

Trust in Network Governance of Lake Management in Indonesia: A Case Study of Lake Limboto, Gorontalo

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Abstract

Lake management in Indonesia is increasingly confronted with ecological complexity and institutional fragmentation involving multiple actors across sectors and levels of government. In this context, the network governance approach is often promoted as a normative solution to strengthen collaboration and policy effectiveness. However, the performance of governance networks frequently fails to align with their institutional design. This study departs from the assumption that trust constitutes a key relational element mediating the effectiveness of network governance in lake management. Employing a qualitative case study design with an interpretive approach, this research examines the governance of Lake Limboto in Gorontalo. Data were collected through in-depth interviews with central and local government actors, non-state actors, and local stakeholders, complemented by policy document analysis and limited observation. The findings reveal that while the governance network of Lake Limboto is structurally dense, it is relationally fragile. Horizontal trust among local actors tends to be stronger than vertical trust between central and local governments. Weak vertical trust generates patterns of symbolic collaboration, where coordination occurs administratively without being followed by consistent and sustainable collective action. This study underscores that trust functions as relational infrastructure within network governance and must be explicitly embedded in lake management policy design. The findings provide important implications for strengthening lake governance in Indonesia and similar contexts in developing countries.

Keywords: Trust, Network Governance, Lake Management, Lake Limboto, Environmental Governance

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Introduction

Lake management as part of strategic natural resource governance is increasingly confronted with complex, cross-sectoral, and multidimensional challenges (Head et al., 2016; Chidammodzi & Muhandiki, 2017; Medema et al., 2008). Lakes function not only as ecological buffers but also as socio-economic spaces that sustain local livelihoods, water supply, fisheries, and cultural identity. In developing countries such as Indonesia, these challenges are exacerbated by environmental degradation, fragmented authority, and dynamic relations between central government, local governments, and non-state actors, which often operate under divergent interests and rationalities.

This condition has driven a paradigm shift from hierarchical governance toward network governance, where public management is conducted through interdependent and interactive actor networks operating both horizontally and vertically (Klijn & Koppenjan, 2012; Torfing & Sørensen, 2014; Hendra et al., 2024). Normatively, network governance is regarded as an

ideal approach for addressing wicked environmental problems, namely policy issues characterized by uncertainty, dynamism, and conflicting interests (Ansell & Torfing, 2021; Koliba & Koppenjan, 2023; Van et al., 2023).

This approach emphasizes cross-sectoral collaboration, multi-actor engagement, and joint decision-making as prerequisites for adaptive and sustainable governance (Allen et al., 2023; Partidário et al., 2023). Under ideal conditions, governance networks operate through open information exchange, clear role distribution, and continuous coordination, all of which are supported by trust as a core relational mechanism. Trust enables actors with diverse interests and resources to remain committed to collective goals, reduces reliance on formal control mechanisms, and lowers transaction costs in collaborative processes.

Empirically, however, lake management in Indonesia often reveals a substantial gap between normative expectations and practical outcomes. Despite the formulation of collaborative policies and the designation of priority lakes at the national level, implementation frequently fails to produce meaningful ecological or social improvements. Lake Limboto in Gorontalo Province exemplifies this condition. The lake continues to experience severe sedimentation, declining water quality, and pressure from human activities, despite the involvement of multiple institutions in its management (Mills et al., 2017; Waltham et al., 2014).

This situation reflects governance networks that are structurally active yet substantively weak in generating sustained collective action. This condition suggests the presence of underlying issues that cannot be fully explained by institutional design or formal authority distribution alone. Much of the literature on network governance and natural resource management continues to prioritize network structures, policy instruments, or institutional capacity, while treating relational dimensions among actors as secondary (Robins et al., 2011; Rahman et al., 2017).

In contrast, studies over the past decade consistently demonstrate that trust is a critical determinant influencing collaboration intensity, communication quality, and network resilience in the face of conflict and uncertainty. Governance failure, therefore, does not necessarily stem from the absence of policies or actors, but from fragile relational foundations underpinning network interactions. Recent developments in environmental network governance research indicate a shift in the state of the art from structural analysis toward more relational and process-oriented perspectives.

Meta-analyses and systematic reviews confirm that trust exerts a more consistent influence on governance outcomes than formal management mechanisms or network leadership alone. Nevertheless, empirical studies remain dominated by cases from developed countries with relatively stable governance systems. Consequently, trust dynamics in developing-country contexts characterized by decentralization, authority asymmetry, and policy failure legacies remain underexplored.

In Indonesia, environmental network governance studies have largely focused on forestry, coastal management, or climate change, leaving lake governance relatively marginalized in academic discourse. Against this backdrop, this article argues that trust should be positioned as the primary analytical lens for understanding network governance in lake management. Its novelty lies, first, in conceptualizing trust not merely as an individual attitude or normative value, but as relational infrastructure mediating the relationship between network structure, collaborative processes, and governance performance.

Second, empirically, this study presents Lake Limboto as a representative case of tropical lake governance in a developing country, illustrating how the erosion of trust, both horizontally among local actors and vertically between central and local governments, contributes to symbolic coordination rather than substantive collective action. Thus, this article contributes analytically to environmental governance literature by deepening the understanding of trust within network governance in the Indonesian context.

Methods

This study employs a qualitative case study design with an interpretive approach to examine the role of trust in network governance of Lake Limboto, Gorontalo. Lake Limboto was selected as the case because it represents the complexity of lake governance in Indonesia, involving multiple actors across sectors and levels of government. Data were collected through semi-structured in-depth interviews with central and local government actors, non-state actors, and local stakeholders selected purposively, complemented by policy document analysis and limited observation of coordination forums. Data analysis was conducted thematically and inferentially to identify patterns of horizontal and vertical trust and their relationship to collaboration dynamics and governance performance. Data validity was ensured through source and method triangulation and researcher reflexivity in interpreting the social, institutional, and cultural context shaping Lake Limboto governance.

Result and Discussion

The findings indicate that the network governance of Lake Limboto involves a relatively complete and structurally dense configuration of actors, including central government agencies, local governments, sectoral technical units, and non-state actors at the local level. This condition aligns with the characteristics of governance networks described by Provan and Kenis, who emphasize actor plurality and resource interdependence in public policy networks (Van et al., 2023). Nevertheless, structural density does not automatically translate into effective governance performance. Empirical evidence reveals uneven trust distribution among actors. Horizontal trust among local actors is relatively strong, built through social proximity, long-term interaction, and shared experiences in confronting lake degradation. This pattern is consistent with Schilke & Cook's (2013) argument that interpersonal and experience-based trust tends to develop more rapidly in local contexts characterized by strong social ties. Such trust facilitates informal coordination and pragmatic adaptation, albeit within limited scopes.

In contrast, vertical trust between central and local governments is weak and fragile. Local actors perceive central government policies as insufficiently sensitive to local conditions, while central actors question the capacity and consistency of implementation at the local level. These tensions are reinforced by memories of previous program failures, shifting policy priorities, and asymmetries in authority and resources. This phenomenon reflects what Ansell and Gash describe as a trust deficit in cross-level collaboration, commonly observed in decentralized and multi-level governance contexts (Ansell & Gash, 2008). The immediate consequence of weak vertical trust is the emergence of symbolic collaboration. Coordination largely manifests in formal procedural activities such as meetings and administrative agreements, without strong implementation commitment. This condition corresponds with Samuel's (2005) findings that low-trust policy networks tend to produce ritualized collaboration that is administratively active but substantively ineffective.

These findings reinforce theoretical arguments that network governance cannot be understood solely as a matter of institutional structure or formal design. Klijn & Koppenjan (2016)

emphasize that policy networks are fundamentally arenas of social interaction, where outcomes are shaped by relational quality and informal mechanisms. Within this framework, trust serves as a key mediating mechanism linking network structure and governance performance. Conceptually, trust in policy networks functions as a relational lubricant enabling coordination without excessive reliance on hierarchical control or formal contracts. Evidence from Lake Limboto demonstrates that low trust fosters defensive behavior, weakens commitment, and constrains collaboration to minimal administrative compliance. This finding aligns with Henry & Dietz (2011) conclusion that low trust inhibits information flow and undermines network capacity to address complex environmental problems.

Moreover, this study contributes to the literature by demonstrating that trust in network governance is multidimensional and operates differently at horizontal and vertical levels. Horizontal trust supports local collaboration and adaptive responses, consistent with Suškevičs (2012) work on collaborative environmental governance. However, it is insufficient to resolve structural problems requiring cross-level policy support, funding, and legitimacy. Conversely, weak vertical trust leads to fragmented actions and policy discontinuity, as also identified by Kostka (2014) in comparative environmental governance studies. In the Indonesian context, these findings resonate with Neder et al. (2021) argument that environmental governance failure in developing countries often stems from relational and political issues rather than purely technical capacity constraints. Similarly, Ngarawula & Hariyanto (2025) show that cross-actor collaboration in Indonesia remains fragile when trust is not consciously embedded in policy design.

Conclusion

This study concludes that the effectiveness of network governance in managing Lake Limboto is determined less by institutional completeness or the number of actors involved than by the quality of trust underpinning inter-actor relations. Although the governance network is structurally dense, its performance remains substantively weak due to trust asymmetries, particularly between central and local government actors. Horizontal trust at the local level supports small-scale pragmatic coordination but is insufficient to address structural and cross-level challenges requiring policy alignment, resources, and legitimacy from higher governance levels. Accordingly, this research affirms that trust functions as relational infrastructure mediating the relationship between institutional design and governance outcomes. When trust is fragile, network governance risks becoming trapped in symbolic coordination, where collaboration is administratively performed but fails to generate consistent and sustainable collective action. These findings strengthen the collaborative environmental governance literature, which emphasizes that natural resource management failures often stem from relational and political dynamics rather than technical deficiencies alone. The policy implications are both strategic and reflective. First, lake management policies should explicitly integrate trust as a core component of network governance design. Policy efforts must go beyond establishing coordination forums or formal authority arrangements and instead create sustained, transparent, and consistent interaction spaces to build trust, particularly in vertical central–local relations. Second, mechanisms are needed to repair eroded trust resulting from past policy failures, including aligning cross-level policy objectives, ensuring funding consistency, and recognizing local knowledge in decision-making processes. Overly top-down approaches risk deepening trust deficits and weakening local policy legitimacy. Third, capacity-building for lake governance should extend beyond technical and administrative skills to include relational capacities such as dialogue facilitation, conflict management, and long-

term collaborative commitment. In this regard, government actors should act as trust enablers rather than merely regulators or program coordinators. More broadly, this study highlights that successful environmental network governance in Indonesia and similar developing-country contexts depends critically on the ability of policies to recognize and manage the trust dynamics operating beneath formal governance structures.

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