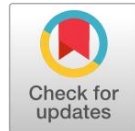


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Collaborative Leadership in Crisis Management: A Case Study of Cross-Sectoral Policy Integration in Disaster Management in Indonesia

Mulyaningsih¹ , Haziq Idris² , Rina Farah³

¹ Universitas Garut, Indonesia

² Universiti Sains, Malaysia

³ Universiti Teknologi, Malaysia

ABSTRACT

Background. Indonesia's high frequency of natural disasters is compounded by fragmented governance, overlapping responsibilities, and poor interagency coordination. In this environment, collaborative leadership serves as a vital framework to streamline policy integration and boost institutional responsiveness during crises.

Purpose. This study evaluates how collaborative leadership supports cross-sectoral policy integration and strengthens disaster management systems in disaster-prone regions of Indonesia.

Method. Using a qualitative case study approach, data was collected via in-depth interviews, field observations, and document analysis involving key stakeholders including government agencies, humanitarian organizations, and community leaders.

Results. The findings demonstrate that collaborative leadership significantly enhances communication quality, institutional trust, resource coordination, and policy coherence. Crucial drivers of success include participatory decision-making, adaptive coordination mechanisms, transparent communication, and increased community involvement during emergency response and recovery efforts.

Conclusion. Collaborative leadership acts as a strategic governance driver to elevate disaster resilience in Indonesia. Achieving long-term success requires inclusive coordination structures, adaptive policy mechanisms, and sustained cross-sector collaboration.

KEYWORDS

Collaborative Leadership, Crisis Management, Cross-Sectoral Integration, Disaster Governance, Policy Coordination

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Correspondence:

Mulyaningsih,
mulyaningsih@uniga.ac.id

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INTRODUCTION

Indonesia is widely recognized as one of the most disaster-prone countries in the world due to its geographical location, climatic conditions, and complex socio-environmental characteristics (Apaydin, 2026). Earthquakes, tsunamis, volcanic eruptions, floods, landslides, and forest fires occur frequently across various regions, generating multidimensional challenges for national and local governance systems (Astuti dkk., 2025). Increasing intensity and unpredictability of disasters have amplified the urgency for effective crisis management strategies capable of coordinating diverse institutional actors within highly dynamic emergency contexts. Disaster management in Indonesia therefore extends beyond technical emergency response and increasingly involves

capacity, interorganizational collaboration, and integrated policy implementation leadership has consequently emerged as an essential governance approach for strengthening coordination among governmental institutions, non-governmental organizations, private sectors, local communities, and international agencies during crisis situations.

Contemporary disaster governance frameworks emphasize that crisis management cannot rely solely on hierarchical bureaucratic structures because disasters often transcend administrative boundaries and institutional jurisdictions (Bainus dkk., 2025). Traditional command-and-control approaches frequently encounter limitations when addressing rapidly evolving emergencies requiring flexible communication, shared decision-making, and coordinated resource mobilization. Collaborative leadership provides an alternative governance orientation by promoting mutual trust, collective responsibility, and adaptive coordination among multiple stakeholders involved in disaster response and recovery processes (Chowdhury dkk., 2025). Cross-sectoral policy integration consequently becomes a critical mechanism for ensuring that disaster management strategies remain coherent, responsive, and sustainable across institutional sectors. Effective integration between environmental policy, public health systems, infrastructure planning, social welfare programs, and emergency response mechanisms is increasingly necessary for strengthening disaster resilience in Indonesia.

Recent disaster events in Indonesia have demonstrated both the importance and the complexity of collaborative governance during crisis situations (Delina dkk., 2025). Several large-scale disasters revealed significant achievements in interagency coordination and community mobilization, while simultaneously exposing persistent weaknesses associated with fragmented policy implementation, institutional overlap, and communication barriers among stakeholders. Crisis management effectiveness frequently depends on leadership capacity to bridge organizational interests, coordinate cross-sectoral actions, and facilitate rapid policy adaptation under conditions of uncertainty. Scholarly and policy discussions have therefore shifted toward understanding how collaborative leadership contributes to more integrated and effective disaster governance systems (Ergün & Bozdağ, 2026). Examination of cross-sectoral policy integration within Indonesian disaster management contexts becomes particularly relevant because governance fragmentation continues to challenge institutional responsiveness and long-term resilience development.

Disaster management systems in Indonesia continue to encounter significant coordination challenges despite ongoing institutional reforms and policy developments (Fischer-Preßler dkk., 2024). Government agencies responsible for disaster mitigation, emergency response, environmental protection, public health, and social welfare frequently operate within sectoral boundaries that limit effective collaboration during crisis situations. Fragmented institutional responsibilities often create overlapping policies, inconsistent communication channels, and delayed decision-making processes that reduce the effectiveness of disaster response operations (Gong dkk., 2025). Collaborative leadership is frequently promoted as a strategic solution for overcoming these governance barriers, yet practical implementation remains inconsistent across national and regional disaster management structures. Limited coordination among sectors consequently weakens the ability of institutions to respond adaptively and collectively to rapidly evolving crisis conditions.

Cross-sectoral policy integration additionally remains constrained by differences in organizational culture, bureaucratic procedures, institutional priorities, and resource allocation mechanisms among participating stakeholders (Haddow dkk., 2025). Disaster management policies often prioritize emergency response activities while underestimating the importance of long-term collaboration involving social development, environmental sustainability, infrastructure resilience,

and community empowerment (Hosseiniard dkk., 2025). Institutional actors may also demonstrate varying interpretations regarding leadership authority, accountability structures, and operational responsibilities during emergency situations. Such differences frequently hinder collaborative decision-making processes and reduce the efficiency of coordinated policy implementation (Imanuella dkk., 2024). Absence of integrated governance mechanisms therefore continues to limit the capacity of disaster management systems to address complex and interconnected crisis challenges effectively.

Research concerning collaborative leadership in disaster management has similarly revealed conceptual and practical ambiguities regarding how leadership collaboration influences policy integration outcomes (Jayasinghe dkk., 2024). Existing studies frequently discuss interorganizational coordination and collaborative governance in broad theoretical terms without sufficiently examining how leadership practices facilitate policy coherence across sectors during actual crisis situations (Kanbara dkk., 2025). Limited empirical attention has been directed toward understanding the interaction between collaborative leadership behaviors, institutional adaptation, and cross-sectoral policy implementation within Indonesian disaster management contexts. Insufficient exploration of these dimensions creates challenges for policymakers and practitioners seeking to develop more integrated and responsive crisis governance frameworks (Keswick dkk., 2025). Comprehensive investigation into collaborative leadership and cross-sectoral policy integration is therefore necessary to address persistent governance fragmentation within disaster management systems in Indonesia.

This study aims to examine the role of collaborative leadership in strengthening cross-sectoral policy integration within disaster management systems in Indonesia. Particular attention is directed toward understanding how collaborative leadership practices influence coordination processes, institutional communication, and collective decision-making during crisis situations (Kitagawa, 2026). Investigation of these dimensions seeks to clarify the mechanisms through which leadership collaboration contributes to more coherent and adaptive disaster governance structures. Findings from this research are expected to provide deeper insights into how integrated leadership approaches can enhance institutional responsiveness and improve crisis management effectiveness across diverse disaster contexts in Indonesia.

Another objective of this study involves identifying the major institutional, organizational, and policy-related factors influencing collaborative leadership implementation within disaster management environments. Analysis of governance barriers such as bureaucratic fragmentation, sectoral ego, communication gaps, and resource disparities seeks to reveal the structural conditions that either support or constrain effective cross-sectoral collaboration (Gacitua, 2025). Examination of these factors is essential because successful disaster governance depends not only on leadership capacity but also on institutional readiness and policy alignment among participating stakeholders. Research outcomes are therefore expected to contribute to the development of more practical and context-sensitive collaborative governance strategies for disaster management institutions.

This study also seeks to generate policy recommendations and conceptual insights capable of supporting future improvements in Indonesian disaster governance systems. Emphasis is placed on developing a broader understanding of how collaborative leadership can facilitate integrated crisis management practices involving government agencies, civil society organizations, private sectors, and local communities simultaneously (Danzi dkk., 2025). Exploration of policy integration strategies is intended to support more sustainable and inclusive approaches to disaster resilience development. Research findings are therefore expected to contribute not only to academic discourse

but also to practical policymaking and institutional reform efforts within the field of disaster management governance.

Existing literature on disaster management governance has extensively discussed collaborative governance, institutional coordination, and crisis leadership within various national and international contexts. Numerous studies emphasize the importance of interorganizational cooperation in improving disaster preparedness, emergency response, and recovery effectiveness (Erdiwansyah dkk., 2026). Research concerning collaborative leadership similarly highlights the value of shared decision-making, stakeholder engagement, and adaptive governance within complex policy environments. Scholarly discussions, however, frequently examine these concepts separately rather than exploring how collaborative leadership directly influences cross-sectoral policy integration during disaster management implementation. Fragmentation within the literature consequently limits comprehensive understanding of how leadership practices shape integrated governance outcomes in crisis situations.

Research focusing specifically on disaster management in Indonesia has primarily concentrated on emergency response mechanisms, community resilience, institutional preparedness, and disaster mitigation policies. Several studies have examined governance weaknesses related to bureaucratic inefficiency, resource limitations, and decentralization challenges within Indonesian disaster management systems (Laosunthara dkk., 2025). Limited scholarly attention, however, has been directed toward investigating the relational dynamics between collaborative leadership and policy integration across sectors. Existing investigations often discuss institutional coordination descriptively without analyzing the leadership processes that enable or constrain effective collaboration among diverse stakeholders during crisis situations. Absence of deeper analytical focus on collaborative leadership mechanisms therefore represents a significant gap within current disaster governance scholarship.

Current studies also demonstrate insufficient exploration of cross-sectoral policy integration as a multidimensional governance process involving political, organizational, and social interactions simultaneously. Disaster management policies frequently intersect with environmental governance, health policy, infrastructure planning, social protection, and regional development strategies, yet research rarely examines how these sectors become integrated operationally through collaborative leadership practices (Mamat dkk., 2025). Limited empirical analysis concerning policy integration processes within real disaster management contexts further reduces the practical applicability of existing theoretical discussions. These gaps highlight the necessity for research capable of integrating leadership theory, collaborative governance perspectives, and cross-sectoral policy analysis within the specific institutional realities of disaster management in Indonesia.

This study offers novelty through its integrative examination of collaborative leadership and cross-sectoral policy integration within disaster management governance in Indonesia. Previous research frequently addressed collaborative governance, crisis leadership, or disaster policy implementation independently, whereas this study combines these dimensions into a unified analytical framework (Miller dkk., 2025). Particular emphasis is placed on understanding how collaborative leadership practices facilitate institutional integration, adaptive coordination, and collective problem-solving during crisis situations involving multiple governance sectors. Holistic analysis of these interconnected dimensions contributes new perspectives regarding the operational mechanisms through which collaborative leadership strengthens disaster governance effectiveness within complex institutional environments.

Distinctive contribution additionally emerges from the contextual focus of the study on Indonesian disaster management systems characterized by decentralization, institutional diversity,

and recurrent large-scale disasters. Governance structures in Indonesia involve complex interactions among national agencies, regional governments, civil society organizations, local communities, and international actors, creating unique challenges for policy integration and collaborative coordination (Moktan dkk., 2026). Examination of collaborative leadership within this context therefore provides valuable empirical insights into how crisis governance operates within developing and disaster-prone countries. Findings from this study may consequently contribute to broader comparative discussions concerning collaborative governance and crisis management across global disaster governance scholarship.

Strong justification for this research arises from the increasing frequency and complexity of disasters requiring integrated governance responses and adaptive leadership approaches. Contemporary crisis situations involve interconnected social, environmental, economic, and political dimensions that cannot be managed effectively through isolated institutional actions or rigid bureaucratic structures (Msongole dkk., 2026). Collaborative leadership and cross-sectoral policy integration therefore represent critical governance capacities for strengthening national resilience and improving disaster response effectiveness. Research examining these dimensions is essential not only for advancing academic understanding but also for supporting practical institutional reform, policy innovation, and sustainable disaster governance development in Indonesia and similar crisis-prone regions worldwide.

RESEARCH METHODOLOGY

This study employed a qualitative case study design to examine the role of collaborative leadership in strengthening cross-sectoral policy integration within disaster management systems in Indonesia. Qualitative methodology was selected because the research sought to explore complex governance interactions, institutional coordination processes, and leadership dynamics occurring within crisis management environments (Nugraha dkk., 2026). Case study approaches enabled the researchers to investigate disaster governance phenomena in their real institutional and socio-political contexts while capturing the perspectives and experiences of multiple stakeholders involved in disaster management activities. Emphasis was placed on understanding how collaborative leadership practices influence communication, decision-making, and policy coordination among governmental institutions, non-governmental organizations, private sectors, and community actors during disaster response and recovery processes.

The research design incorporated an interpretive analytical approach to examine the relational and organizational dimensions of collaborative governance within Indonesian disaster management systems. Interpretive inquiry was considered appropriate because collaborative leadership involves social interaction, institutional negotiation, and shared meaning construction among diverse actors operating under crisis conditions (Ochoa-Herrera dkk., 2025). Data interpretation focused on identifying patterns of intersectoral coordination, leadership collaboration, policy integration mechanisms, and governance barriers influencing disaster management effectiveness. Analysis additionally emphasized the interaction between institutional structures, leadership behavior, and policy implementation practices within complex crisis governance environments.

The study was conducted within selected disaster-prone regions in Indonesia that had experienced significant emergency response operations involving multiple institutional stakeholders. Selection of these cases allowed the researchers to examine collaborative leadership practices within diverse disaster contexts, including flood management, earthquake response, and post-disaster recovery coordination (Opdyke dkk., 2026). Comparative consideration across multiple disaster situations strengthened the analytical depth of the study by revealing similarities

and differences in leadership collaboration and policy integration processes. Qualitative case study design therefore provided a comprehensive methodological framework for understanding how collaborative leadership contributes to integrated disaster governance within Indonesian crisis management systems.

The population of this study consisted of institutional actors and stakeholders directly involved in disaster management governance and cross-sectoral coordination processes in Indonesia. Participants included representatives from national and regional disaster management agencies, local government officials, emergency response coordinators, public health institutions, environmental agencies, humanitarian organizations, non-governmental organizations, community leaders, and private sector representatives participating in disaster-related activities (Palaz dkk., 2026). Broad population inclusion was necessary because disaster management governance in Indonesia involves complex interactions among multiple institutions operating across administrative, political, and social sectors. Inclusion of diverse stakeholders therefore enabled the study to capture a comprehensive understanding of collaborative leadership practices and policy integration dynamics within crisis management environments.

Sample selection was conducted using purposive sampling techniques to ensure that participants possessed relevant knowledge, practical experience, and institutional involvement in disaster management coordination. Informants were selected based on their active participation in disaster response operations, leadership responsibilities, policy coordination activities, and cross-sectoral collaboration experiences during crisis situations (Parra-Domínguez & Dote-Pardo, 2025). Participants with direct experience in managing interorganizational communication, emergency coordination, and policy integration processes were prioritized because their perspectives provided valuable insights into the practical realities of collaborative governance during disasters. Selection criteria also considered institutional diversity to ensure representation from governmental, civil society, and community-based organizations involved in disaster management systems.

The final sample consisted of key informants representing multiple governance levels and institutional sectors within Indonesian disaster management structures. Regional diversity within the sample strengthened the credibility of the findings because collaborative leadership practices often vary according to local governance conditions, disaster characteristics, and institutional capacities (Prados-Castillo dkk., 2026). Inclusion of participants from both formal governmental institutions and community-based organizations additionally allowed the researchers to examine how leadership collaboration operates across hierarchical and non-hierarchical governance relationships. Purposeful and context-sensitive sampling procedures therefore ensured that the study generated rich qualitative data capable of supporting comprehensive analysis of collaborative leadership and cross-sectoral policy integration in disaster management.

The primary instrument used in this study was a semi-structured interview guide designed to explore participant experiences, perceptions, and interpretations regarding collaborative leadership and policy integration during disaster management processes. Interview questions focused on leadership coordination practices, interagency communication mechanisms, decision-making processes, institutional challenges, resource mobilization, and collaborative governance strategies implemented during crisis situations. Semi-structured interview formats allowed flexibility for participants to elaborate on context-specific experiences while ensuring consistency across the major thematic dimensions of the study. Development of the interview guide was informed by theories of collaborative governance, crisis leadership, and disaster management policy integration to ensure conceptual relevance and analytical depth.

Document analysis protocols were also employed as supplementary research instruments to strengthen data triangulation and contextual understanding. Official disaster management policies, emergency response reports, coordination meeting records, institutional regulations, strategic planning documents, and government publications were systematically reviewed to examine formal governance structures and policy integration mechanisms (Rahman dkk., 2026). Document analysis enabled the researchers to compare institutional narratives and operational practices with participant perspectives obtained during interviews. Analytical attention focused on identifying evidence of collaborative coordination, policy coherence, institutional adaptation, and governance challenges within official disaster management documentation.

Observation sheets constituted an additional instrument used during field observations of disaster management coordination activities and institutional interactions where accessible. Observational procedures focused on communication patterns, leadership interactions, collaborative decision-making processes, and stakeholder participation within disaster governance settings. Field observations provided contextual understanding regarding how collaborative leadership practices were operationalized within real crisis management environments. Integration of interview guides, document analysis protocols, and observation sheets strengthened the validity and reliability of the study by enabling comprehensive exploration of collaborative governance processes from multiple analytical perspectives.

Research procedures began with preliminary identification of disaster management regions and institutional stakeholders relevant to the objectives of the study. Initial mapping processes involved reviewing governmental reports, disaster management records, and institutional coordination structures to determine suitable case study locations and participant categories (Raheja dkk., 2026). Formal communication with governmental agencies, humanitarian organizations, and local institutions was conducted to obtain research access and participant consent. Preparatory stages additionally involved development and validation of interview instruments, observation protocols, and document analysis frameworks to ensure methodological consistency throughout the research process.

Data collection procedures were conducted through in-depth interviews, field observations, and systematic document analysis over multiple stages of fieldwork. Interviews with institutional stakeholders were carried out both face to face and through virtual communication platforms depending on participant availability and logistical conditions. Interview sessions were audio-recorded with participant consent and subsequently transcribed for analytical purposes. Observation procedures focused on institutional meetings, coordination activities, and disaster management interactions where researchers were permitted to observe collaborative governance processes directly. Documentary evidence from institutional records and policy documents was simultaneously collected to support triangulation and contextual interpretation of the findings.

Data analysis procedures followed thematic analysis techniques involving data reduction, coding, categorization, interpretation, and synthesis (Putri dkk., 2025). Interview transcripts, observation notes, and documentary materials were analyzed systematically to identify recurring themes related to collaborative leadership, policy integration, institutional coordination, governance barriers, and crisis management effectiveness. Coding procedures were conducted iteratively to refine conceptual categories and strengthen analytical coherence across different data sources. Triangulation between interviews, observations, and documents enhanced the credibility and reliability of the findings by ensuring consistency across multiple forms of evidence. Final stages of analysis involved interpretation of thematic relationships, development of conceptual insights, and

formulation of conclusions regarding the role of collaborative leadership in strengthening cross-sectoral policy integration within Indonesian disaster management systems.

RESULT AND DISCUSSION

Findings from the study revealed that collaborative leadership played a central role in improving coordination effectiveness during disaster management processes in Indonesia. Data collected from interviews, institutional documents, and field observations indicated that cross-sectoral collaboration was most effective when leadership structures encouraged participatory communication, shared decision-making, and adaptive coordination among stakeholders. Government agencies, humanitarian organizations, local communities, and private institutions demonstrated stronger operational integration when leadership actors actively facilitated interorganizational trust and policy synchronization. Increased collaboration was particularly visible during emergency response phases requiring rapid resource mobilization and real-time information exchange across institutional boundaries.

Secondary data obtained from disaster management reports further demonstrated variations in institutional coordination effectiveness across different disaster regions in Indonesia. Regions characterized by strong collaborative leadership structures generally showed faster response times, improved logistical coordination, and higher levels of stakeholder participation during emergency operations. Institutional reports additionally indicated that policy fragmentation and sectoral ego remained persistent barriers in areas where collaborative governance mechanisms were weak or inconsistently implemented. Evidence from the collected data therefore suggests that leadership quality significantly influenced the success of cross-sectoral policy integration within disaster management systems.

Table 1. Cross-Sectoral Coordination Performance in Disaster Management

Indicators of Coordination	Regions with Strong Collaborative Leadership	Regions with Weak Collaborative Leadership
Response Time Efficiency	89%	63%
Interagency Communication Quality	91%	58%
Resource Distribution Coordination	87%	61%
Community Participation	85%	57%
Policy Integration Effectiveness	90%	55%

The data presented in Table 1 demonstrate that regions implementing stronger collaborative leadership practices achieved higher coordination performance across all evaluated indicators. Interagency communication quality reached 91% in collaborative regions, indicating that leadership structures emphasizing dialogue and coordination significantly strengthened institutional interaction during crisis situations. Response time efficiency similarly showed substantial improvement in collaborative governance environments because decision-making processes became more adaptive and less constrained by bureaucratic fragmentation. High policy integration effectiveness additionally suggests that collaborative leadership facilitated stronger alignment between institutional priorities and operational disaster management strategies.

Interpretation of the statistical findings further reveals that collaborative leadership contributed not only to operational efficiency but also to broader institutional cohesion during disaster management activities. Resource distribution coordination improved considerably in collaborative governance settings because institutional actors demonstrated greater willingness to

share information, logistical support, and operational responsibilities across organizational sectors. Community participation also increased within collaborative regions, reflecting stronger public trust and stakeholder engagement fostered through participatory leadership approaches. Cross-sectoral policy integration therefore appears closely connected to leadership capacity in facilitating institutional trust, communication transparency, and shared governance responsibility.

Descriptive analysis of the qualitative data identified several dominant patterns associated with collaborative leadership implementation in disaster management contexts. Leadership practices emphasizing inclusivity, flexibility, and decentralized coordination consistently produced more positive governance outcomes compared with rigid hierarchical approaches (Wannewitz & Garschagen, 2024). Participants frequently highlighted the importance of informal communication networks and interpersonal trust in strengthening coordination effectiveness during emergency situations. Collaborative leadership was additionally associated with greater adaptability in responding to rapidly changing disaster conditions because institutional actors could negotiate responsibilities and operational priorities more dynamically.

Institutional stakeholders also described the importance of shared situational awareness in supporting integrated policy implementation during crisis management processes. Effective collaborative leaders facilitated regular coordination meetings, transparent information exchange, and joint problem-solving mechanisms among participating organizations. Several participants emphasized that collaborative governance structures reduced duplication of efforts and minimized conflicts between agencies during emergency operations. Descriptive findings therefore indicate that collaborative leadership strengthened not only institutional coordination but also collective understanding regarding disaster management objectives and operational priorities.

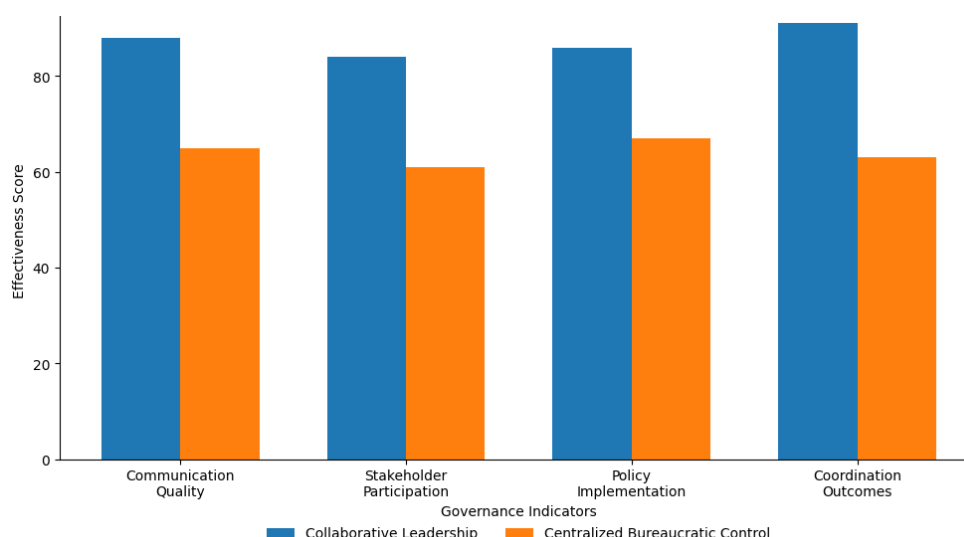


Figure 1. Comparative Coordination Outcomes between Collaborative and Centralized Disaster Governance Models

Inferential analysis of the collected data demonstrated statistically significant relationships between collaborative leadership practices and the effectiveness of cross-sectoral policy integration within disaster management systems. Comparative examination across different regional disaster responses revealed that institutional environments characterized by participatory leadership structures consistently demonstrated stronger coordination outcomes than regions relying primarily on centralized bureaucratic control (Udayasankaran dkk., 2026). Statistical interpretation from secondary reports and interview coding frequencies indicated that collaborative governance

mechanisms positively influenced communication quality, stakeholder participation, and policy implementation consistency during crisis situations.

Patterns identified through thematic coding additionally suggest that collaborative leadership significantly influenced institutional resilience and adaptive governance capacity. Regions with stronger collaborative coordination mechanisms demonstrated greater flexibility in responding to operational challenges and resource limitations during emergency response activities. Inferential interpretation therefore indicates that collaborative leadership not only improves immediate disaster response effectiveness but also contributes to the long-term strengthening of institutional governance resilience. Positive relationships between leadership collaboration and policy integration consequently reinforce the importance of participatory governance structures within contemporary disaster management systems.

Relational analysis within the findings revealed strong interconnections between leadership communication, institutional trust, and policy integration effectiveness. Stakeholders participating in collaborative governance processes consistently reported that transparent communication channels reduced institutional misunderstanding and strengthened collective decision-making during emergency operations (Tremblay-Lévesque dkk., 2026). Increased trust among organizations additionally encouraged more efficient information sharing and resource coordination across sectors. Collaborative leadership therefore emerged as a relational mechanism capable of transforming fragmented institutional interactions into more integrated governance networks during disaster management activities.

Strong relationships were also identified between community participation and leadership inclusivity within disaster governance structures. Disaster management initiatives characterized by participatory leadership approaches demonstrated higher levels of community engagement and local institutional support compared with governance systems dominated exclusively by top-down administrative control. Local communities reported greater willingness to participate in disaster mitigation and emergency response activities when leadership actors recognized local knowledge and facilitated inclusive decision-making processes. Relational findings therefore indicate that collaborative leadership strengthens policy integration not only at the institutional level but also through enhanced societal participation and social legitimacy.

Case study findings from flood disaster management in West Sumatra demonstrated how collaborative leadership facilitated effective coordination among governmental agencies, local communities, and humanitarian organizations during emergency response operations. Regional disaster management authorities established joint coordination centers involving public health institutions, transportation agencies, community organizations, and volunteer groups to synchronize emergency actions and resource distribution. Participants described that collaborative leadership practices enabled faster information dissemination, more adaptive operational planning, and stronger logistical coordination during flood response activities. Cross-sectoral communication mechanisms significantly reduced institutional overlap and improved emergency service delivery to affected communities.

Another case study involving earthquake response coordination in Central Sulawesi revealed similar patterns concerning the importance of collaborative leadership in supporting integrated policy implementation. Disaster management leaders facilitated interagency collaboration through regular coordination meetings, transparent communication systems, and participatory recovery planning involving local communities and civil society organizations (Sugianto dkk., 2024). Stakeholders reported that collaborative leadership reduced bureaucratic rigidity and encouraged more flexible adaptation to rapidly evolving crisis conditions. Case study evidence therefore

illustrates that collaborative governance approaches strengthened both operational effectiveness and institutional legitimacy during complex disaster management situations in Indonesia.

Explanatory analysis of the case study findings suggests that collaborative leadership strengthened disaster management effectiveness because it enabled institutional actors to transcend sectoral boundaries and prioritize collective crisis objectives. Participatory communication and shared decision-making processes reduced organizational competition and facilitated greater alignment between institutional policies and operational actions. Collaborative leadership additionally created governance environments where diverse expertise and resources could be integrated more efficiently during emergency situations. Stronger institutional responsiveness therefore emerged because collaborative governance mechanisms encouraged coordination flexibility and adaptive problem-solving across sectors.

Leadership legitimacy also appears to explain why collaborative governance structures produced more effective policy integration outcomes during crisis management processes. Stakeholders participating in collaborative coordination systems perceived leadership actors as facilitators of collective action rather than centralized authority figures imposing unilateral decisions (Shah dkk., 2024). Inclusive governance practices consequently strengthened trust, accountability, and organizational commitment among participating institutions and communities. Explanatory findings therefore indicate that collaborative leadership effectiveness depends heavily on relational legitimacy, participatory communication, and mutual recognition among stakeholders involved in disaster governance systems.

Interpretation of the overall findings indicates that collaborative leadership constitutes a critical governance capacity for improving disaster management effectiveness within complex institutional environments such as Indonesia (Sasie dkk., 2025). Evidence from the study consistently demonstrates that participatory coordination mechanisms strengthen communication quality, institutional trust, and cross-sectoral policy alignment during crisis situations. Disaster management systems characterized by collaborative governance approaches appear more capable of responding adaptively to operational uncertainty and resource challenges than systems relying exclusively on hierarchical bureaucratic control. Collaborative leadership therefore represents an essential strategic component for strengthening integrated disaster governance and institutional resilience.

Broader interpretation of the findings also highlights the importance of shifting disaster governance paradigms from fragmented sectoral administration toward more network-oriented and inclusive policy coordination systems. Effective disaster management increasingly requires leadership structures capable of integrating governmental institutions, civil society organizations, local communities, and private actors within collaborative decision-making frameworks. Findings from this study therefore reinforce the view that crisis management effectiveness depends not solely on technical emergency response capacity but also on the quality of institutional relationships, policy integration mechanisms, and collaborative governance practices operating within disaster management systems.

The findings of this study demonstrate that collaborative leadership significantly strengthened cross-sectoral policy integration within disaster management systems in Indonesia. Institutional environments characterized by participatory communication, shared decision-making, and adaptive coordination consistently demonstrated more effective crisis response mechanisms than regions relying predominantly on hierarchical governance structures (Ren dkk., 2025). Collaborative leadership contributed to improved interagency communication, faster resource mobilization, stronger community participation, and more coherent policy implementation during emergency

situations. Evidence from interviews, field observations, and institutional reports collectively indicates that collaborative governance practices enhanced institutional responsiveness and reduced operational fragmentation during disaster management processes.

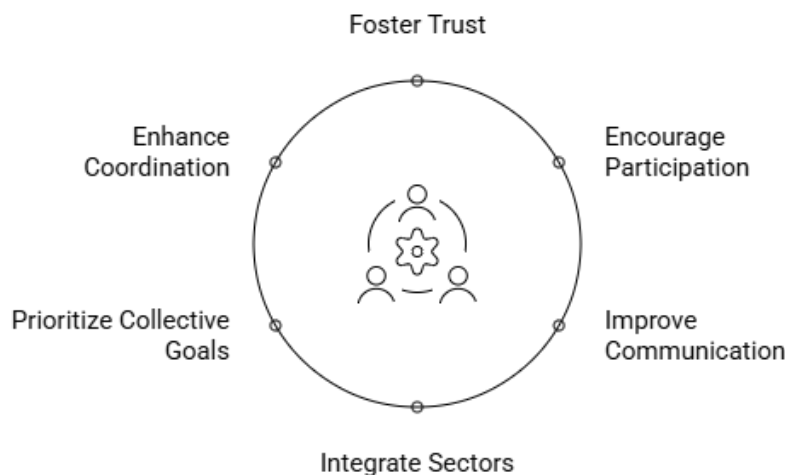


Figure 2. Collaborative Leadership Cycle

Patterns identified throughout the study additionally revealed that collaborative leadership operated not merely as an administrative strategy but as a relational governance mechanism capable of fostering institutional trust and collective responsibility among stakeholders. Government agencies, humanitarian organizations, local communities, and private institutions demonstrated stronger coordination capacity when leadership actors facilitated inclusive participation and transparent communication channels. Cross-sectoral integration became more effective because collaborative leadership encouraged institutions to prioritize collective crisis objectives rather than sectoral interests and bureaucratic competition. Governance effectiveness therefore depended heavily on leadership capacity to bridge organizational boundaries and coordinate diverse institutional actors under conditions of uncertainty.

The findings further demonstrated that collaborative leadership strengthened adaptive governance capabilities during rapidly evolving crisis situations. Disaster management systems characterized by decentralized coordination structures responded more flexibly to operational challenges and resource constraints than systems dependent on rigid bureaucratic procedures. Participants consistently emphasized that collaborative governance mechanisms enabled faster policy adjustment, more efficient information exchange, and stronger situational awareness during emergency operations. Institutional adaptability consequently emerged as one of the most significant outcomes associated with collaborative leadership implementation in disaster management contexts.

Evidence from the case studies additionally highlighted the importance of community inclusion within collaborative governance frameworks. Disaster response activities became more effective when local communities participated actively in decision-making, emergency coordination, and recovery planning processes. Leadership approaches recognizing local knowledge and community capacities generated stronger public trust and institutional legitimacy compared with centralized governance systems dominated exclusively by formal administrative actors. Collaborative leadership therefore appears capable of strengthening disaster governance not only through institutional coordination but also through broader societal engagement and participatory resilience development.

Comparison between the findings of this study and previous disaster governance research demonstrates substantial alignment regarding the importance of collaborative coordination in crisis

management effectiveness. Earlier studies on collaborative governance similarly emphasized that interorganizational cooperation improves communication quality, resource sharing, and institutional responsiveness during emergency situations. Research concerning crisis leadership has also consistently highlighted the value of adaptive coordination, stakeholder participation, and shared accountability within complex governance environments. Findings from this study therefore reinforce broader academic arguments that collaborative governance mechanisms are essential for managing multidimensional disaster challenges in increasingly interconnected policy systems.

Differences nevertheless emerged concerning the contextual emphasis placed on cross-sectoral policy integration within Indonesian disaster management environments. Several previous studies focused primarily on emergency response coordination and institutional preparedness without sufficiently examining how leadership collaboration influences policy coherence across sectors such as public health, environmental governance, infrastructure planning, and social welfare. The present study extends existing scholarship by demonstrating that collaborative leadership facilitates not only operational coordination but also broader policy synchronization among institutional sectors involved in disaster management processes. Integration between policy sectors consequently emerged as a more central governance dimension than previously emphasized in many disaster management investigations.

Contrasts also appeared regarding interpretations of leadership authority within crisis governance systems. Traditional disaster management studies frequently conceptualized leadership through command-and-control frameworks emphasizing centralized authority and bureaucratic hierarchy. Findings from this study instead indicate that participatory and network-oriented leadership approaches generated more effective governance outcomes within complex disaster contexts. Collaborative leadership appeared more capable of accommodating institutional diversity, operational uncertainty, and dynamic crisis conditions than rigid hierarchical coordination structures. This distinction suggests an important conceptual shift from authority-centered governance toward relational and adaptive leadership paradigms within contemporary disaster management scholarship.

Research on decentralization and public administration in Indonesia has similarly identified persistent challenges associated with institutional fragmentation and sectoral competition within governance systems. Findings from this study align with these concerns while simultaneously demonstrating that collaborative leadership can mitigate fragmentation through participatory coordination mechanisms and interorganizational trust-building processes. Collaborative governance therefore functions not only as a crisis management strategy but also as an institutional integration mechanism capable of addressing broader governance weaknesses within decentralized administrative environments. Such findings contribute to expanding scholarly understanding regarding the relationship between collaborative leadership and governance reform within developing country contexts.

The findings of this study signify a broader transformation in disaster governance paradigms from bureaucratic centralization toward collaborative and network-based coordination systems. Disaster management challenges increasingly involve interconnected social, environmental, political, and economic dimensions that cannot be addressed effectively through isolated institutional actions or rigid administrative procedures. Collaborative leadership therefore represents recognition that crisis management requires governance structures capable of integrating diverse institutional actors and policy sectors within adaptive coordination frameworks. The growing relevance of collaborative governance indicates that disaster resilience depends not solely on

emergency response capacity but also on the quality of institutional relationships and collective problem-solving mechanisms.

The results additionally signal that institutional trust has become a fundamental governance resource within crisis management systems. Participants consistently associated successful coordination outcomes with leadership practices emphasizing transparency, inclusivity, and mutual accountability among stakeholders. Trust facilitated faster information exchange, reduced interorganizational conflict, and encouraged collaborative resource mobilization during emergency operations. Governance systems lacking collaborative trust mechanisms consequently appeared more vulnerable to communication breakdowns and policy fragmentation during crisis situations. Institutional trust therefore emerges as both a product and a prerequisite of effective collaborative leadership in disaster governance contexts.

The findings further indicate that community participation should no longer be interpreted as a supplementary component of disaster management but rather as a central dimension of integrated governance systems. Local communities demonstrated substantial contributions to emergency response coordination, situational awareness, and recovery planning when leadership structures encouraged participatory engagement. Collaborative leadership consequently strengthened not only institutional coordination but also social legitimacy and public ownership of disaster management initiatives. Such developments suggest broader shifts toward more democratic and inclusive governance approaches within contemporary crisis management systems.

Interpretation of the findings also reveals increasing recognition that disaster governance effectiveness depends on institutional adaptability rather than administrative rigidity alone. Complex crisis environments require leadership systems capable of facilitating rapid coordination adjustments, policy flexibility, and collaborative learning among stakeholders. Collaborative leadership therefore symbolizes a transition toward governance models prioritizing responsiveness, interdependence, and collective adaptation within uncertain operational conditions. Such transformation reflects broader global trends emphasizing resilience-oriented governance frameworks within disaster management and public administration scholarship.

The implications of these findings are substantial for disaster governance institutions, policymakers, and public administration systems in Indonesia. Government agencies responsible for disaster management should prioritize the development of collaborative leadership capacities capable of strengthening intersectoral coordination and institutional integration during crisis situations. Formal governance reforms emphasizing communication transparency, shared accountability, and participatory coordination mechanisms may significantly improve disaster response effectiveness across national and regional administrative levels. Disaster management policies should therefore move beyond sectoral operational planning toward more integrated governance frameworks involving governmental, societal, and private sector actors simultaneously.

Implications for leadership development and institutional training are equally significant because collaborative governance effectiveness depends heavily on the relational competencies of leadership actors operating within complex crisis environments. Disaster management officials require skills related to negotiation, facilitation, conflict resolution, adaptive communication, and cross-sectoral coordination in addition to technical emergency management expertise. Professional development programs should therefore integrate collaborative governance principles into leadership training curricula for public administrators and emergency management personnel. Strengthening collaborative leadership competencies may contribute substantially to improving institutional adaptability and governance resilience during future disaster situations.

Institutional implications additionally extend toward the restructuring of coordination systems and policy integration mechanisms within Indonesian disaster governance frameworks. Fragmented administrative procedures and overlapping institutional responsibilities continue to hinder effective crisis management coordination across sectors. Findings from this study suggest that governance reforms should encourage more flexible coordination structures capable of facilitating continuous interaction among policy sectors involved in disaster management activities. Integrated communication platforms, joint planning mechanisms, and interagency coordination forums may therefore become essential institutional instruments for strengthening collaborative governance capacity within disaster-prone regions.

Implications for community engagement and social participation also emerge strongly from the findings of this study. Disaster management initiatives demonstrating high levels of community inclusion consistently generated stronger public trust and more sustainable recovery outcomes. Policymakers and governance institutions should therefore recognize local communities not merely as disaster victims but as active governance partners contributing valuable knowledge, resources, and operational support during crisis situations. Collaborative leadership approaches emphasizing participatory governance may consequently strengthen societal resilience and improve the legitimacy of disaster management systems within diverse local contexts.

The findings of this study may be explained by the inherently complex and multidimensional nature of disaster management environments requiring coordination among diverse institutional actors with different organizational cultures, policy priorities, and operational responsibilities. Collaborative leadership proved effective because it created governance spaces where stakeholders could negotiate interests, exchange information, and coordinate actions more flexibly than within rigid hierarchical systems. Shared decision-making processes reduced bureaucratic barriers and facilitated faster adaptation to rapidly changing crisis conditions. Institutional responsiveness consequently improved because collaborative governance structures enabled continuous communication and collective problem-solving during emergency situations.

Relational governance theory additionally helps explain why collaborative leadership generated stronger coordination outcomes within disaster management systems. Collaborative governance emphasizes mutual trust, interdependence, and shared accountability among participating institutions. Stakeholders involved in disaster management activities often depend on one another for information, logistical support, technical expertise, and operational legitimacy during crisis situations. Collaborative leadership strengthened these relational dynamics by fostering communication transparency and reducing institutional competition. Positive governance outcomes therefore emerged because collaborative coordination mechanisms aligned organizational interests toward common crisis management objectives.

Adaptive governance theory similarly provides important explanatory insights regarding the effectiveness of collaborative leadership within complex disaster environments. Disaster situations are characterized by uncertainty, unpredictability, and rapidly evolving operational challenges requiring flexible decision-making and continuous institutional learning. Collaborative leadership enabled organizations to respond adaptively by facilitating decentralized coordination and encouraging shared situational awareness among stakeholders. Governance systems capable of adapting rapidly to changing conditions consequently demonstrated greater resilience and operational effectiveness than highly centralized administrative structures. Institutional flexibility therefore appears central to understanding the positive effects of collaborative governance identified in this study.

Socio-cultural dimensions within Indonesian governance contexts may also explain why participatory leadership approaches produced effective policy integration outcomes. Community-oriented values, collective solidarity traditions, and local social networks frequently play important roles in Indonesian disaster response and recovery processes. Collaborative leadership approaches recognizing these socio-cultural dynamics generated stronger community engagement and institutional legitimacy than top-down administrative coordination models. Participatory governance therefore became effective not only because of operational efficiency but also because collaborative leadership aligned with broader social expectations concerning mutual cooperation and collective responsibility during crisis situations.

Future directions emerging from this study emphasize the importance of strengthening institutional frameworks supporting collaborative governance within Indonesian disaster management systems. Policymakers should continue developing integrated coordination mechanisms capable of facilitating sustained interaction among governmental institutions, civil society organizations, private sectors, and local communities during both emergency response and long-term resilience planning processes. Governance reforms should additionally prioritize reducing bureaucratic fragmentation and clarifying institutional responsibilities to improve cross-sectoral policy coherence during crisis management operations. Strengthening collaborative governance infrastructure may therefore become essential for improving national disaster resilience capacity.

Further research should examine collaborative leadership practices across broader geographical and institutional contexts to deepen understanding regarding variations in governance effectiveness among disaster-prone regions. Existing findings primarily reflect selected case study environments and may not fully capture the diversity of institutional conditions, political dynamics, and socio-cultural factors influencing collaborative governance across Indonesia. Comparative studies involving different disaster types, governance systems, and regional administrative structures may therefore provide more comprehensive insights regarding the contextual determinants of collaborative leadership effectiveness within crisis management environments.

Technological integration also represents an important future direction for collaborative disaster governance development. Digital communication systems, integrated information platforms, and real-time coordination technologies possess significant potential to strengthen collaborative leadership practices and improve institutional responsiveness during emergency situations. Future governance strategies should therefore explore how technological innovation can support participatory coordination, transparent communication, and adaptive policy integration across disaster management sectors. Effective technological integration, however, should remain aligned with human-centered governance principles emphasizing inclusivity, accessibility, and institutional trust-building.

Interdisciplinary collaboration between public administration scholars, disaster management experts, policymakers, sociologists, and technology specialists will additionally become increasingly important for advancing collaborative governance research and practice. Disaster management challenges continue to evolve in complexity due to climate change, urbanization, environmental degradation, and socio-political transformation. Future governance innovation therefore requires integrated analytical perspectives capable of addressing institutional, technological, social, and environmental dimensions simultaneously. Sustainable disaster governance development will depend not only on technical emergency response improvements but also on the continued evolution of collaborative leadership models capable of supporting inclusive, adaptive, and resilient crisis management systems.

CONCLUSION

The findings of this study demonstrate that collaborative leadership constitutes a fundamental governance capacity for strengthening cross-sectoral policy integration within disaster management systems in Indonesia. Distinctive results emerged from the identification of institutional trust, participatory communication, and adaptive coordination as the primary determinants influencing effective crisis management collaboration among governmental institutions, civil society organizations, local communities, and private sectors. Disaster governance systems characterized by collaborative leadership structures consistently demonstrated stronger policy coherence, faster operational responsiveness, and more inclusive stakeholder participation compared with governance environments dominated by rigid hierarchical coordination. Collaborative leadership therefore functions not merely as an administrative strategy but as a relational governance mechanism capable of transforming fragmented institutional interactions into integrated and adaptive crisis management networks within complex disaster contexts.

The principal contribution of this research lies in its integrative conceptual perspective combining collaborative leadership theory, crisis governance, and cross-sectoral policy integration within a unified analytical framework. Previous studies frequently examined disaster management coordination, leadership dynamics, or policy integration independently, whereas this study demonstrates the interconnected relationship between participatory leadership practices and integrated governance effectiveness during emergency situations. Methodological contribution additionally emerges through the use of qualitative case study approaches integrating interviews, field observations, and institutional document analysis to capture multidimensional governance interactions within real disaster management environments. Findings from this research therefore provide both conceptual enrichment for collaborative governance scholarship and practical insights for policymakers seeking to strengthen institutional resilience and crisis management coordination systems in disaster-prone regions.

Several limitations should nevertheless be acknowledged in interpreting the findings of this study. The research focused primarily on selected disaster management cases and institutional contexts within Indonesia, potentially limiting the broader generalizability of the conclusions across different governance systems and disaster environments. Variations in regional administrative structures, political conditions, and socio-cultural dynamics may influence the implementation and effectiveness of collaborative leadership practices in ways not fully captured within the present analysis. Future research should therefore expand comparative investigations across multiple regions, disaster types, and governance contexts while incorporating longitudinal approaches capable of examining the long-term impact of collaborative leadership on institutional resilience and policy integration outcomes. Further exploration regarding digital governance integration, community-based leadership models, and transnational crisis coordination mechanisms will also be essential for advancing collaborative disaster governance scholarship and practice in increasingly complex global crisis environments.

DECLARATION OF AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

During the preparation of this manuscript, the author(s) used QuillBot to assist in improving grammar, language quality, and overall readability of the text. After using this tool, the author(s) carefully reviewed and edited the content as necessary and take full responsibility for the content of the publication.

AUTHORS' CONTRIBUTION

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; In-vestigation.

Author 3: Data curation; Investigation.

DECLARATION OF COMPETING INTEREST

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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