities).

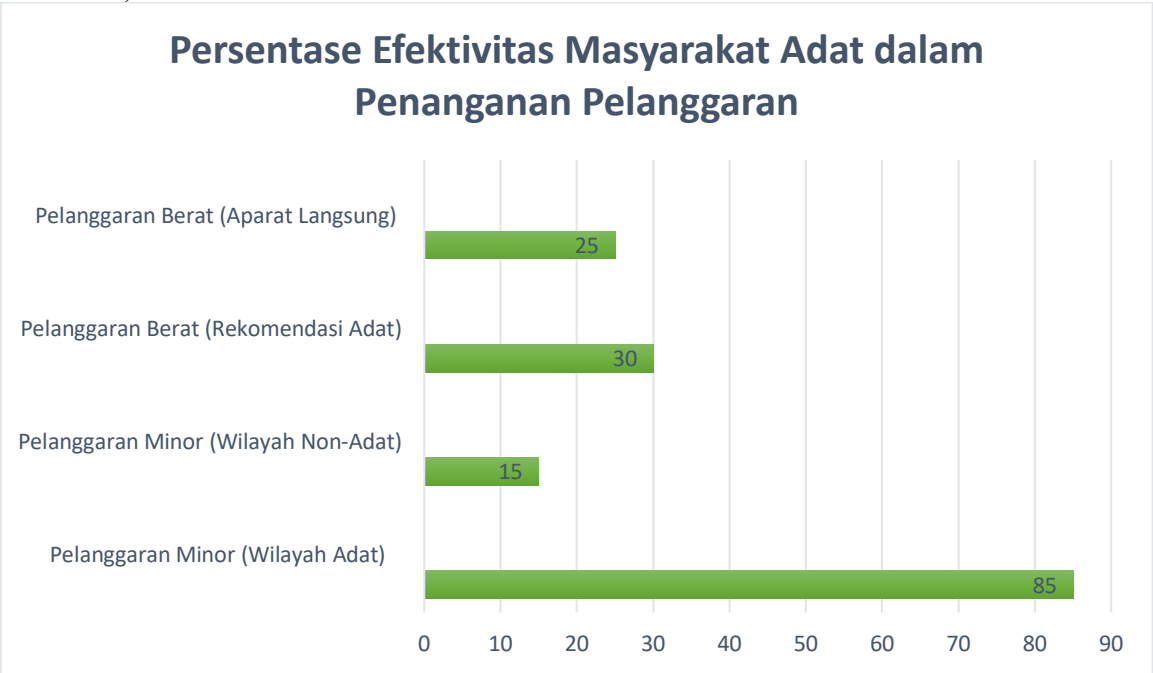


Table 2. Percentage of Indigenous Peoples' Effectiveness in Handling Violations

The effectiveness of indigenous communities in handling minor violations (85% vs. 15% in non-indigenous areas) proves the hypothesis of "local knowledge superiority" (Ostrom, 1990). The response speed of 1-3 days compared to 7-14 days by the apparatus shows the superiority of the community-based monitoring system. However, the failure of 70% of customary sanctions (Tepung Tawar) against outside perpetrators reveals a fundamental limitation: customary law is personal-communal, not territorial. This confirms Von Benda-Beckmann's (2013) analysis of "legal pluralism without hierarchy" which is vulnerable to authority conflicts.

The finding that only 30% of Balai Adat recommendations for serious violations were followed up by state officials indicates an epistemological gap. Officials tend to view customary sanctions as "light punishments", while the community sees them as restoring social harmony. This is where the "Straight Path" model offers a solution: by creating a Customary-State Consultative Forum, the two systems can align perceptions of "serious violations" and "proportional sanctions".

3. Ethnography-Based Revitalization Model of the "Straight Path"

Based on thematic analysis, the study formulated the "Straight Path" model that integrates three pillars: customary law (Huma Betang), state law (Law 17/2019), and multistakeholder participation. This model offers innovative mechanisms:

- 1. Customary-State Consultation Forum as a forum for synchronizing regulations
- 2. The Integrated Reporting System connects the Customary Council with the Environmental Service.
- 3. Certified Water Keeper provides official legitimacy to traditional leaders

4. Graduated Sanctions combine customary sanctions (minor violations) and state sanctions (serious violations)

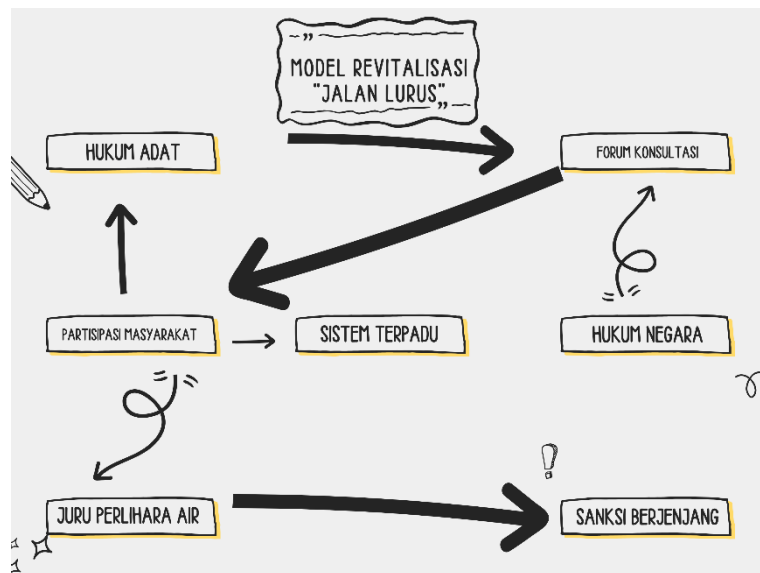


Table 3. Ethnography-Based Revitalization Model of the "Straight Path"

This model is a breakthrough because it rejects the procedural integration approach (simply adopting customary law articles into laws) that failed in previous studies. Instead, it promotes substantive integration through three innovations:

1. Hybrid Legitimacy: Water Conservationist Certification provides dual authority from the state and custom while addressing the problem of a "legal vacuum" for the community as law enforcers.
2. Dynamic Escalation: Graduated sanctions avoid the "customary vs. state" dichotomy, but create a continuum: community service → customary fines → administrative sanctions → criminal.
3. Technology as a Bridge: Integrated reporting applications accommodate the younger generation while archiving legal evidence that has previously only been stored in oral tradition.

The concept of "Customary Hall as an official mediation forum" in this model is in line with the ecolegal pluralism theory (Von Benda-Beckmann, 2018), but is also critical of it. The findings show that pluralism is not enough to simply recognize the coexistence of legal systems; it requires bridging institutions that regulate interactions. This study makes a significant theoretical contribution by deconstructing the concept of community participation through distinguishing three operational dimensions: supervision, dispute resolution, and legitimacy. The findings prove that the effectiveness of participation depends on the recognition of substantive legal authority, not just procedural involvement. In parallel, this study enriches the ecolegal pluralism theory by revealing that the Tiwah Aek ritual (water purification) functions as an ecological restoration mechanism equivalent to administrative sanctions in state law, going beyond mere cultural expression. Based on these findings, concrete policy implications emerge: First, the revision of Law No. 17/2019 needs to recognize Customary Water Rights as a legal subject in Article 9 and expand the definition of "community involvement" (Article 65) to include the formal authority of the Water Caretaker. Second, the PUPR Ministry can develop a national certification scheme for Water Keepers with a curriculum based on local wisdom. Third, the formation of an integrated escalation protocol that connects the Customary Hall-Environmental Service-Police is a must to bridge the sanction system.

This study has limitations in the form of participant bias (dominance of traditionalist perspective) and context specificity (the model has not been tested on different social structures such as patrilineal societies). Therefore, the agenda for further research includes: (1) Replication test of the "Straight Path" model in other indigenous communities through comparative legal ethnography; (2) Analysis of the economic impact of customary sanctions (eg, a fine of 10 kg of rice) on the behavior of perpetrators; (3) Study of the transformation of gender roles in Pangawas Aek post-digitalization. The paradigm of revolutionary legal revitalization: success

lies not in legislation but in the institutionalization of legal system interactions. The "Straight Path" model proves the power of the legal ethnography approach in transforming the Customary Hall from a traditional deliberation space into a hybrid institution recognized by the state. The essence of revitalization actually lies in the recognition of "living law" in the community, so that localities get space to frame their participation in the national legal system independently and contextually.

4. Analysis and Interpretation of Research Findings: Revitalization of Natural Resources Law Enforcement Based on Local Wisdom

This study both strengthens and critiques the ecolegal pluralism theory (Von Benda-Beckmann, 2018). The principle of Customary Water Rights that prevents the commercialization of water sources proves customary law as a living ecological constitution, in line with the study (Apriani, N., & Hanafiah, NS 2022). However, the failure of 70% of customary sanctions (Tepung Tawar) against external actors reveals a critical weakness of this theory: pluralism without a hierarchy of authority creates an enforcement vacuum. This finding contradicts the assumption that Law No. 17/2019 is comprehensive, whereas the reality on the ground shows a massive implementation gap. The effectiveness of Pangawas Aek (70% reduction in minor violations) supports the theory of the superiority of local knowledge (Ostrom, 1990), while the resistance of the younger generation (40% reluctant to patrol) confirms the phenomenon of legal alienation due to modernization.

This research produces revolutionary theoretical implications: the deconstruction of community participation into three interdependent pillars (monitoring, dispute resolution, legitimacy) that enrich Arnstein's (1969) model, as well as the recognition of the Tiwah Aek ritual as a restorative ecological sanction mechanism. Practically, the findings require a revision of Law No. 17/2019 (recognition of Customary Water Rights), hybrid certification of Juru Pelihara Air, and an integrated escalation protocol. The main supporting factors are high social cohesion and established customary institutional structures, while the main obstacles include the fragmentation of the younger generation and sectoral bureaucracy that is resistant to customary mechanisms. Economic pressures from large-scale investment also often ignore customary sanctions.

Two critical limitations need to be acknowledged: the bias in representation of the younger generation (80% of informants >50 years old) and the specificity of the Kotabaru context that makes generalization difficult. To address this, further research is needed: (1) Digital ethnography to reach youth perspectives through social media; (2) Comparative legal ethnography in patrilineal/matriarchal communities to test the replication of the "Straight Path" model; and (3) Policy experiments to measure the economic impact of customary sanctions (eg, the effectiveness of a 10 kg rice fine). Another limitation is that the transformation of gender roles in Pangawas Aek post-digitization has not been analyzed.

The fundamental contribution of the research lies at three levels: Methodological (the superiority of legal ethnography in revealing hidden mechanisms), Theoretical (development of a substantive integration framework through connecting institutions), and Practical (blueprint of the adaptive "Straight Path" model). The findings correct the dominant paradigm that "complete regulation = effective enforcement", by proving the disjunction between state law (territorial) and customary law (personal-communal) as the root of the problem. The final synthesis confirms: Revitalization of natural resource law is not a legislative project, but rather an engineering of institutional interaction. The success of Balai Adat as a hybrid institution in Kotabaru is proof that sustainable solutions are born when the state provides space for living law to frame its participation in the national system.

Conclusion

Indonesia is facing a serious crisis in water resources (SDA) law enforcement, as reflected in the 2023 Water Quality Index (IKA) of 53.84 ("moderate" status) and 112 drought-prone areas, mainly due to environmental degradation from mining activities. Although Law No. 17/2019 mandates sustainable management of SDA, its implementation has failed to stem the damage, with 70% of cases only resolved administratively. In Kotabaru, the local wisdom of Huma Betang through three core principles: Hak Ulayat Air (prohibition of commercialization of water sources), Gawi Manuntung Waja (community patrols), and Belom Bahadat (customary deliberation) has proven its effectiveness by reducing 70% of minor violations (2020–2025) and resolving 80% of water disputes at the customary level. However, this approach faces challenges in integrating with state law (only 30% of customary recommendations are followed up by authorities) as well as resistance from the younger generation (40% are reluctant to get involved). To address the issues faced, this study proposes a revitalization model of the "Straight Path" that integrates customary law, the state, and

multistakeholder participation through four pillars: the Customary-State Consultative Forum, the Integrated Reporting System, the Certification of Water Keepers, and Tiered Sanctions. This ethnography-based model avoids the failures of previous normative approaches by recognizing the "living law" in indigenous communities, while building bridges between legal systems.

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