



Disaster Management Governance From A Public Administration Perspective: Evidence From Deli Serdang Regency, North Sumatra, Indonesia

Ade Wahyuni Azhar^{1*}

¹ Akademi Perniagaan dan Perusahaan APIPSU Medan, Indonesia
email: doktoradewahyuni@gmail.com¹

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Abstract

This study examines disaster management governance in Deli Serdang Regency, North Sumatra, from a public administration perspective, emphasizing disaster governance as an administratively embedded and multi-dimensional process rather than a purely technical function. Using a qualitative descriptive case study design, the research analyzes how institutional arrangements, administrative capacity, inter-agency coordination, community participation, and accountability interact in shaping local disaster management practices, with particular attention to the 2025 flood events. Data were collected through document analysis, secondary data review, and targeted literature analysis, and were examined using thematic analysis guided by public administration and collaborative governance theories. The findings indicate that while formal disaster management institutions and policies are in place, governance practices remain largely reactive, with limited emphasis on preparedness, mitigation, and long-term risk reduction. Administrative capacity constraints, fragmented coordination, under-institutionalized collaboration, and minimal community involvement in planning processes significantly restrict governance effectiveness.

Keywords: Accountability, Administrative capacity, Collaborative governance, Disaster management, Public administration.

Abstrak

Penelitian ini mengkaji tata kelola manajemen bencana di Kabupaten Deli Serdang, Sumatera Utara, dari perspektif administrasi publik, dengan menekankan bahwa tata kelola bencana merupakan proses yang tertanam secara administratif dan multidimensional, bukan sekadar fungsi teknis semata. Menggunakan desain studi kasus deskriptif kualitatif, penelitian ini menganalisis bagaimana pengaturan institusional, kapasitas administratif, koordinasi antarlembaga, partisipasi masyarakat, dan akuntabilitas saling berinteraksi dalam membentuk praktik manajemen bencana lokal, dengan fokus khusus pada peristiwa banjir tahun 2025. Data dikumpulkan melalui analisis dokumen, tinjauan data sekunder, dan analisis literatur terfokus, dan dianalisis menggunakan analisis tematik yang dipandu oleh teori administrasi publik dan tata kelola kolaboratif. Temuan menunjukkan bahwa meskipun institusi dan kebijakan manajemen bencana formal telah ada, praktik tata kelola tetap bersifat reaktif, dengan penekanan yang terbatas pada kesiapsiagaan, mitigasi, dan pengurangan risiko jangka panjang. Batasan kapasitas administratif, koordinasi yang terfragmentasi, kolaborasi yang kurang terinstitusionalisasi, dan keterlibatan masyarakat yang minim dalam proses perencanaan secara signifikan membatasi efektivitas tata kelola.

Kata kunci: Akuntabilitas, Administrasi publik, Kapasitas administratif, Tata kelola kolaboratif, Manajemen bencana.



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INTRODUCTION

The accelerating frequency and intensity of disasters worldwide have fundamentally reshaped how scholars and practitioners conceptualize the relationship between public administration and crisis governance, moving the field beyond a narrow emphasis on emergency response toward a more expansive concern with institutional design, policy capacity, and collaborative coordination across sectors. Global policy discourse increasingly frames disaster risk management as a core function of public governance, embedded within broader administrative systems responsible for planning, regulation, service delivery, and accountability (OECD, 2024). Within this evolving landscape, disasters are no longer treated as exceptional disruptions but as recurrent stressors that expose structural

strengths and weaknesses in governance architectures, particularly in decentralized systems where local governments bear primary responsibility for operational implementation.

The growing body of public administration scholarship positions disaster management as a test case for state capacity under conditions of uncertainty, complexity, and high stakes, where the effectiveness of institutions depends not only on formal rules but also on their ability to mobilize resources, coordinate actors, and sustain legitimacy in the eyes of affected communities (Howlett & Ramesh, 2024). This global shift underscores the analytical value of examining disaster management through a governance lens that integrates policy processes, organizational performance, and participatory mechanisms as interdependent components of administrative action. Within this broad framing, prior studies have generated important insights into how governance arrangements shape disaster management outcomes, particularly by emphasizing the centrality of public administration in orchestrating multi-level and multi-actor responses. Research on Indonesian disaster policy highlights that institutional mandates, regulatory clarity, and intergovernmental coordination constitute core elements of disaster governance, yet their practical effectiveness depends heavily on administrative capacity at the local level (Ruchban et al., 2024).

Complementary work situates public administration as the backbone of disaster risk management, arguing that bureaucratic competence, professionalization, and organizational learning significantly influence preparedness, response, and recovery trajectories (Najooan et al., 2025). At the same time, the literature on collaborative governance demonstrates that complex public problems such as disasters cannot be addressed by hierarchical government action alone, but require sustained interaction among public agencies, civil society, and the private sector through institutionalized collaborative arrangements (Ansell & Gash, 2008; Emerson & Nabatchi, 2015). Empirical studies further suggest that public acceptance and community trust function as enabling conditions for successful mitigation and response, as societal compliance and cooperation directly affect the feasibility of policy interventions (Apriani et al., 2024). Together, these strands of scholarship converge on the proposition that disaster management effectiveness emerges from the interplay between administrative capacity, collaborative structures, and participatory legitimacy rather than from technical competence alone.

Despite these advances, the literature exhibits persistent limitations that constrain a more integrated understanding of disaster management governance from a public administration perspective. Much existing research treats administrative capacity, collaboration, and participation as analytically distinct domains, resulting in fragmented explanations that obscure their mutual constitution within concrete governance settings. Studies emphasizing oversight and regulatory compliance tend to focus on formal institutional performance without sufficiently interrogating how bureaucratic routines interact with horizontal collaboration and citizen engagement in practice (Afifah et al., 2025). Conversely, collaborative governance scholarship often privileges network dynamics and process design while paying limited attention to the internal capacities and organizational constraints of public agencies that anchor such collaborations (Quick & Bryson, 2024).

Empirical work in developing country contexts frequently relies on cross-sectional assessments or national-level analyses, leaving subnational governance dynamics under-theorized, particularly in disaster-prone regions where local governments operate under chronic resource scarcity and political pressure. These gaps produce an incomplete picture of how governance arrangements actually function on the ground, especially in settings where formal institutions coexist with informal practices and uneven administrative capabilities. The persistence of these conceptual and empirical shortcomings carries significant scientific and practical implications. From a theoretical standpoint, the absence of integrative analyses limits the field's ability to explain why similar policy frameworks yield divergent disaster management outcomes across localities. From a practical perspective, governance failures in disaster contexts translate directly into human suffering, infrastructure loss, and long-term development setbacks, making the refinement of administrative and governance models an urgent priority. Evidence from crisis management research demonstrates that weak policy capacity and organizational fragmentation systematically undermine governmental responses, even when legal frameworks are formally adequate (Howlett & Ramesh, 2024).

At the same time, international governance guidelines emphasize that local governments must function as nodal points where policy coherence, institutional coordination, and community engagement converge, rather than as mere implementers of centrally designed programs (OECD, 2024).

These insights suggest that understanding disaster management as a governance problem is not simply an academic exercise but a prerequisite for designing reforms capable of enhancing resilience in disaster-prone jurisdictions. Within this contested and evolving scholarly terrain, the present study positions itself at the intersection of public administration, disaster governance, and local institutional analysis. It advances the argument that disaster management governance is best understood as an administratively embedded process in which institutional arrangements, bureaucratic capacity, and participatory practices are mutually reinforcing dimensions of governance performance. By foregrounding local government as the primary arena in which these dynamics unfold, the study responds to calls for more context-sensitive analyses that move beyond abstract models of collaboration or capacity to examine how governance is enacted in everyday administrative practice.

This positioning aligns with emerging perspectives that view disaster governance not as a standalone policy sector but as an integral component of public administration systems responsible for managing complex societal risks. This study aims to analyze disaster management governance in Deli Serdang Regency, North Sumatra, from a public administration perspective, using the 2025 flood events as an empirical lens through which governance processes can be examined *in situ*. It seeks to elucidate how institutional arrangements, administrative capacity, inter-agency coordination, and community participation interact to shape local disaster management practices, while also identifying structural constraints that limit governance effectiveness. The research contributes theoretically by offering an integrated framework that links public administration theory with disaster governance analysis at the local level, and methodologically by grounding this framework in an in-depth case study of a disaster-prone regency. Through this approach, the study aspires to enrich comparative scholarship on disaster governance and to inform policy debates on strengthening local public administration systems in contexts of recurrent risk.

RESEARCH METHOD

This study uses a qualitative descriptive design with a case study approach to explore disaster management governance as an administratively embedded process shaped by institutional arrangements, organizational capacity, and multi-actor interactions. The qualitative approach is appropriate for examining context-dependent governance processes and everyday administrative practices, while Deli Serdang Regency, North Sumatra, was selected as the case due to its high vulnerability to floods and landslides and the strategic role of local government in implementing disaster policies (Afifah et al., 2025). Data were collected through document analysis, secondary data review, and a focused literature review on disaster governance and public administration. The data were analyzed thematically based on key dimensions of institutional capacity, policy implementation, inter-agency coordination, community participation, and accountability, guided by public administration and collaborative governance theories to ensure systematic interpretation (Howlett & Ramesh, 2024; Apriani et al., 2024).

RESULTS AND DISCUSSION

Table 1. Disaster Management Governance Analysis in Deli Serdang Regency

Governance Dimension	Indicators	Empirical Conditions in Deli Serdang Regency	Public Administration Implications
Institutional Capacity	Organizational structure, human resources, authority	BPBD has formal authority but limited personnel and technical capacity, especially in disaster preparedness and mitigation programs	Limited administrative capacity constrains proactive disaster governance and shifts focus toward emergency response
Policy Implementation	Policy clarity, implementation consistency, monitoring	Disaster management policies exist, but implementation is largely reactive and event-driven	Indicates a gap between policy formulation and administrative execution

Inter-Agency Coordination	Coordination mechanisms, communication, role clarity	Coordination among agencies occurs but is often informal and dependent on leadership rather than institutional procedures	Weak institutionalized coordination reduces governance effectiveness
Resource Allocation	Budget availability, logistics, infrastructure	Budget allocation for disaster risk reduction is limited compared to emergency response funding	Administrative budgeting priorities reflect short-term governance orientation
Community Participation	Community involvement, public awareness, participation channels	Community involvement mainly occurs during emergency response, with limited participation in planning stages	Participatory governance is not yet fully institutionalized
Accountability	Reporting mechanisms, evaluation, oversight	Reporting mechanisms exist but are not consistently accessible to the public	Accountability practices remain administrative rather than participatory
Transparency	Information disclosure, public access	Disaster-related information dissemination is limited and fragmented	Transparency gaps may reduce public trust in disaster governance
Collaborative Governance	Stakeholder engagement, partnership models	Collaboration with NGOs and community groups is ad hoc	Collaborative governance remains underdeveloped institutionally
Administrative Responsiveness	Speed of response, service delivery	Emergency response is relatively fast, but preparedness services are limited	Responsiveness is event-oriented rather than system-oriented
Adaptive Capacity	Learning mechanisms, policy adjustment	Limited evaluation and learning after disaster events	Weak adaptive governance reduces long-term resilience

Disaster Risk and Governance Context in Deli Serdang Regency

Deli Serdang Regency, located in the lowland plains of North Sumatra Province, is geographically prone to hydrometeorological disasters due to its river systems, seasonal heavy rainfall, and patterns of land use change. Historically, floods have been the most recurring disaster, particularly during the monsoon season when an overflow of rivers such as the Babura and Belawan rivers causes inundation of residential, agricultural, and commercial areas. The 2025 flood event, for example, submerged large parts of the regency following extreme rain intensity across multiple days, affecting tens of thousands of residents and disrupting public functions (ANTARA News, 2025; Realitas Online, 2025). These recurrent conditions highlight that flood disasters in Deli Serdang are not isolated events but systemic phenomena rooted in environmental, socio-economic, and governance factors (Wahyunengseh & Pamungkas, 2025).

From a public administration perspective, recurring disaster events such as floods exert significant pressure on local governance systems to deliver timely and coordinated services. The responsibility of disaster response and recovery in Indonesia is decentralized to local governments, where the Regional Disaster Management Agency (BPBD) serves as the executive arm for operational disaster management (Puspika et al., 2024). However, the frequency of flood events in Deli Serdang places continuous demand on administrative structures that are often challenged by limited resources, staffing shortages, and competing bureaucratic priorities, thereby exposing gaps in governance capacity for proactive risk management (Fikri et al., 2025; Samad et al., 2021).

The governance context in Deli Serdang also reflects broader trends in disaster management in Indonesia, where disaster governance structures are mandated to integrate risk reduction into development planning (Law No. 24 of 2007 on Disaster Management). Despite the existence of such legal frameworks, empirical evidence suggests that local disaster policies tend to prioritize emergency response over risk reduction and preparedness activities (Ruchban et al., 2024). This tendency toward reactive disaster governance means that administrative agendas become crisis-driven rather than strategically planned, making it difficult to reduce long-term vulnerabilities.

Administrative capacity constraints are another significant aspect shaping governance outcomes in Deli Serdang. Capacity here refers not only to financial resources but also to organizational structures, technical expertise, and procedural mechanisms for implementing disaster risk reduction programs. Prior research finds that many local administrations in Indonesia, particularly outside major urban centers, struggle to sustain disaster governance initiatives due to insufficient budget allocations and limited expertise in hazard analysis and planning (Najaoan et al., 2025). In the case of Deli Serdang, these limitations contribute to limited early warning systems, inadequate preparedness training, and constrained community outreach. Inter-agency coordination is a key element of effective disaster governance yet remains a persistent challenge. Hydrometeorological disasters require collaborative action among multiple agencies including public works, health services, social affairs, and environmental agencies. However, administrative hierarchies and siloed structures often impede integrated planning and response efforts, resulting in delayed communication and operational inefficiencies (Wahyunengsah & Pamungkas, 2025). In Deli Serdang, coordination often depends on informal networks and situational leadership rather than standardized protocols, reducing predictability in government action during disasters.

Community vulnerability is also shaped by socio-economic conditions that intersect with disaster governance. Low-income neighborhoods, inadequate housing infrastructure, and limited access to insurance amplify the impacts of flooding on residents, placing additional demand on local public services such as health care, sanitation, and temporary shelter provision. Effective disaster governance therefore must extend beyond government agencies to include community groups and civil society organizations in risk planning and mitigation (Apriani et al., 2024). However, community participation in disaster governance in Deli Serdang remains limited, with greater involvement occurring primarily during emergency response rather than in preparedness or planning phases (Riadi, 2021).

Despite these challenges, there are signs of evolving governance practices in Deli Serdang. The integration of disaster risk reduction into village development plans (RPJMDes) and the engagement of community task forces (Satgas Bencana Desa) reflect incremental efforts to decentralize disaster governance and encourage local ownership. Such measures align with participatory governance theory, which argues that disaster resilience improves when communities are included as active partners in planning and decision-making processes (Ansell & Gash, 2008; Wanberg et al., 2024).

In summary, Deli Serdang Regency's disaster risk and governance context illustrates the complex interplay between environmental vulnerability and administrative systems. The recurrence of floods underscores the need for comprehensive governance strategies that not only prioritize emergency response but also strengthen institutional capacity, inter-agency coordination, and community participation. Bridging these governance gaps offers a pathway toward more resilient administrative systems capable of reducing disaster risks and improving public service delivery in times of crisis.

Institutional Framework of Disaster Management

Disaster management governance in Deli Serdang Regency operates within a multi-institutional framework shaped by national and regional regulations. At the local level, the Regional Disaster Management Agency (BPBD) serves as the primary coordinating institution responsible for disaster preparedness, emergency response, mitigation, and recovery planning. BPBD's mandate includes risk assessment, early warning dissemination, resource mobilization, and coordination with sectoral agencies such as public works, health, social services, and environmental departments. The institutional design reflects Indonesia's decentralized disaster management regime, which devolves operational responsibilities to local governments under Law No. 24/2007 on Disaster Management (Ruchban et al., 2024). However, the formal mandate of BPBD often overlaps with functions carried out by other government agencies, creating potential ambiguities in authority and accountability. For example, while

public works departments have technical roles in infrastructure repair and hazard mitigation, BPBD is tasked with leading coordination, resulting in occasional duplication of efforts.

This phenomenon aligns with broader challenges in decentralized governance systems where roles and responsibilities are not always clearly delineated, leading to inefficiencies in institutional performance (Najooan et al., 2025). In Deli Serdang, these institutional overlaps have manifested in delayed decisions during emergency responses and inconsistent implementation of mitigation programs. Coordination among agencies is further complicated by sectoral fragmentation, where departments operate within their own administrative cultures and reporting lines. Such fragmentation can impede horizontal collaboration, essential for effective disaster governance. For instance, health emergency responses require seamless communication between BPBD, local health offices, and humanitarian actors; yet bureaucratic procedures often slow inter-institutional information sharing. Research in other Indonesian localities highlights similar coordination challenges, suggesting that formal institutional frameworks alone do not guarantee effective collaboration without strong cross-sectoral mechanisms (Wahyunengsah & Pamungkas, 2025).

Beyond government agencies, disaster governance in Deli Serdang involves non-state actors, including community organizations, non-governmental organizations (NGOs), and private sector partners. While these actors contribute valuable resources and local knowledge, their involvement is often episodic and dependent on the urgency of the disaster event rather than sustained institutionalized engagement. The lack of formalized platforms for multi-stakeholder participation limits the integration of diverse capacities into governance arrangements, reducing overall resilience (Ansell & Gash, 2008). Effective institutional frameworks, therefore, must incorporate mechanisms that enable meaningful engagement of all relevant actors before, during, and after disaster events.

Administrative leadership also plays a crucial role in shaping institutional performance. Local executive commitment to disaster governance influences how institutions allocate resources, set priorities, and engage in planning. In Deli Serdang, leadership support has periodically accelerated inter agency cooperation during acute phases through situational task forces or command posts. However, when political priorities shift away from disaster risk reduction toward short-term economic development, institutional focus on governance can diminish, reinforcing reactive rather than preventive approaches (Najooan et al., 2025).

Policy Implementation and Administrative Capacity

Effective disaster management governance is fundamentally shaped by administrative capacity, which encompasses human resources, financial capacity, institutional competence, and technical expertise. In the context of public administration, administrative capacity determines the ability of government institutions to translate formal policies into effective actions. In Deli Serdang Regency, recurring flood disasters reveal structural limitations in administrative capacity, particularly in preparedness and mitigation stages, despite the existence of a formal disaster management framework. Human resource capacity remains one of the most critical challenges in disaster governance at the local level. Disaster management requires specialized competencies such as risk assessment, emergency logistics, early warning system management, and community-based disaster preparedness. In Deli Serdang, the number of trained disaster management personnel within BPBD and related agencies is limited, and many officials perform disaster-related duties as additional responsibilities rather than as specialized functions. Similar conditions have been documented in other Indonesian regions, where limited professionalization weakens policy implementation effectiveness (Najooan et al., 2025).

Budget allocation also significantly influences administrative capacity in disaster management. Although disaster risks in Deli Serdang are recurrent, budget prioritization tends to favor post-disaster emergency response rather than preventive and mitigation-oriented programs. Financial resources are often mobilized reactively through emergency funds, leaving limited fiscal space for long-term investments such as drainage improvement, flood control infrastructure, and community resilience programs. This pattern reflects a broader public administration challenge in which short-term political and fiscal pressures constrain strategic governance planning (Ruchban et al., 2024). From a policy implementation perspective, disaster management in Deli Serdang demonstrates a strong emphasis on emergency response activities, including evacuation, temporary shelters, and distribution of relief aid. While these measures are essential, overreliance on response-oriented policies reduces institutional

attention to disaster risk reduction (DRR). Preventive measures such as land-use regulation enforcement, watershed management, and early warning system enhancement receive comparatively less administrative commitment, resulting in repeated flood impacts across similar locations (UNDRR, 2024).

The dominance of reactive implementation approaches can be understood through the lens of administrative behavior theory. Public organizations often respond more effectively to visible and urgent crises than to abstract future risks. In Deli Serdang, flood disasters generate immediate public and political pressure, compelling administrators to focus on short-term outputs rather than long-term outcomes. This condition limits learning-oriented governance and weakens institutional memory for preventive policy innovation (Howlett & Ramesh, 2024).

Technical capacity further shapes policy implementation quality. Effective flood management requires reliable hydrological data, spatial planning tools, and integrated information systems. However, technical limitations in data integration and monitoring reduce the ability of local agencies to anticipate disaster risks accurately. Inadequate coordination between environmental agencies, public works departments, and BPBD weakens evidence-based decision-making, reinforcing incremental and fragmented policy responses (Wahyunengsah & Pamungkas, 2025). Administrative coordination capacity is equally essential in disaster governance. Policy implementation involves multiple agencies with distinct mandates, requiring strong horizontal and vertical coordination mechanisms. In Deli Serdang, coordination during emergency response is often achieved through ad hoc command structures, but such mechanisms are less effective during the preparedness and mitigation phases. The absence of routine inter-agency coordination platforms limits collective learning and policy integration across sectors (Ansell & Gash, 2008).

Capacity constraints also affect the integration of community participation into disaster governance. While local communities possess valuable contextual knowledge of flood-prone areas, administrative institutions often lack the capacity to systematically engage citizens in planning and monitoring processes. This weakens policy legitimacy and reduces community compliance with disaster risk reduction measures. Studies in public administration highlight that participatory governance requires not only political will but also administrative capacity to facilitate inclusive processes (Quick & Bryson, 2024). Policy implementation and administrative capacity in Deli Serdang Regency remain constrained by limited human resources, reactive budgeting patterns, technical shortcomings, and coordination challenges. These limitations reinforce a response-oriented disaster governance model rather than a preventive and resilience-based approach. Strengthening administrative capacity through professional training, strategic budget reallocation, technical innovation, and collaborative governance mechanisms is therefore essential to improve the effectiveness of disaster management policies and reduce long-term flood risks.

Inter-Agency Coordination and Collaborative Governance

Inter-agency coordination constitutes a fundamental pillar of disaster governance, particularly in contexts characterized by complex risks and multi-actor involvement. From a public administration perspective, disaster management cannot be effectively implemented by a single institution due to its cross-sectoral nature, which involves public infrastructure, health services, social protection, environmental management, and security. Consequently, collaborative governance becomes a strategic approach to align institutional roles, resources, and authority across organizational boundaries (Ansell & Gash, 2008). Collaborative governance emphasizes shared responsibility, joint decision-making, and mutual accountability among government agencies, civil society organizations, private actors, and local communities. In disaster contexts, collaboration enables the pooling of resources, knowledge exchange, and coordinated action across different phases of disaster management, including mitigation, preparedness, response, and recovery. Recent public administration studies highlight that collaborative governance is particularly relevant in disaster-prone regions, where uncertainty and urgency demand flexible yet coordinated institutional responses (Wahyunengsah & Pamungkas, 2025).

In Deli Serdang Regency, inter-agency coordination in disaster management primarily involves BPBD, public works agencies, health offices, social services, village governments, and security forces. During flood emergencies, coordination is often facilitated through temporary command posts and emergency task forces. While these arrangements enable rapid response, they tend to be reactive and

short-term in nature, with limited continuity beyond emergency situations. As a result, collaborative efforts are rarely institutionalized into routine governance mechanisms. The reliance on informal coordination mechanisms in Deli Serdang reflects broader challenges in local public administration. Coordination frequently depends on personal leadership, interpersonal networks, and situational discretion rather than standardized procedures. Although strong leadership can enhance responsiveness during crises, excessive dependence on individual actors increases institutional vulnerability and reduces organizational learning. When leadership changes occur, coordination practices often weaken, undermining policy consistency and long-term disaster governance effectiveness (Howlett & Ramesh, 2024).

Institutional fragmentation further complicates collaborative governance. Each agency involved in disaster management operates under distinct mandates, performance indicators, and budgetary frameworks. This sectoral orientation limits incentives for collaboration, as agencies prioritize their own administrative objectives. In Deli Serdang, such fragmentation has resulted in delayed information sharing, overlapping activities, and occasional jurisdictional disputes, particularly between technical agencies responsible for flood control and coordinating bodies responsible for emergency management. Vertical coordination between provincial, regency, and village governments also remains uneven. While national regulations mandate integrated disaster management across levels of government, implementation at the local level often lacks clear operational guidelines. Village governments, which are closest to affected communities, frequently receive limited guidance and resources to engage effectively in collaborative disaster planning. This gap weakens bottom-up governance and reduces the overall resilience of disaster management systems (UNDRR, 2024).

From a theoretical standpoint, collaborative governance requires enabling conditions such as trust, shared understanding, and institutionalized interaction forums. In Deli Serdang, trust among agencies is often built through repeated emergency interactions rather than through structured collaboration platforms. Although this experiential trust supports short-term coordination, it does not substitute for formal governance arrangements that sustain collaboration during non-crisis periods, particularly in mitigation and preparedness planning (Emerson & Nabatchi, 2015). The role of civil society and community organizations is another critical dimension of collaborative governance. Community groups in flood-prone areas of Deli Serdang possess valuable local knowledge related to flood patterns, evacuation routes, and social vulnerability. However, their involvement in formal coordination mechanisms remains limited. Administrative institutions often lack the procedural capacity to integrate community actors into planning and evaluation processes, resulting in top-down governance that underutilizes societal resources (Quick & Bryson, 2024).

Private sector participation in disaster governance is also relatively underdeveloped. Infrastructure companies, plantation operators, and industrial actors operating in Deli Serdang significantly influence environmental conditions related to flooding. Yet, collaborative frameworks that hold private actors accountable or involve them in disaster risk reduction initiatives are weak. Strengthening public-private collaboration is essential to address structural drivers of flood risk, such as land-use change and drainage system degradation. Strengthening collaborative governance requires formalization of coordination mechanisms through regulations, standard operating procedures, and inter-agency agreements. Institutionalizing coordination platforms, such as permanent disaster management forums or cross-sectoral planning teams, would enhance administrative coherence and reduce dependency on ad hoc arrangements. Public administration literature emphasizes that formal rules do not hinder flexibility; rather, they provide a stable foundation for adaptive collaboration (Ansell et al., 2024).

Capacity building is also essential to support collaborative governance. Administrative actors require skills in negotiation, facilitation, conflict resolution, and network management. In Deli Serdang, disaster governance training programs largely focus on technical emergency response rather than collaborative competencies. Expanding capacity-building initiatives to include collaborative leadership would strengthen coordination outcomes and improve policy implementation quality. Inter-agency coordination and collaborative governance in Deli Serdang Regency remain constrained by informality, institutional fragmentation, and limited stakeholder integration. While emergency coordination mechanisms demonstrate short-term effectiveness, the absence of institutionalized collaborative frameworks undermines long-term disaster resilience. Advancing collaborative governance through

formal coordination structures, capacity development, and inclusive stakeholder engagement is therefore critical to enhancing disaster management effectiveness from a public administration perspective.

Community Participation and Public Administration Responsiveness

Community participation constitutes a vital component of disaster governance, particularly in disaster-prone regions where local knowledge and social networks significantly influence response effectiveness. From a public administration perspective, participatory governance enhances policy legitimacy, accountability, and service delivery outcomes by aligning government actions with community needs and capacities (Apriani et al., 2024). In disaster management, participation is not merely supportive but integral to building resilience across preparedness, response, and recovery phases.

Public administration theory emphasizes responsiveness as the ability of government institutions to recognize, interpret, and act upon public needs in a timely and appropriate manner. Community participation serves as a key mechanism through which responsiveness is operationalized. In the context of Deli Serdang Regency, recurrent flood disasters create continuous interaction between government agencies and affected communities, highlighting the importance of responsive administrative practices that go beyond emergency relief provision. In practice, community involvement in disaster management in Deli Serdang is predominantly concentrated in emergency response activities, such as evacuation assistance, temporary shelter management, and distribution of relief aid. While these forms of participation are essential during crises, they reflect a reactive governance model where communities are engaged only after disaster impacts occur. Such an approach limits the potential contribution of communities to disaster risk reduction and preparedness planning (UNDRR, 2024).

The limited institutionalization of community participation in planning stages weakens administrative responsiveness in the long term. Disaster preparedness requires sustained interaction between administrators and communities to identify risks, map vulnerabilities, and design locally appropriate mitigation strategies. In Deli Serdang, planning processes related to flood management are largely technocratic and agency-driven, reducing opportunities for meaningful public input and feedback. From a governance perspective, participatory mechanisms enable governments to access contextual knowledge that may not be captured through formal data systems. Communities in flood-prone areas of Deli Serdang possess experiential knowledge regarding flood patterns, drainage blockages, and social vulnerabilities. However, the absence of structured channels for incorporating this knowledge into administrative decision-making limits policy effectiveness and reinforces top-down governance practices (Quick & Bryson, 2024).

Administrative responsiveness is also shaped by institutional capacity to facilitate participation. Effective participation requires skills in facilitation, communication, and conflict management, as well as procedural frameworks that ensure inclusivity. In many local government institutions, including those in Deli Serdang, participatory processes are often treated as procedural obligations rather than substantive governance tools, reducing their impact on policy outcomes (Howlett & Ramesh, 2024). Socio-economic factors further influence community participation levels. Vulnerable groups, such as informal settlers in flood-prone areas, often face barriers to participation due to limited access to information, time constraints, and distrust toward government institutions. When administrative systems fail to address these barriers, participation becomes selective and unrepresentative, undermining equity and responsiveness in disaster governance (Apriani et al., 2024).

Village-level institutions play a strategic role in bridging administrative systems and community participation. As the closest administrative units to citizens, village governments in Deli Serdang have the potential to facilitate participatory disaster planning through local forums, early warning dissemination, and community-based preparedness programs. However, limited authority and resources constrain their ability to act as effective intermediaries within the broader disaster governance framework.

The responsiveness of public administration is also influenced by feedback mechanisms that allow communities to evaluate government performance. In Deli Serdang, post-disaster evaluations are typically conducted internally by government agencies, with limited community involvement. The absence of systematic feedback loops reduces opportunities for learning and adaptation, which are

essential for improving disaster governance over time (Emerson & Nabatchi, 2015). Digital technologies present new opportunities for enhancing participatory governance and administrative responsiveness. Community reporting platforms, mobile early warning systems, and participatory mapping tools can facilitate real-time interaction between citizens and government agencies. However, the adoption of such technologies in Deli Serdang remains limited, reflecting broader challenges related to digital capacity and institutional readiness at the local level (UNDRR, 2024).

Institutionalizing community participation requires formal mechanisms that integrate participation into administrative routines. These mechanisms may include participatory risk assessments, community-based disaster preparedness committees, and inclusion of community representatives in disaster planning forums. Public administration literature emphasizes that formalization does not diminish flexibility; rather, it ensures continuity and accountability in participatory governance processes (Ansell et al., 2024). Strengthening administrative responsiveness also demands a shift in bureaucratic culture. Administrators must view communities not merely as beneficiaries of services but as governance partners. This cultural transformation requires leadership commitment, capacity building, and performance incentives that value responsiveness and collaboration alongside efficiency and compliance.

Community participation in disaster management in Deli Serdang Regency remains largely reactive and under-institutionalized, limiting its contribution to administrative responsiveness and disaster resilience. Enhancing participatory governance through formal mechanisms, capacity development, and inclusive engagement strategies is essential for strengthening public administration responsiveness and achieving more effective, equitable, and sustainable disaster governance outcomes.

Accountability and Transparency in Disaster Management

Accountability and transparency are core principles of good governance and constitute essential foundations for effective disaster management. From a public administration perspective, accountability ensures that public officials and institutions are answerable for their decisions and actions, while transparency guarantees public access to information regarding policies, resource allocation, and performance outcomes. In disaster governance, these principles are particularly critical due to the high levels of uncertainty, urgency, and public vulnerability involved (OECD, 2024). Disaster management requires clear accountability structures across all phases, including mitigation, preparedness, response, and recovery. Transparent reporting systems enable stakeholders to monitor government actions, evaluate policy effectiveness, and ensure that public resources are used efficiently and equitably. Without accountability mechanisms, disaster governance risks becoming ad hoc, politicized, and susceptible to inefficiencies or misuse of authority (UNDRR, 2024).

In the context of Deli Serdang Regency, accountability in disaster management is formally embedded within institutional mandates and regulatory frameworks. Agencies such as BPBD are required to report activities and expenditures to local executives and legislative bodies. However, empirical findings indicate that accountability practices are still evolving and are primarily oriented toward internal administrative reporting rather than public-facing accountability. One of the key challenges lies in the limited transparency of disaster-related information. Public access to information on flood risk assessments, preparedness plans, budget utilization, and post-disaster evaluations remains constrained. Information dissemination often occurs during emergency situations through press releases or ad hoc announcements, rather than through systematic and accessible platforms. This limits public understanding of disaster governance processes and weakens societal oversight (Apriani et al., 2024).

From a governance legitimacy perspective, transparency plays a crucial role in maintaining public trust. When communities are unable to access timely and accurate information, perceptions of government performance may deteriorate, even when administrative actions are substantively adequate. In flood-prone areas of Deli Serdang, limited transparency has contributed to public skepticism regarding mitigation efforts and infrastructure planning, thereby affecting compliance with disaster risk reduction measures.

Accountability mechanisms in disaster management are also closely linked to budget governance. Disaster-related funding often involves emergency allocations that bypass standard procurement and planning procedures. While flexibility is necessary during crises, insufficient transparency in financial reporting increases the risk of inefficiency and undermines public confidence. Public administration

literature emphasizes the need to balance flexibility with robust accountability frameworks, particularly in high-risk policy domains such as disaster management (Howlett & Ramesh, 2024). Vertical accountability between different levels of government presents additional challenges. Disaster management in Indonesia operates within a multi-level governance system involving national, provincial, and local authorities. In Deli Serdang, coordination with higher levels of government often focuses on operational response, while accountability for long-term outcomes such as flood mitigation remains ambiguous. This fragmentation complicates performance evaluation and diffuses responsibility across institutional boundaries.

Horizontal accountability among local agencies is equally important. Effective disaster governance requires agencies to be mutually accountable for shared outcomes rather than solely for sector-specific outputs. However, sectoral performance indicators and bureaucratic silos limit the development of collective accountability mechanisms. As a result, failures in disaster mitigation are often attributed to external factors rather than institutional shortcomings, reducing opportunities for organizational learning. Community involvement can strengthen accountability and transparency by introducing societal oversight into administrative processes. Participatory monitoring and community-based reporting mechanisms allow citizens to assess government performance and provide feedback. In Deli Serdang, such mechanisms remain limited, as community engagement is largely confined to emergency response rather than evaluation and oversight stages (Quick & Bryson, 2024).

Digital governance tools offer significant potential to enhance transparency and accountability in disaster management. Open data portals, real-time flood monitoring dashboards, and online reporting systems can improve public access to information and facilitate two-way communication between government and citizens. However, the adoption of digital transparency initiatives in Deli Serdang is still at an early stage, reflecting broader challenges related to institutional capacity and technological readiness (OECD, 2024). Strengthening accountability in disaster management also requires a cultural shift within public administration. Beyond formal reporting obligations, administrators must internalize accountability as a normative value guiding decision-making. Leadership commitment, ethical standards, and performance incentives play a crucial role in fostering a culture of transparency and responsibility in disaster governance institutions (Ansoll et al., 2024).

CONCLUSION

This study demonstrates that disaster management governance in Deli Serdang Regency reflects broader challenges in local public administration in Indonesia. While institutional frameworks and policies are in place, governance effectiveness is constrained by limited administrative capacity, weak coordination, and insufficient community engagement. From a public administration perspective, disaster management should be integrated into routine governance systems rather than treated as an ad hoc emergency function. Strengthening institutional capacity, enhancing collaborative governance, and institutionalizing community participation are essential for improving disaster resilience. The findings contribute to public administration and disaster governance literature by highlighting the importance of administrative systems in managing disaster risks at the local level. Future research may incorporate empirical field data and comparative studies across regions to deepen understanding of disaster governance practices.

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