

Collaborative Governance in Aceh's Mining Management: Towards Justice and Sustainability

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DOI:

<https://doi.org/10.47134/villages.v7i1.360>

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Received: 03-01-2026

Accepted: 12-02-2026

Published: 28-03-2026



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Abstract: *The wealth of natural resources is often not directly proportional to the welfare of the community, triggering social and environmental conflicts and showing signs of the resource curse phenomenon due to weak governance. The prevalence of unlicensed mining activities has caused serious environmental damage, land degradation, and social conflict. This study aims to analyse how the Collaborative Governance framework can be implemented in Aceh to optimise the potential of the Qanun, while overcoming existing structural and institutional challenges. This study uses a descriptive qualitative research method, focusing on Collaborative Governance in Aceh's Mining Management. Data collection techniques include observation, interviews, and documentation, which are essential for gathering rich contextual information on the research topic. The results of research on mining governance in Aceh through the Qanun framework have provided a strong normative foundation, particularly in terms of distributive and procedural justice, the right to sue, and the role of the Wali Nanggroe Aceh. The implementation of collaborative governance is in its emerging phase and is not yet optimal. The main obstacles lie in the initial conditions, which are characterised by power asymmetry and resource disparities, inconsistent institutional design, and collaborative processes that fail to address crucial issues such as unlicensed mining. The failure of conventional governance requires a hybrid governance solution that legalises the informal sector on the condition of environmental and social compliance.*

Keywords: *Collaborative Governance; Mining Management; Justice and Sustainability.*

Introduction

The province of Aceh has a unique legal framework for special autonomy, regulated by Law No. 11 of 2006 on the Government of Aceh (UUPA), which explicitly grants broad authority to the Aceh Government and district/city governments in the management of natural resources, including the mining sector (Article 156). This authority is reinforced by regional legislation in the form of Aceh Qanun No. 15 of 2013 on Mineral and Coal Mining Management. However, the wealth of natural resources is often not directly proportional to the welfare of the community, triggering social and environmental conflicts and showing signs of the resource curse phenomenon due to weak governance (Å & Dietsche, 2008). Conventional governance, dominated by hierarchical (central/regional government) and market (corporate) approaches, has proven to be ineffective in balancing economic objectives with social and environmental justice. A prominent and critical issue is the prevalence of illegal mining activities, which cause serious environmental damage, land degradation, and social conflict (Mensah et al., 2015). In response to this failure, the

Collaborative Governance approach emerged as a solution to integrate the various interests of government actors, corporations, civil society, and informal actors towards a more inclusive, adaptive, and sustainable management model. This study aims to analyse how the Collaborative Governance framework can be implemented in Aceh to optimise the potential of Qanun, while overcoming existing structural and institutional challenges.

The Collaborative Governance Model developed was used as the main framework for evaluating the dynamics of interactions between stakeholders (Woldesenbet, 2020; Temitope, 2023). This model emphasises four main dimensions: Initial Conditions, Institutional Design, Facilitative Leadership, and Collaborative Processes. Previous studies have confirmed that the success of cross-sector collaboration is highly dependent on the fulfilment of three important prerequisites: alignment of objectives, balanced distribution of power, and trust building. Justice in resource management is measured through two lenses: distributive justice relates to the fair distribution of the benefits and burdens of mining activities, particularly for directly affected communities. This includes revenue allocation, job creation, and community development (Sylvester & Ade, 2018). This concept is relevant to the study of justice in post-conflict development in Aceh. Procedural justice: This relates to the right of communities to participate in decision-making, to be heard, and to have access to transparent and fair mechanisms for redressing losses caused by mining activities.

Ideal mining management must uphold the Triple Bottom Line principle (Profit, People, Planet). In this context, sustainability is assessed based on profitable economic performance, social responsibility (including occupational safety), and environmental management (reclamation, post-mining, emission reduction) (Pactwa & Wo, 2021). These principles must be integrated with the Sustainable Development Goals (SDGs) and the ESG (Environmental, Social, Governance) framework.

Methodology

This study utilises a descriptive qualitative research method, focusing on Collaborative Governance in Aceh Mining Management, using purposive sampling to select informants based on their expertise. This approach is in line with qualitative research principles, which emphasise understanding complex social phenomena through in-depth interviews and observation, as highlighted in the literature (Muzari et al., 2022; Gentles et al., 2016). Data collection techniques included observation, interviews, and documentation, which were essential for gathering rich contextual information on the research topic. In addition, the study's reliance on primary and secondary data sources enhanced the depth of analysis, enabling a comprehensive understanding of the mechanisms involved in local governance and accountability, as discussed in related research on public policy (Print et al., 2024). This study is expected to reveal real events that occur in the field through interviews, observations, and documentation in accordance with the data and facts obtained related to Collaborative Governance in Aceh's Mining Management.

Result and Discussion

The legal framework in Aceh has created a normative progressive Institutional Design but has the potential to face deficits in collaborative implementation. The authority to manage natural resources in Aceh is a consequence of Law No. 11 of 2006, which provides a strong basis for the Aceh Government to regulate the mining sector through Qanun. Qanun Aceh No. 15 of 2013 serves as the main legal umbrella, containing provisions that exceed national mining regulations in several important aspects. One of the strong pillars of distributive justice is the obligation of mineral downstreaming (processing and refining). Article 59 of the Qanun requires holders of Production Operation Mining Business Permits (PMBP) to carry out processing and/or refining in Aceh, either directly or through cooperation, as an effort to increase the added value of the minerals produced. In addition, the Qanun also regulates environmental guarantee mechanisms, whereby reclamation and post-mining guarantee funds must be placed in joint accounts or time deposits (Lestari & Fuqara, 2025). The Governor or Regent/Mayor has the authority to appoint a third party to carry out reclamation if the PMBP holder fails to do so, which strengthens sustainability responsibilities.

The Aceh Qanun explicitly includes mechanisms to ensure justice for local communities. The Qanun stipulates significant financial obligations for holders of PMBP namely to set aside at least 2% of every transaction involving the sale of production output each year for Community development and Empowerment (CDE) programmes. These funds are prioritised for communities around the Mining Business Permit Area (MBPA) that are directly affected and are intended for human resource development, religion, health, and economic growth (George, 2023). These community development programmes must be consulted with the Aceh Government, district/city governments, and local communities, providing a formal basis for community participation. In the context of procedural justice, the Qanun guarantees the right of communities to file lawsuits through group representatives if they suffer losses due to pollution and/or environmental damage from mining activities. Dispute resolution can be pursued through deliberation/consensus or the courts, demonstrating recognition of flexible conflict resolution mechanisms.

Aceh has a unique approach to recognising customary institutions. Qanun Aceh No. 9 of 2013 on Wali Nanggroe mandates the Wali Nanggroe Institution as the customary leadership and unifier of society. This institution has the authority to provide input on various aspects of Aceh's mining, energy and mineral resource management policies, including socialisation, evaluation of implementation and design of management procedures (Wijatmoko et al., 2023). The integration of the Wali Nanggroe's role is an important element of an institutional design that attempts to combine modern governance with local wisdom.

An analysis of the legal framework shows that Aceh's formal institutional design (Qanun) is progressive, particularly through the establishment of the 2% community development and the recognition of the role of customary law. However, case studies in other regions of Indonesia show that collaboration rules are often inconsistent and lack transparency in their implementation (Ngatikoh, 2019). There is a risk that strong normative provisions at the Qanun level will be weakened at the operational implementation level due to a deficit of regulatory consistency and overlap with central government regulations. Therefore, Collaborative Governance in Aceh must focus on synchronising existing regulations and strengthening implementation consistency, rather than merely orienting itself towards creating new regulations that have the potential to increase fragmentation (Wijatmoko et al., 2023). The absence of explicit collaborative regulations is often revealed in the context of addressing the impacts of mining.

The initial conditions in Aceh were characterised by structural disparities and asymmetrical power dynamics, which posed significant obstacles to the success of Collaborative Governance (Latif et al., 2024). Despite its abundant natural resources, Aceh still faced challenges of extreme poverty, revealing an imbalance between resource wealth and community welfare, a classic manifestation of the resource curse. In addition to economic disparities, there are disparities in terms of information resources. Asymmetric access to mining data, post-mining plans, and sustainability reports places civil society and local organisations in a weak bargaining position (Lambin & Thorlakson, 2018). Studies of Collaborative Governance in Aceh found that the initial conditions were characterised by resource disparities and low incentives for participation, which directly hampered the development of trust and shared commitment among actors.

Power distribution in the extractive sector in Aceh is dominated by the Government (policy authority) and Corporations (owners of capital and technology). The Government and Law Enforcement Agencies (LEAs) wield coercive power, which is crucial in enforcing the law against illegal mining (Wibisono & Ma, 2021). Analysis shows that the power dynamics between multi-stakeholders greatly influence the effectiveness of mitigation measures (Hugon et al., 2022). However, the use of coercive power must be limited by law and human rights principles, especially so as not to have a negative impact on communities that depend on the informal mining sector for their livelihoods. If not managed through a collaborative process, this asymmetry of influence can hinder equal dialogue and undermine the development of a shared understanding.

Illegal Mining Management (IMM) activities are clear evidence of governance failure in Aceh. IMM cases in various regions of Indonesia show that this phenomenon causes serious ecological and social damage. The root causes of law enforcement failures against IMM are weak inter-agency coordination, limited resources, and low public participation, all of which are indicators of failed cross-sector collaboration (Małyjurek, 2022). The Aceh

government has responded to this issue seriously, not only through stern warnings and crackdowns, but also through initiatives to draft special regulations (the Draft Qanun on Small-Scale Mining). This step aims to provide legal certainty and alternative economic solutions for communities that depend on this sector, while also involving various law enforcement agencies (Regional Police, Attorney General's Office, Military Command) in the restructuring process.

The failure of conventional hierarchical governance, coupled with fragmented law enforcement, has created Hybrid Governance Failure in which the illegal sector IMM thrives alongside the formal legal framework (Qanun). The failure of Collaborative Governance in various places shows that collaboration will not succeed if the goals of the government to enforce order and the community to operate in order to survive are not aligned (Gollagher & Hartz-karp, 2013) . The proposed solution, namely the Draft Qanun on Small-Scale Mining, represents an effort to address this governance failure by integrating the informal sector into the legal framework. Collaborative governance must focus on changing the economic incentives of informal miners through legalisation and regulation, rather than solely on coercive law enforcement. Procedural justice requires equal space for all parties to influence the decision-making process. The formulation of new Qanuns, including the Draft Qanun on Community Mining, must be based on Academic Papers that are the result of scientifically accountable legal research or studies to resolve community legal issues (Argyrou, 2017). The process of drafting this new regulation has involved multi-stakeholder public discussions, including civil society organisations such as Aceh, the Environmental Journalists Forum, and the Aceh Investment Development Forum.

However, the success of Collaborative Governance requires transparency, consistency, and high incentives for participation, which remain obstacles to the implementation of Collaborative Governance in Aceh. The existing formal design must be guaranteed to produce consistent practices in the field. The concept of Collaborative Governance emphasises the importance of the role of informal actors, including traditional leaders, in strengthening the effectiveness of environmental law enforcement collaboration (Newig et al., 2018). In Aceh, the Wali Nanggroe's formal mandate to provide input on mining policy is a crucial entry point for integrating local legitimacy into the governance process. Effective collaborative governance must take advantage of Aceh's post-conflict social and political structures, which demand procedural justice that is sensitive to the local context.

The Qanun grants communities the right to claim compensation or file class action lawsuits for environmental damage, with the option of dispute resolution through deliberation/consensus. Deliberation as a dispute resolution mechanism reflects local values. However, the implementation of this right to sue is often hampered by asymmetries in information and resources between communities and corporations (Buccola, 2015). In

addition, litigation costs and bureaucratic complexity can be significant procedural barriers. Therefore, strong public communication strategies and independent oversight mechanisms are needed to support the community's right to sue. Procedural justice in mining management in Aceh cannot be guaranteed solely by positive legal mechanisms (courts) or ordinary consultation. Aceh needs a Hybrid Procedural Justice Model. This model must operationally integrate Customary Institutions and traditional mechanisms into the Collaborative Governance Institutional Design, ensuring that mining decisions that have an impact involve local legitimacy (Emerson et al., 2015). This integration aims to build shared commitment and overcome the trust deficit found in Collaborative Governance studies in Aceh.

Distributive justice in mining management in Aceh centres on the effective allocation of economic benefits, particularly through obligations stipulated in the Qanun. The obligation to allocate a minimum of 2% of production sales revenue to community development is a strong and explicit distributive guarantee in the Qanun. These funds are specifically intended for the improvement of human resources, religion, health, and economic growth of the directly affected communities (Wibowo, 2023). Although the norm is strong, the effectiveness of the implementation of these community development funds depends on solid Collaborative Governance. Experience shows that the effectiveness of similar development funds (such as the Special Autonomy Fund or Village Fund) is greatly influenced by consistent oversight, clear priorities, and approval from higher levels of government. Without strong coordination and transparency, the 2% fund risks misallocation and failure to achieve its goal of reducing extreme poverty in resource-rich regions.

The downstreaming mandate (processing and refining in Aceh) is a strategic mechanism for achieving distributive justice through the creation of local economic added value, rather than relying solely on royalties. Downstreaming can create skilled jobs and strengthen local supply chains. However, there are significant implementation constraints in the Qanun itself. Article 59 Paragraph (3) of the Qanun provides an exception to the downstreaming obligation in Aceh if processing is deemed impossible due to economic or technical factors. This exception, if applied loosely or non-transparently, has the potential to undermine the entire objective of distributive justice as envisaged by the Qanun. Distributive justice must be measured based on whether economic benefits (including community development, taxes, and employment opportunities) are distributed evenly and in accordance with the needs of the affected regions, in line with the concept of distributive justice that applies in the context of Islamic economics and local development (Rahim et al., 2018).

The distributive justice mechanism regulated by Qanun, such as the 2% community development Fund, runs a high risk of becoming ineffective if the Collaborative Governance

Process fails. The failure of Collaborative Governance, characterised by weak coordination, mistrust, and power asymmetry, will lead to misallocation of funds, failure to address extreme poverty around WIUPs, and ultimately, exacerbate structural injustice (the paradox of rich natural resources vs. poor communities). Sustainability in the mining sector in Aceh from an environmental and social perspective is threatened by governance failures. Reclamation and post-mining obligations are key elements of Environmental Sustainability in the Qanun Aceh. Reclamation is defined as activities to restore environmental quality and ecosystems. The implementation of these provisions requires strict supervision and the willingness of corporations to invest in environmentally friendly technologies and sustainable mining practices, in line with global corporate trends (Economics et al., 2022). Aceh must ensure that post-mining implementation is fully funded by financial guarantees and that third-party mechanisms for implementing reclamation function effectively.

Mining safety is a fundamental aspect of sustainable development. Workplace accidents, non-compliance with standard operating procedures, and inadequate training are indicators of social failure in mining operations. Companies engaged in the energy and exploration sectors, as shown by quantitative studies, tend to have a higher commitment to reporting their activities and social impacts, including CSR, which is mandatory in the mining sector. Aceh must ensure that this commitment is realised through transparent social and environmental disclosure. Illegal mining activities are not only a legal issue, but also a serious environmental issue (Movchan et al., 2022). Addressing IMM requires an Integrated Strategy oriented towards Collaborative Governance. This demands strengthened cross-sector coordination, clarification of roles between law enforcement agencies, local governments, and communities, as well as increased public involvement. The Aceh government is taking steps towards Hybrid Regulatory Governance by preparing the Qanun Pertambangan Rakyat (People's Mining Law), which aims to provide economic solutions while regulating destructive activities.

Environmental justice in Aceh will not be achieved without resolving the IMM issue. Collaborative governance in law enforcement must move from purely coercive measures towards hybrid regulatory governance. This strategy means that the Qanun Pertambangan Rakyat (People's Mining Law) must be designed collaboratively to provide legal certainty and protection. The collaboration model must involve informal (customary) and formal (APH, DLHK) actors in supervision, transforming IMM from an environmental and criminal threat into a regulated economic contributor (involving the government, APH, the private sector, and community leaders).

Structural and Institutional Barriers to Collaborative Governance in Aceh

Despite an adequate legal framework, the implementation of collaborative governance in Aceh still faces cross-sectoral structural and institutional barriers. A study on

the application of collaborative governance in combating extreme poverty in North Aceh, which is relevant because it involves the utilisation of natural resources, shows that collaboration has not been fully effective. Structural barriers include budget constraints and inaccurate data, which impact resource planning and allocation (Chukwuma-eke et al., 2021). From an institutional perspective, although the Institutional Design has established a collaboration forum, cooperation rules often remain inconsistent and lack transparency. This indicates challenges in strengthening the institutional capacity needed to support inclusive and transparent collaborative mechanisms.

One of the main prerequisites for successful Collaborative Governance is trust between stakeholders. This trust deficit often arises as a result of power asymmetry and a history of social conflict. When cooperation rules are inconsistent or non-transparent, it becomes difficult to develop strong mutual commitments between the government, corporations and the community. External factors, such as the social dynamics of the community, also greatly influence the Collaborative Governance process, causing the expected results to differ across locations and conditions (Emerson et al., 2015). To be effective, Collaborative Governance must be able to overcome the root causes of mistrust through honest dialogue and a more equitable distribution of power.

Transformative Collaborative Governance Model for Mining in Aceh

A transformative collaborative governance model is needed to transform the Qanun Aceh from a mere legal document into an operational guide towards justice and sustainability. The governance model must explicitly recognise and formalise the role of informal and customary actors (Koster, 2019). The integration of the roles of the Wali Nangroe and Customary Leaders into operational decision-making mechanisms (such as licensing processes, environmental monitoring, and community development fund allocation) is crucial. This provides local legitimacy and strengthens oversight mechanisms at the grassroots level. In addition, a Permanent Multi-Stakeholder Collaboration Platform (e.g., the Aceh Natural Resource Management Coordination Forum/ANRMCF) should be established with a formal mandate, funding, and a focus on conflict resolution, in line with the collaborative model recommended in the mining regulation study.

As a prerequisite for licensing, the Aceh Government must require a collaborative and transparent Social Impact Assessment (SIA), which involves joint fact-finding to reduce information asymmetry. To facilitate Community Litigation Rights and reduce procedural barriers and litigation costs, the establishment of an independent Aceh Environmental Ombudsman may be considered. To ensure that the 2% community development funds create real economic and social benefits, rather than just expenditure, the Aceh government must require the measurement of the social impact of community development programmes using the Social Return on Investment methodology. This measurement will

provide greater accountability and help align community development programmes with the real needs of the affected communities, as well as address coordination and prioritisation challenges (Hayman et al., 2023).

The handling of IMM must be a top priority for sustainability. The drafting of the Qanun on Small-Scale Mining must go through an inclusive Collaborative Governance process, providing legal certainty and protection, while implementing minimum environmental and mining safety standards. The approach to environmental law enforcement must be changed from purely coercive to Hybrid Regulatory Governance that integrates APH, DLHK, and indigenous actors in an integrated strategy focused on mitigating the root causes of IMM's economic problems.

Conclusion

Mining governance in Aceh through the Qanun framework has provided a strong normative foundation, particularly in terms of distributive justice (2% community development) and procedural justice (right of appeal and the role of the Wali Nanggroe). However, the implementation of collaborative governance is still in its early stages and is not yet optimal. The main obstacles lie in the Initial Conditions, which are characterised by power asymmetry and resource disparities, inconsistent Institutional Design, and collaborative processes that fail to address crucial issues such as Illegal Mining (IMM). The phenomenon of IMM is a manifestation of the failure of conventional governance and requires a Hybrid Governance solution that dares to legalise the informal sector on the condition of environmental and social compliance.

Research recommendations; a) Implement a Hybrid Institutional Design by formalising the operational role of the Customary Institution (Wali Nanggroe) in mining licensing and supervision to strengthen Procedural Justice. (b) Change the IMM approach from purely coercive to Hybrid Regulation through the drafting of an inclusive People's Mining Qanun, in order to provide legal certainty and reduce uncontrolled environmental impacts. (c) Enhance Distributive Accountability by requiring companies to measure the impact of the 2% community development Fund using the SROI method, ensuring that the fund truly creates prosperity and alleviates extreme poverty around WIUPs. (d) Strengthening Facilitative Leadership by appointing Cross-Sectoral Brokers with the authority to align objectives and overcome fragmentation between agencies (DLHK, ESDM, APH) in environmental law enforcement.

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