

LOCAL INSTITUTIONAL CAPACITY IN MANAGING POTENTIAL NATURAL RESOURCE CONFLICTS IN INDIGENOUS TERRITORIES OF BANDUNG REGENCY

Yans Kurnia Mahardika^{1a}, Dede Sri Kartini^{2b}, Antik Bintari^{3c}

¹Master Program of Government Science, Faculty of Social and Political Science, Universitas Padjadjaran, Bandung City, Indonesia

²³Department of Government Science, Faculty of Social and Political Science, Universitas Padjadjaran, Bandung City, Indonesia

^ayans24001@mail.unpad.ac.id

^bdede.sri.kartini@unpad.ac.id

^ca.bintari@unpad.ac.id

(*) Corresponding Author

yans24001@mail.unpad.ac.id

ARTICLE HISTORY

Received : 20-01-2026

Revised : 07-02-2026

Accepted : 28-03-2026

KEYWORDS

*Bandung Regency;
collaborative governance;
early warning system;
Indigenous territories;
institutional capacity; natural
resource conflict; TKDD.*

ABSTRACT

Natural resource conflicts in Indigenous territories remain a significant governance challenge in Indonesia, particularly due to overlapping land claims and limited institutional capacity for early conflict prevention. This study examines the institutional capacity of the Regional Early Warning Team (Tim Kewaspadaan Dini Daerah/TKDD) in managing potential natural resource conflicts in Indigenous territories of Bandung Regency. Using a qualitative approach, data were collected through in-depth interviews, field observations, and document analysis, and analyzed using an interactive model of data reduction, data display, and conclusion drawing. The findings reveal that TKDD functions as a cross-sectoral collaborative forum that facilitates early detection of conflict potential, collective analysis of emerging threats, and the formulation of preventive policy recommendations. Bakesbangpol plays a crucial facilitative leadership role in coordinating stakeholders and sustaining inter-agency communication. However, the effectiveness of TKDD remains constrained by limited human resource capacity, fragmented cross-sector data integration, and budgetary limitations. This study highlights that the effectiveness of collaborative governance in early warning mechanisms depends not only on institutional design but also on leadership capacity, data integration, and inclusive stakeholder engagement.

This is an open access article under the CC-BY-SA license.



INTRODUCTION

Natural resource conflicts involving Indigenous communities represent a significant governance challenge, as they intersect ecological sustainability, economic development, and social justice concerns. Globally, Indigenous peoples manage territories with high ecological value, yet these areas frequently face development pressures that trigger disputes over land use and resource control (Das dkk., 2022; Hak dkk., 2018). Conflicts often arise when economic development initiatives overlap with customary territories and when Indigenous communities have limited participation in decision-making processes (Rapaport, 2017; Tu, 2021). International cases such as the Coastal GasLink pipeline dispute in Canada and resource expansion in the Amazon illustrate how tensions between state policies, corporate interests, and Indigenous territorial rights may escalate into social conflict (Clark, 2021; Forster dkk., 2020; Rorato dkk., 2021; Scheidel dkk., 2020).

In Indonesia, similar dynamics are evident. The Indigenous Peoples Alliance of the Archipelago (AMAN) estimates that Indonesia is home to approximately 40–70 million Indigenous people, whose customary territories cover around 63 million hectares. However, only a small proportion of these territories has obtained formal legal recognition. This disparity contributes to persistent agrarian conflicts, with 241 cases recorded in 2023 involving the dispossession of approximately 638,188 hectares of land and affecting more than 135,000 households (Atong, 2025). These conflicts indicate structural weaknesses in governance systems responsible for managing overlapping land claims and balancing development interests with Indigenous rights (Menon & McQueeney, 2020; Riggs dkk., 2018).

At the local level, conflicts over natural resources often appear not as open violence but as latent tensions characterized by community resistance, strained relations with government institutions, and declining trust in public policies (Akerboom & Craig, 2022; Macherera & Chimbari, 2016). In Bandung Regency, the management of potential social conflicts including those related to natural resources in Indigenous territories is conducted through the Regional Early Warning Team (Tim Kewaspadaan Dini Daerah/TKDD). This cross-sectoral forum coordinates information exchange, analyzes emerging threats, and formulates recommendations for preventive action. The Regional Office for National Unity and Politics (Bakesbangpol) plays a central role as the primary facilitator responsible for coordinating institutional actors and maintaining communication among stakeholders (Bang, 2024; Md Hasibul Hasan dkk., 2025).

Although collaborative governance has been widely discussed as an approach for managing complex public issues, empirical studies examining how local early warning institutions operate in managing potential natural resource conflicts in Indigenous territories remain limited (Ayalew & Aden Tesfaye Lema, 2025; Ma dkk., 2026; Shoko, 2022). Existing research tends to focus either on agrarian conflict dynamics or on legal recognition of Indigenous land rights, while the institutional capacity of local early warning mechanisms and their collaborative governance practices receive less attention. Consequently, there is still limited understanding of how local governments develop institutional arrangements to detect and manage potential conflicts before they escalate.

Therefore, this study aims to analyze the institutional capacity of the Regional Early Warning Team (TKDD) in managing potential natural resource conflicts in Indigenous territories of Bandung Regency using a collaborative governance perspective. The research addresses the following question: How does the institutional capacity of TKDD shape the management of potential natural resource conflicts in Indigenous territories at the local level?

RESEARCH METHODS

Research Design

This study employs a qualitative research design to examine the institutional capacity of the Regional Early Warning Team (TKDD) in managing potential natural resource conflicts in Indigenous territories of Bandung Regency. A qualitative approach is appropriate for exploring institutional dynamics, coordination mechanisms, and stakeholder interactions within their real-life governance context.

Data Collection

Data were collected from both primary and secondary sources. Primary data were obtained through in-depth interviews with key informants, including officials from the Regional Office for National Unity and Politics (Bakesbangpol), members of the Regional Early Warning Team (TKDD), local government representatives, and other relevant stakeholders involved in conflict prevention and management. Field observations were also conducted in selected Indigenous territories in Bandung Regency to capture contextual information on governance practices and community interactions related to natural resource management.

Secondary data consisted of government regulations, official reports related to early conflict detection mechanisms, and scientific publications discussing natural resource conflicts, Indigenous governance, and collaborative governance frameworks.

Data Analysis

Data were analyzed using an interactive qualitative analysis model consisting of data reduction, data display, and conclusion drawing (Miles dkk., 2014). The analysis process involved organizing interview transcripts, observation notes, and documentary data into thematic categories related to institutional capacity, cross-sector coordination, facilitative leadership, and stakeholder engagement.

To enhance the credibility of the findings, data triangulation was conducted by comparing information obtained from interviews, observations, and documentary sources.

RESULTS AND DISCUSSION

Institutional Role of TKDD in Early Conflict Detection

The findings indicate that the Regional Early Warning Team (TKDD) functions as an institutional mechanism for identifying and managing potential natural resource conflicts in Indigenous territories of Bandung Regency. Rather than responding only after conflicts escalate, TKDD operates as an early detection platform that collects information from multiple governance levels, including village authorities, sub-district administrations, and community networks.

Information gathered through this mechanism allows the local government to identify latent tensions related to overlapping land claims, land-use changes, and development pressures affecting Indigenous territories. As one TKDD member explained: “Most conflicts do not start as open disputes. Usually there are early signals such as community resistance or disagreement over land use (Ahmad & Esposito, 2025; Pulkkinen dkk., 2024). Through TKDD meetings we try to detect these signals before they escalate.” (Interview, TKDD member). Another TKDD member explained that early information about potential conflicts often originates from community-level reports:

“Information about potential conflict usually comes from the village level first. When there are complaints about land use or development activities, the information is reported through local networks and then discussed in the TKDD forum.” (Interview, TKDD member)

This early detection mechanism reflects an institutional effort to transform conflict management from a reactive approach into a preventive governance practice. Within the framework of collaborative governance (Ansell & Gash, 2008), TKDD serves as a forum where multiple actors collectively interpret emerging risks and develop

coordinated responses. The process of identifying potential threats, challenges, obstacles, and disturbances (ATHG) enables the local government to understand conflict as a layered social process rather than as isolated incidents.

From a broader governance perspective, the existence of TKDD demonstrates how local institutional arrangements can function as preventive mechanisms in natural resource conflict governance. This finding contributes to the literature by highlighting the importance of early warning institutions in strengthening conflict prevention strategies at the local level in Indonesia.

Collaborative Governance and Indigenous Community Participation

The management of potential natural resource conflicts within TKDD is characterized by cross-sector collaboration involving government agencies, security institutions, and community representatives. This collaboration is institutionalized through regular coordination meetings, information exchange mechanisms, and joint analysis of emerging conflict risks. A government official involved in TKDD coordination highlighted the importance of collaboration with Indigenous leaders in understanding local conflict dynamics: “If we only rely on administrative reports, we will miss many local dynamics. Indigenous leaders help us understand what is actually happening in the community and whether a policy might create tension.” (Interview, local government official).

A crucial dimension of this collaborative process is the involvement of Indigenous community representatives through the Community Early Warning Forum (FKDM). Indigenous leaders, religious figures, and community representatives participate in discussions related to potential conflict dynamics and provide contextual information regarding customary land management practices.

As one community representative explained: “Through FKDM, we can convey community concerns directly to the government. Sometimes misunderstandings happen because policies are made without knowing the situation in the village.” (Interview, community representative). The participation of Indigenous actors strengthens the legitimacy of conflict prevention mechanisms. It also allows the local government to incorporate socio-cultural considerations into policy responses. In this sense, collaborative governance within TKDD is not limited to administrative coordination but also involves the construction of trust-based relationships between government institutions and Indigenous communities.

This finding reinforces the argument that inclusive participation is essential for effective collaborative governance (Ansell & Gash, 2008). In the Indonesian context, integrating Indigenous knowledge and community perspectives into early warning mechanisms can enhance the responsiveness and legitimacy of conflict prevention policies.

Institutional Capacity Constraints in Local Conflict Governance

Despite its collaborative structure, the effectiveness of TKDD is constrained by several institutional limitations. One major challenge is the limited availability of human resources with expertise in natural resource conflict management and Indigenous land governance.

A local government official stated: “We understand that natural resource conflicts are complex, but not all members of the team have specific expertise in conflict resolution or Indigenous land issues.” (Interview, local government official). In addition to human resource limitations, the lack of integrated cross-sector data systems also restricts TKDD’s analytical capacity. One TKDD participant explained that the absence of an integrated data system often complicates early conflict analysis:

“Each agency often has its own data related to land or development projects. The problem is that these data are not always integrated, so it takes time to build a complete picture of the conflict situation.” (Interview, TKDD participant). Information related to potential conflicts is often dispersed across different agencies, making it difficult to build a comprehensive understanding of conflict dynamics.

Budgetary constraints further limit the sustainability of collaborative activities. Limited funding reduces the frequency of field monitoring and capacity-building initiatives for TKDD members.

These findings indicate that collaborative governance mechanisms require strong institutional capacity in order to function effectively. Without adequate resources, integrated information systems, and clearly defined roles, collaborative forums risk becoming procedural coordination platforms rather than effective instruments of conflict prevention.

From a policy perspective, strengthening the institutional capacity of early warning mechanisms such as TKDD is crucial for improving natural resource conflict governance in Indonesia. This includes enhancing technical expertise, developing integrated data systems, and ensuring sustainable operational support for collaborative institutions at the local level.

CONCLUSION

This study demonstrates that the Regional Early Warning Team (TKDD) plays an important role as a local institutional mechanism for managing potential natural resource conflicts in Indigenous territories of Bandung Regency. Through early detection, cross-sector information exchange, and collective analysis of potential threats, TKDD enables local government institutions to identify and address emerging tensions before they escalate into open conflicts. The findings show that collaborative governance practices within TKDD particularly through the facilitative leadership of Bakesbangpol and the involvement of Indigenous community representatives strengthen preventive conflict management at the local level.

However, the effectiveness of this mechanism is influenced by several institutional constraints, including limited human resource capacity, fragmented cross-sector data systems, and budgetary limitations. These challenges indicate that collaborative governance in early conflict detection requires not only formal institutional arrangements but also adequate institutional capacity and sustained inter-organizational coordination.

This study contributes to the literature by highlighting the role of local early warning institutions in managing potential natural resource conflicts in Indigenous territories, a topic that has received limited attention in previous research. From a policy perspective, strengthening the institutional capacity of TKDD through improved technical expertise, integrated data systems, and sustainable operational support is essential to enhance preventive conflict governance in Indonesia.

REFERENCES

- Ahmad, Z., & Esposito, P. (2025). Collaborative Governance for Social Change and Environmental Sustainability: A Case Study of Campania Region. *Administrative Sciences*, 15(6), 217. <https://doi.org/10.3390/admsci15060217>
- Akerboom, S., & Craig, R. K. (2022). How law structures public participation in environmental decision making: A comparative law approach. *Environmental Policy and Governance*, 32(3), 232–246. <https://doi.org/10.1002/et.1986>
- Ansell, C., & Gash, A. (2008). Collaborative governance in theory and practice. *Journal of public administration research and theory*, 18(4), 543–571. <https://academic.oup.com/jpart/article-abstract/18/4/543/1090370>
- Atong, P. (2025). Dinamika konflik agraria di Indonesia: Faktor penyebab dan dampaknya. *FOKUS: Publikasi Ilmiah untuk Mahasiswa, Staf Pengajar dan Alumni Universitas Kapuas Sintang*, 23(1). <https://jurnal.unka.ac.id/index.php/fisip/article/view/1446>
- Ayalew, N. A. & Aden Tesfaye Lema. (2025). *Conflict Risk Monitoring for Conflict Prevention in Ethiopia: The Case of Ataye Town, North Shewa, Amhara Region*. <https://internationaljournalofdisasterriskmanagement.com/index.php/Vol11/article/view/117>

- Bang, H. N. (2024). Sustainable development goals, disaster risk management, and indigenous knowledge: A critical assessment of the interlinkages. *Sustainable Earth Reviews*, 7(1), 29. <https://doi.org/10.1186/s42055-024-00101-x>
- Clark, J. (2021). Indigenous Led Opposition to Pipeline Infrastructure. *The Social Contract*, 13(1). <https://ojs.lib.uwo.ca/index.php/socialcontract/article/view/23023>
- Das, M., Das, A., Seikh, S., & Pandey, R. (2022). Nexus between indigenous ecological knowledge and ecosystem services: A socio-ecological analysis for sustainable ecosystem management. *Environmental Science and Pollution Research*, 29(41), 61561–61578. <https://doi.org/10.1007/s11356-021-15605-8>
- Forster, J., Vaughan, N. E., Gough, C., Lorenzoni, I., & Chilvers, J. (2020). Mapping feasibilities of greenhouse gas removal: Key issues, gaps and opening up assessments. *Global Environmental Change*, 63, 102073. <https://doi.org/10.1016/j.gloenvcha.2020.102073>
- Hak, S., McAndrew, J., & Neef, A. (2018). Impact of Government Policies and Corporate Land Grabs on Indigenous People's Access to Common Lands and Livelihood Resilience in Northeast Cambodia. *Land*, 7(4), 122. <https://doi.org/10.3390/land7040122>
- Ma, T., Wang, K., & Fan, D. (2026). From Conflict Management to Collaborative Adaptation: Designing Participatory Governance Frameworks for Human–Wildlife Relations in Sanjiangyuan National Park, China. *Environmental and Sustainability Indicators*, 101165. <https://doi.org/10.1016/j.indic.2026.101165>
- Macherera, M., & Chimbari, M. J. (2016). A review of studies on community based early warning systems. *Jambá: Journal of Disaster Risk Studies*, 8(1), 11 pages. <https://doi.org/10.4102/jamba.v8i1.206>
- Md Hasibul Hasan, Mohammad Jobayer Hossain, & Nipa, S. A. (2025). *Navigating water discord: A review of water conflicts in the common resource management system in coastal areas*. <https://www.frontiersin.org/journals/water/articles/10.3389/frwa.2024.1405601/full>
- Menon, N., & McQueeney, K. (2020). Christianity and girl child health in India. *World Development*, 136, 105109. <https://doi.org/10.1016/j.worlddev.2020.105109>
- Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative data analysis: A methods sourcebook. (No Title)*. <https://cir.nii.ac.jp/crid/197002348484333791>
- Pulkkinen, M., Sinervo, L.-M., & Kurkela, K. (2024). Premises for sustainability – participatory budgeting as a way to construct collaborative innovation capacity in local government. *Journal of Public Budgeting, Accounting & Financial Management*, 36(1), 40–59. <https://doi.org/10.1108/JPBAFM-04-2022-0077>
- Rapaport, M. (Ed.). (2017). *The Pacific Islands: Environment and Society, Revised Edition*. University of Hawaii Press. <https://doi.org/10.1515/9780824865849>
- Riggs, R., Langston, J., Margules, C., Boedhihartono, A., Lim, H., Sari, D., Sururi, Y., & Sayer, J. (2018). Governance Challenges in an Eastern Indonesian Forest Landscape. *Sustainability*, 10(1), 169. <https://doi.org/10.3390/su10010169>
- Rorato, A. C., Picoli, M. C. A., Verstegen, J. A., Camara, G., Silva Bezerra, F. G., & Escada, M. I. S. (2021). Environmental Threats over Amazonian Indigenous Lands. *Land*, 10(3), 267. <https://doi.org/10.3390/land10030267>
- Scheidel, A., Del Bene, D., Liu, J., Navas, G., Mingorría, S., Demaria, F., Avila, S., Roy, B., Ertör, I., Temper, L., & Martínez-Alier, J. (2020). Environmental conflicts and defenders: A global overview. *Global Environmental Change*, 63, 102104. <https://doi.org/10.1016/j.gloenvcha.2020.102104>
- Shoko, E. (2022). Indigenous Conflict Management and Contemporary Water Resource Governance in Rural Zimbabwe. *Journal of Peacebuilding & Development*, 17(2), 225–238. <https://doi.org/10.1177/15423166221111692>
- Tu, T. L. N. (2021). *Experiments in Skin: Race and Beauty in the Shadows of Vietnam*. Duke University Press. <https://doi.org/10.1215/9781478013136>