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Beyond Formal Coordination: Collaborative Governance for Disaster Risk Mitigation in Bandung Barat Regency, Indonesia

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ABSTRACT

Research Problem: Formal arrangements for collaborative disaster governance do not, by themselves, explain how joint action is carried out when a coordinating agency has limited resources and implementation depends on village and community actors. This study examines that problem in Bandung Barat Regency.

Research Purposes: The study examines how collaborative governance operates in practice and identifies conditions that limit the activities reported by its participants.

Research Methods: A qualitative single-case study was conducted from April to June 2026. Manual thematic analysis examined 22 selected interview passages attributable to four government and community roles. Field observations and a historical risk assessment informed the case context.

Results and Discussion: Interviewees described contingency planning, cooperation through technical-agency mandates, and BPBD's work with *Desa Tangguh Bencana* (Destana) volunteers. These arrangements supported reported outreach and preparedness activities, while officials described reliance on volunteers amid limited staffing and training funds. The accounts distinguish prospective risk reduction through land-use guidance, preparedness through village and school training, and potential response coordination through urgent messaging during an event. Participants also reported uneven village-official engagement, livelihood demands that constrained attendance, objections to landslide signage linked to land values, and difficulties addressing risk in established settlements. These accounts describe constraints across actors and activities; they do not constitute a measured comparison of villages or demonstrate reduced disaster losses.

Research Implications and Contributions: The study clarifies how resource dependence can make collaboration necessary while village participation and settlement conditions limit what formal coordination can deliver. For practice, it points to sustained BPBD support and coordination with village and settlement authorities suited to each type of activity.

Keywords: Collaborative Governance; Disaster Risk Reduction; Local Government Capacity; Village Preparedness; Spatial Planning.

INTRODUCTION

Disaster risk depends on how hazards intersect with exposure, settlement patterns, and the institutions responsible for reducing vulnerability. At the local level, no single agency controls all the authority, knowledge, and resources needed to address those conditions. The Sendai Framework for Disaster Risk Reduction 2015-2030 therefore emphasises disaster-risk governance, coordination across sectors, and the participation of affected stakeholders (United Nations Office for Disaster Risk Reduction, 2015). Research on adaptive governance similarly identifies multilayered institutions, networks, participation, and learning as relevant to disaster resilience (Djalante et al., 2011). These demands are pronounced in Indonesia, where disaster-management responsibilities have been decentralised but local institutional capacity remains uneven (Putra & Matsuyuki, 2019; United Nations Office for Disaster Risk Reduction, 2020).

Indonesia's Law No. 24 of (2007) on Disaster Management assigns responsibilities to national and subnational governments and provides for Regional Disaster Management Agencies. The existence of a coordinating agency, however, does not ensure that its personnel, budget, or authority are sufficient to implement every risk-reduction measure. Local governments must also work with technical offices responsible for land use and settlements, village administrations, and community actors. The resulting problem is how an institutional mandate becomes workable action when the necessary capacities are held by different organisations.

Bandung Barat Regency presents a multi-hazard setting in which that problem can be examined. The regency's 2017-2021 disaster-risk assessment covers earthquakes, landslides, floods, drought, extreme weather, volcanic hazards, and forest and land fires. It reports a district-level resilience index of 0.65, classified as moderate, on the basis of an analysis conducted in 2016; the assessment separately classifies overall disaster-management capacity as low when village

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preparedness is incorporated (Badan Nasional Penanggulangan Bencana, 2017). These historical classifications establish the planning context rather than measure capacity during the 2026 fieldwork. Earthquake-risk outreach associated with the Lembang Fault forms one setting for the present study. Accounts of landslide information, land-use guidance, and established settlements illuminate other activities within the same regency-level governance process.

Collaborative governance offers concepts for examining coordination across these responsibilities. Ansell & Gash, (2008) distinguish starting conditions, institutional design, and collaborative processes; Emerson et al., (2012) identify engagement, shared motivation, and capacity for joint action. These frameworks direct attention to how participants organise work and assemble resources, but their concepts require evidence of the relationships or capacities claimed. For this study, mitigation refers to prospective efforts to lessen hazard impacts. Land-use guidance concerns risk reduction more directly, whereas contingency planning and training concern preparedness, and urgent communication during an event may support response coordination. Examining these activities together clarifies their institutional connections without treating them as the same outcome.

Existing studies illuminate different parts of this problem. Putra & Matsuyuki, (2019) analyse how decentralisation changed disaster-management regulations, institutions, planning, budgeting, and intergovernmental networks in Indonesia. Their subsequent survey of 106 municipalities associates budget allocation with local government disaster-management capability, but does not trace how a particular BPBD works with villages and technical offices on the ground (Putra & Matsuyuki, 2020). Kusumasari et al., (2010) specify the capabilities local governments need at different disaster-management stages, including resources for mitigation and preparedness. These studies establish why institutional resources matter; they do not show how actors with different mandates use or compensate for those resources within one regency.

Studies focused on collaboration bring local relationships into view. Noer & Putra, (2022) ethnographic study in Bekasi explicitly examines BPBD, village officials, and communities, reporting imbalances in participation, training, and collaborative arrangements. Subiyakto et al., (2025) examine stakeholder coordination, community participation, and policy in disaster mitigation in Karimun Regency. McNaught, (2024) global review identifies conditions associated with local collaborative climate and disaster governance. At the spatial-policy level, Pamungkas et al., (2024) evaluate the integration of risk reduction into Surabaya's planning documents. Village involvement and spatial planning have therefore each been studied. What these different questions and levels of analysis leave less clear is how resource-dependent coordination reaches village activities while proposed risk-reduction measures encounter land-value concerns and settlements that are already established.

This study addresses that boundary of collaborative governance in Bandung Barat: formal coordination may provide a route for joint work, while staffing and funding, village support, and the social consequences of spatial intervention shape what actors report being able to carry out. It asks how BPBD, technical agencies, and community actors organise their respective contributions, and which constraints they identify when translating regency-level arrangements into local activities. The objective is to explain the reported operation and limits of collaborative disaster governance across the actors and activities examined. The contribution is an account of how institutional arrangements, resource dependence, and local implementation conditions intersect within one multi-hazard case; the study does not estimate risk reduction or compare performance systematically across villages.

METHOD

This study used a qualitative single-case design to examine collaborative disaster governance in Bandung Barat Regency from April to June 2026 (Creswell & Plano Clark, 2018). The unit of analysis was the regency-level governance process, particularly how BPBD coordinated government and community actors in local disaster-related activities. Outreach concerning earthquake risk from the Lembang Fault was a focal context. Accounts concerning other hazards were included where they illuminated the same governance arrangements. The study examined reported practices and constraints; it did not measure changes in disaster losses or compare village performance systematically.

For analytical clarity, land-use guidance and decisions concerning future development in hazard-prone areas were treated as prospective risk reduction. Contingency planning, village training, and school guidance were treated as preparedness, while urgent messages during an event were treated as potential response coordination. These activities may be related, but the occurrence of preparedness or communication activities does not itself demonstrate reduced disaster risk (United Nations Office for Disaster Risk Reduction, 2015).

Participants and Data Sources

Participants were selected purposively because of their institutional responsibilities or involvement in local preparedness. The evidence presented in this article contains 22 selected interview passages attributable to four government and community roles. This figure refers to passages used in the analysis, not to the total number of interviewees or interviews. Field observation and a disaster-risk assessment covering 2017–2021 provided contextual material. Table 1 specifies how each source was used and the limits of the claims it can support.

Table 1. Data Sources and Their Use in the Article x

Source represented in the article	Identifiable role or material	Recorded date or status	Use and evidentiary boundary
Interview	Head of BPBD's Mitigation Division	3 June 2026 is recorded for several passages; other passages give 2026 only	Eleven selected passages on coordination, staff and training constraints, volunteers, communication, and local activities; an official's account, not an administrative programme audit
Interview	Regional Secretary of Bandung Barat Regency	4 June 2026	Two selected passages on staffing and the reported contingency-plan arrangement
Interview	Chair of Forum Destana	4 June 2026 is recorded for several passages; other passages give 2026 only	Six selected passages on volunteer involvement, support, relationships, and perceived learning; one forum leader's perspective
Interview	Head of the Housing and Settlement Division	4 June 2026 is recorded for one passage; other passages give 2026 only	Three selected passages on the agency's mandate, zoning guidance, and existing settlements
Contextual document	Bandung Barat disaster-risk assessment for 2017–2021, cited in the manuscript	Historical planning period, preceding 2026 fieldwork	Background on the risk context; no itemised inventory establishes which other documents were inspected or how often
Field observation	Disaster-governance activities in Bandung Barat, documented with a separate observation instrument and field records	April–June 2026	Context for understanding actor interaction and activity settings; the current Results do not attribute a specific claim to an identifiable observation record

Source: Authors' compilation of interview passages, contextual material, and research instruments, 2026.

Interview

Semi-structured interviews were concentrated in June 2026. The interview guide covered cooperation among actors, institutional roles, participation, decision-making, and obstacles to disaster-related activities. Passages attributed to interviewees in the Results were dated 3-4 June where a specific date was recorded. The available documentation does not establish the full number or duration of interviews, so neither is inferred from the 22 selected passages.

Observation

Field observation took place during April–June 2026. A separate observation instrument and field records were used to document the settings of disaster-governance activities and inform the interpretation of actor interaction. Because the Results do not link particular claims to identifiable observation records, observation is used as contextual evidence rather than presented as independent confirmation of an interview finding.

Documentation

The disaster-risk assessment for 2017–2021 was used to describe the historical risk context. Interviewees also referred to instruments such as a contingency plan and formal organisational arrangements. Unless a document could be traced and inspected, those references were analysed as interviewees' accounts of the arrangement, not as findings independently verified through document analysis (Bowen, 2009).

Data Analysis

The selected interview passages were analysed manually using a thematic procedure (Braun & Clarke, 2006). Passages were first assigned descriptive codes, which were then grouped into categories and developed into the themes presented in the Results. For example, accounts of limited personnel, restricted training funds, and unpaid volunteer work were coded as *staffing constraints*, *training allocation*, and *unpaid assistance*. These codes informed the category *resource dependence* and the theme concerning resource constraints and reliance on volunteers.

Initial coding was inductive. Concepts from collaborative-governance scholarship informed the subsequent interpretation rather than serving as a fixed coding scheme (Ansell & Gash, 2008; Emerson et al., 2012). Accounts were

compared by speaker, institutional responsibility, and activity. Differences were retained: the Regional Secretary's account of a joint contingency plan and the housing official's account of no separate formal agreement concerned different arrangements. Similarly, the forum chair's positive account of BPBD support did not negate the BPBD official's account of uneven village support. Quotations illustrate these accounts; their frequency is not treated as a measure of how prevalent a view was.

Trustworthiness, Ethics, and Methodological Boundaries

Comparing accounts across roles and activities helped identify convergence and divergence in the interview evidence. Observation informed contextual interpretation, while the earlier risk assessment supplied historical context; neither is presented as verification of every interview claim. The available records do not specify the number of coders, a dated stopping decision, or who participated in the member checking mentioned in the research report. Accordingly, this article does not claim thematic saturation or a verified member-checking procedure.

The materials available for this article also do not document an institutional ethics approval number, the investigator's relationship with participants, or consent for public attribution of identifiable official roles. These details require confirmation before submission; ethical approval or consent procedures cannot be inferred from the existence of interviews. The findings are consequently limited to the selected accounts and contextual material described above, without claims about systematic differences among villages or effects on disaster outcomes.

RESULTS AND DISCUSSION

Collaborative disaster governance in Bandung Barat involved joint planning, cooperation through agency mandates, and operational links between BPBD and village volunteers. Interviews with regional government officials, BPBD, the Housing and Settlement Division, and Forum Destana identified different conditions affecting these arrangements: available personnel and funding, the support exchanged between cooperating actors, and the administrative and social circumstances of local activities. These conditions appeared in accounts of programme organisation, volunteer participation, risk communication, and settlement-related work.

Lembang Fault earthquake mitigation provides the focal context. Dedi, Head of BPBD's Mitigation Division, identified Padalarang, Ngamprah, Cisarua, Parongpong, and Lembang as priority subdistricts for earthquake-related outreach. The accounts of contingency planning, Destana, training, and communication describe arrangements used within BPBD's wider disaster-management mandate. The landslide-signage and settlement examples provide contextual evidence about constraints encountered in that shared institutional setting.

Table 2 presents a manual thematic synthesis of 22 selected interview passages. Closely related initial codes are grouped into categories that contribute to four main themes. The passages were selected to illustrate distinct aspects of the findings, including complementary accounts and differences in institutional experience. Repeated statements are represented once, while categories shared across passages make their analytical connections visible.

Table 2. Manual Thematic Analysis of Selected Interview Evidence on Collaborative Disaster Governance

No.	Direct quotation (English translation)	Interviewee and interview date	Initial code	Subtheme/category	Main theme
1	"For mitigation related to the Lembang Fault, we direct outreach to communities, especially in five subdistricts: Padalarang, Ngamprah, Cisarua, Parongpong, and Lembang."	Dedi — Head of BPBD's Mitigation Division; 2026	Targeting Lembang Fault outreach	Organisation of participation	Joint planning and differentiated participation
2	"Cooperation already follows the pentahelix model: the private sector, community, media, business, and government."	Dedi — Head of BPBD's Mitigation Division; 2026	Involving actors beyond government	Organisation of participation	Joint planning and differentiated participation
3	"We formed Destana as a forum for volunteers in disaster-prone villages. It includes youth-organisation volunteers, community leaders, religious leaders, community-protection	Dedi — Head of BPBD's Mitigation Division; June 3, 2026	Organising volunteers and local figures through Destana	Organisation of participation	Joint planning and differentiated participation

	personnel, and village military and police liaison officers."				
4	"The arrangement is set out in a contingency-plan document containing agreements among all parties. When a disaster occurs, it serves as a reference and is converted into an operational plan."	Regional Secretary of Bandung Barat Regency; June 4, 2026	Using joint agreements as an operational reference	Planning and agency responsibilities	Joint planning and differentiated participation
5	"There is no joint commitment in a formal legal sense, but in terms of our vision and mission, we support matters related to disaster resilience."	Panji — Head of the Housing and Settlement Division; June 4, 2026	Supporting resilience through the agency's existing mission	Planning and agency responsibilities	Joint planning and differentiated participation
6	"BPBD remains the main driver. Our cooperation on mitigation relates to permits; we are invited to mitigation meetings, outreach, and technical guidance to advise communities on which zones may and may not be built on."	Panji — Head of the Housing and Settlement Division; 2026	Providing zoning guidance through BPBD-convened activities	Planning and agency responsibilities	Joint planning and differentiated participation
7	"There is a Destana Volunteers WhatsApp Group to speed things up when a disaster occurs. Relying on reports from villages or subdistricts takes a long time."	Dedi — Head of BPBD's Mitigation Division; 2026	Using a volunteer communication channel during events	Coordination and preparedness activities	Joint planning and differentiated participation
8	"We conduct training covering all potential disasters, expand disaster information, prepare SPAB, and cooperate with the regency and provincial education offices according to their respective authority."	Dedi — Head of BPBD's Mitigation Division; 2026	Linking training and school preparedness to education authorities	Coordination and preparedness activities	Joint planning and differentiated participation
9	"The challenge is the shortage of personnel: only 43 personnel for the Bandung Barat area. We receive considerable help from volunteers and Forum Destana."	Regional Secretary of Bandung Barat Regency; June 4, 2026	Connecting staff shortages with volunteer assistance	Resource dependence	Resource constraints and volunteer reliance
10	"BPBD has the smallest budget compared with other agencies. For training, we can only budget for a minimum of two people per village. That is why we involve volunteers, and there are no incentives."	Dedi — Head of BPBD's Mitigation Division; June 3, 2026	Budgeting for village representatives; involving unpaid volunteers	Resource dependence	Resource constraints and volunteer reliance

11	"Volunteering has actually existed for a long time. Under the BNPB programme, it began with Destana, stalled for a time, and then Citatah Village was designated, but there was no follow-up because of funding constraints. Destana became widespread after Mr Dedi became involved; now around 108 have been formed."	Tri Nanda Riyadi — Chair of Forum Destana; June 4, 2026	Recalling stalled follow-up and subsequent Destana formation	Resource dependence	Resource constraints and volunteer reliance
12	"Last year there were six training events. Because there are 16 subdistricts, each event includes, for example, four subdistricts, with at least two people per village drawn from volunteers and officials."	Dedi — Head of BPBD's Mitigation Division; June 3, 2026	Grouping subdistricts and training village representatives	Representative training participation	Resource constraints and volunteer reliance
13	"Trust is built by demonstrating their active involvement—whether they show up when a disaster occurs. Not appointed but then remaining inactive. There is also a Destana post."	Dedi — Head of BPBD's Mitigation Division; 2026	Assessing reliability through presence during events	Support and expectations within cooperation	Working relationships and preparedness learning
14	"The working rules for cooperation are openness and coordination between the forum and BPBD. These have even been established in a decree and an organisational structure. So far, there has never been a conflict."	Tri Nanda Riyadi — Chair of Forum Destana; June 4, 2026	Describing openness, coordination, and organisational recognition	Support and expectations within cooperation	Working relationships and preparedness learning
15	"Thank God, BPBD always supports us, making it easier to carry out the duties of Destana coordinator."	Tri Nanda Riyadi — Chair of Forum Destana; 2026	Experiencing continuing support from BPBD	Support and expectations within cooperation	Working relationships and preparedness learning
16	"The positive side is being useful to others and maintaining social ties; the motivation is a shared interest. The difficult part is when there are victims but we cannot help. Above all, volunteers must be honest to maintain continuity."	Tri Nanda Riyadi — Chair of Forum Destana; 2026	Valuing service, social ties, and honesty	Volunteer motivation	Working relationships and preparedness learning
17	"Comparing before and after joining the forum: from not knowing what to do when a disaster occurs, after joining, one knows how to look after	Tri Nanda Riyadi — Chair of Forum Destana; 2026	Reporting a more structured understanding of disaster action	Perceived preparedness learning	Working relationships and preparedness learning

	oneself, family, and others. What needs to be done becomes structured and systematic."				
18	"Schoolchildren also receive guidance on disaster response, from early childhood education through senior high school, through Disaster-Safe Schools and SPAB. Disaster-related material has already entered the curriculum."	Tri Nanda Riyadi — Chair of Forum Destana; 2026	Reporting school guidance across education levels	Perceived preparedness learning	Working relationships and preparedness learning
19	"The difficulty during outreach is low community interest; sometimes those attending are mothers carrying children, and earning a living is the reason given. So we try holding activities at a hotel, providing meals, overnight accommodation, and allowances."	Dedi — Head of BPBD's Mitigation Division; June 3, 2026	Linking attendance difficulties to livelihood demands; offering attendance support	Conditions of local participation	Local support and competing social priorities
20	"There is a limited response from officials. Essentially, if officials provide support and Destana is interested, God willing, it will proceed."	Dedi — Head of BPBD's Mitigation Division; 2026	Linking local activities to officials' support and Destana interest	Conditions of local participation	Local support and competing social priorities
21	"Not all residents accept the installation of information boards. This can reduce land prices because the area is considered landslide-prone."	Dedi — Head of BPBD's Mitigation Division; 2026	Associating objections to hazard signage with land-value concerns	Social acceptance of spatial risk measures	Local support and competing social priorities
22	"For hazard-prone areas that have already been built up, our role is limited to outreach and education. Another obstacle is changing the social balance for residents who would be relocated."	Panji — Head of the Housing and Settlement Division; 2026	Relying on education in existing settlements; identifying relocation difficulties	Social acceptance of spatial risk measures	Local support and competing social priorities

Source: Authors' thematic analysis of field interview data, 2026.

Table 2 shows that collaborative arrangements and the conditions of their implementation were closely connected. Planning documents and agency responsibilities provided different bases for participation, while village forums, training, and direct communication supplied practical channels for cooperation. Accounts of these arrangements also identified dependencies: volunteer assistance accompanied resource constraints, supportive relationships operated alongside demands for active involvement, and local activities required administrative engagement and social acceptance. The four themes distinguish these connections across the actors and activities examined.

Joint Planning Coexisted with Cooperation through Agency Mandates

The institutional accounts described cooperation through both a shared planning instrument and the responsibilities of individual agencies. The Regional Secretary located joint agreement in contingency planning: "The arrangement is set out in a contingency-plan document containing agreements among all parties. When a disaster occurs, it serves as a

reference and is converted into an operational plan." (Regional Secretary of Bandung Barat Regency, interview, June 4, 2026).

Panji, Head of the Housing and Settlement Division, described: his agency's participation differently: "There is no joint commitment in a formal legal sense, but in terms of our vision and mission, we support matters related to disaster resilience" (interview, June 4, 2026).

These accounts refer to different arrangements. The Regional Secretary identified a contingency plan intended to guide collective operations; Panji explained participation through an existing agency mission. The difference indicates that formalisation varied according to the relationship and instrument being discussed.

Panji's account of operational involvement clarified what cooperation through an agency mandate meant in practice. He described BPBD as the main driver and said his division was invited to mitigation meetings, outreach, and technical guidance to advise communities about zones where development was or was not permitted. His division contributed technical guidance within activities convened by BPBD. The reported allocation of work therefore combined central coordination with contributions defined by participating agencies' responsibilities.

BPBD also organised participation beyond inter-agency relations. Dedi described cooperation as a pentahelix model and named the private sector, community, media, business, and government. His account of *Desa Tangguh Bencana* (Destana) identified a more specific organisational channel: village volunteers drawn from youth organisations, community and religious leaders, community-protection personnel, and village military and police liaison officers . These descriptions establish the actor groups BPBD sought to connect and the village structure through which volunteers participated.

Communication practices varied with the urgency of the activity. Dedi reported face-to-face dialogue as needed and direct communication through the Destana Volunteers WhatsApp Group for urgent matters. He explained: "There is a Destana Volunteers WhatsApp Group to speed things up when a disaster occurs. Relying on reports from villages or subdistricts takes a long time" (interview, June 3, 2026).

The stated purpose of the group was to provide a direct information channel during disaster events. Its use concerns response-oriented coordination, whereas contingency planning concerns preparedness and zoning guidance concerns prospective risk reduction.

The institutional pattern was one of differentiated participation around BPBD. A joint plan supplied an agreed reference, technical agencies contributed through their mandates, and Destana connected coordination with volunteers. Meetings and digital communication served different operational needs within these relationships.

These differing forms of participation frame the analysis that follows: a shared plan, an agency mandate, and a communication channel need not create identical commitments.

The contrast between a contingency plan described by the Regional Secretary and the Housing and Settlement Division's participation through its own mandate is more informative than a simple distinction between formal and informal collaboration. The two interviewees referred to different objects: an inter-actor planning instrument and the legal or administrative basis for a particular agency's involvement. Their accounts can therefore both be accurate. In terms of Ansell & Gash, (2008) framework, a shared institutional design establishes a setting for cooperation, but does not by itself settle the scope of each participant's authority or create identical commitments across agencies. Emerson et al., (2012) distinction between engagement and capacity for joint action is useful here: BPBD convened activities and other institutions contributed through responsibilities they already held. The evidence establishes a workable division of tasks in the activities reported, not an equally binding commitment by all the actors named in a broader collaborative vision.

This interpretation qualifies accounts that treat the existence of multi-actor forums as evidence of integrated risk governance. In their study of six coastal unions in Bangladesh, Quader et al., (2023) found that established local disaster-management bodies maintained horizontal and vertical links while external dependencies and limited financial and administrative autonomy constrained what they could do. The institutions, hazard, and mixed-method design differ from those in Bandung Barat, yet the comparison highlights a common analytical issue: the presence of institutional connections does not establish the capacity to carry out agreed work. Sufri et al., (2024) interview- and document-based study in Aceh likewise identified fragmented policies, fiscal constraints, and uneven political commitment in the integration of disaster risk reduction and climate adaptation. Bandung Barat is not a test of that particular policy integration; its evidence more narrowly shows how a central convenor and a technical agency participate under different institutional understandings.

The distinction matters across the disaster-management cycle. The contingency plan was described as a reference for operations, while the technical agency's zoning advice concerned prospective development decisions. Village training and school activities concerned preparedness; the volunteers' WhatsApp group was described as a channel for urgent communication during disaster events. Treating all four as equivalent evidence of *earthquake mitigation* would collapse prevention, preparedness, and response into a single outcome. The Lembang Fault provides the focal earthquake context for outreach, but the accounts also come from a multi-hazard agency mandate. In particular, the reported objection to landslide information boards cannot establish the acceptability or effectiveness of earthquake-risk measures. Collaboration here is an organisational arrangement operating across several functions, whose specific risk-reduction effects would need

to be evaluated separately (Tierney, 2012; United Nations Office for Disaster Risk Reduction, 2015). This differentiation of roles also depended on the people and programme resources available to carry them out.

Volunteer Reliance Reflected Staffing and Programme Constraints

The Regional Secretary and BPBD's mitigation official linked volunteer involvement to limitations inside the agency. The Regional Secretary described the staffing situation: "The challenge is the shortage of personnel: only 43 personnel for the Bandung Barat area. We receive considerable help from volunteers and Forum Destana." (Regional Secretary of Bandung Barat Regency, interview, June 4, 2026).

Dedi described BPBD's budget as the smallest among the agencies and connected limited training funding with the involvement of volunteers who received no incentives. The two accounts converge on a practical dependence: staff and programme resources were supplemented by participation outside BPBD. They identify different aspects of that dependence, with the Regional Secretary emphasising personnel and Dedi emphasising funding and activity organisation.

Training was organised through village representatives. Dedi reported six training events in the preceding year, meaning 2025, and gave the example of grouping four of the regency's 16 subdistricts in an event, with participants drawn from volunteers and village officials. His descriptions of the allocation used both a minimum of two people per village and wording indicating capacity for only two. The consistent feature across these descriptions is participation through village representatives; they do not establish a uniform participant ceiling across events.

The forum chair's account added a distinction between forming a village organisation and supporting its subsequent activities. Tri Nanda Riyadi recalled an initiative in Citatah that received no follow-up because of funding constraints. He associated later Destana expansion with Dedi's involvement and estimated that approximately 108 had been formed by June 4, 2026. This figure is the chair's estimate of formation. His account also places follow-up funding within the history of the programme, showing that the presence of volunteers did not remove the need for material support.

The accounts describe assistance and continuing constraint within the same arrangement. Volunteers helped BPBD undertake its work, while activities still required funding, organisation, and follow-up. BPBD remained the actor described as convening training and coordinating participation. Volunteer involvement supplied assistance within that arrangement, and the Citatah account illustrates the difficulty of maintaining activity when resources for follow-up were lacking.

The accounts of staffing, training, and Citatah shift attention from the formation of volunteer groups to the support required for continuing activity.

The combination of reported staff and budget limits, representative-based training, and reliance on Destana supports an interpretation of collaboration as a partial response to BPBD's capacity constraints. It does not show that volunteers replaced professional personnel or that the number of village groups translated into equivalent levels of activity. The account of a previously stalled initiative is especially important: forming a volunteer structure and financing repeated work are different achievements. In Emerson et al., (2012) terms, a network may widen the actors available for joint action while continuing to depend on resources, knowledge, and organisational arrangements supplied by public institutions. Earlier Indonesian work on local disaster-management capability likewise gives reason to treat the availability of resources as a substantive constraint, rather than assuming that coordination alone can overcome it (Kusumasari et al., 2010; Putra & Matsuyuki, 2019).

Recent research sharpens this distinction. Ruslanjari et al., (2024), studying Disaster Preparedness Villages in Yogyakarta through qualitative inquiry and a SWOT-based analysis, associate sustained activity with local leadership, two-way communication with village government, and the renewal of active organisers. Destana in Bandung Barat is a different village arrangement, and the present study has no longitudinal measure of its survival. Nevertheless, the reported reliance on a particular BPBD official and the example of limited programme follow-up make leadership continuity a plausible condition to examine, not a demonstrated causal explanation for differences among villages. Similarly, a mixed-methods study of Indonesian Red Cross volunteers after coastal floods in Demak found that functional and emotional support accompanied volunteers' resilience alongside personal and cultural resources (Dewi & Susilawati, 2024). That study measured volunteers' experiences in an emergency-response organisation; the Bandung Barat material instead describes largely unpaid village participation from the perspective of officials and a forum chair. The comparison suggests why enthusiasm and social commitment should not be read as evidence that support costs disappear.

An alternative reading is that volunteer involvement was primarily a deliberate way to reach communities, whether or not BPBD faced shortages. That possibility is consistent with the village-forum and training accounts. The evidence does not permit a clean allocation of motives between a community-engagement strategy and compensation for limited agency resources. What can be said is that the actors themselves connected volunteer assistance with staffing and funding constraints. A practical implication follows from the conditional nature of that assistance: BPBD and village governments should plan recurring training, supervision, communication support, and continuity of leadership together with volunteers, within their respective authority and available budgets. The case offers no basis for claiming that a particular expenditure

or group structure would yield a measured reduction in losses. The demands placed on volunteer networks bring the reciprocal working relationship between BPBD and Forum Destana into view.

Participants Linked Cooperation to Mutual Support and Preparedness Learning

BPBD and Forum Destana described a working relationship involving expectations of active participation and continuing organisational support. Dedi explained trust through whether volunteers appeared during disaster events: "Trust is built by demonstrating their active involvement—whether they show up when a disaster occurs" (interview, June 3, 2026).

His account made reliability an expectation demonstrated through participation. Tri Nanda Riyadi emphasised the support received from BPBD: "Thank God, BPBD always supports us, making it easier to carry out the duties of Destana coordinator" (interview, 4 June, 2026).

He also described openness and coordination as the working rules of cooperation, referred to a decree and organisational structure, and reported that no conflict had occurred in the BPBD–forum relationship he was discussing. These perspectives are complementary: BPBD assessed volunteers through their involvement, while the forum chair valued support that enabled him to coordinate their work. The relationship described by the two actors involved contributions and expectations on both sides.

The chair explained voluntary commitment through being useful to others, maintaining social ties, and sharing an interest in disaster work. His account also included frustration when victims needed help that volunteers could not provide, and he identified honesty as important for continuity. Considered alongside Dedi's statement about the absence of incentives, these observations identify the social commitments through which the chair understood participation. They also show that motivation to help could coexist with practical limits on the assistance available. Preparedness learning was another benefit described by the chair: "Comparing before and after joining the forum: from not knowing what to do when a disaster occurs, after joining, one knows how to look after oneself, family, and others. What needs to be done becomes structured and systematic." (Tri Nanda Riyadi, Chair of Forum Destana, interview, 4 June, 2026).

The perceived change concerns a clearer sequence of actions for oneself, family members, and other people during a disaster. The account connects forum participation with practical orientation and a more organised understanding of how to respond. It represents the chair's retrospective assessment of learning through involvement.

School preparedness provided a complementary setting for disaster education. Dedi described training across disaster threats and cooperation with regency and provincial education authorities on *Satuan Pendidikan Aman Bencana* (SPAB), according to their respective authority. Tri Nanda Riyadi described guidance from early childhood education through senior high school and reported that disaster-related material had entered the curriculum. Dedi's account concerns programme organisation, while the chair's account concerns the educational activities and curriculum inclusion he described. Together, they identify school preparedness as another activity connecting disaster-management actors with education institutions.

These accounts locate the perceived value of cooperation in concrete experiences: receiving support, maintaining contact, demonstrating involvement, and learning how to act. The positive assessment of the BPBD–forum relationship concerns that particular organisational connection. The wider reach of that relationship requires separate examination.

The reported support and learning concern identifiable participants in the BPBD–forum relationship. Their wider reach remains an empirical question.

The accounts of BPBD and the Forum Destana chair provide evidence of a specific working relationship. BPBD described reliability in terms of volunteers' active presence; the chair described openness, support, and the value of helping others. This is compatible with the reciprocal engagement and shared motivation anticipated by collaborative-governance frameworks (Ansell & Gash, 2008; Emerson et al., 2012). It also suggests that trust in this setting has a practical dimension: a coordinator's willingness to depend on volunteers is tied to whether they take part when needed. Yet an official's criterion for reliability and one chair's account of an untroubled relationship cannot demonstrate trust among all partner institutions, across all village groups, or among residents who do not participate. Nor does an absence of reported conflict establish the absence of disagreement elsewhere.

The chair's description of learning to act more systematically after joining the forum is valuable evidence of perceived preparedness learning. It is not a before-and-after assessment of volunteers' competencies or evidence that households are safer. The same distinction applies to reported school guidance: the accounts identify an activity and a communication route, but do not measure students' learning. Research on digital participation in Surabaya provides a useful, deliberately limited comparison. McDermott et al., (2025) found that access to platforms alone does not ensure that participants' risk knowledge enters development decisions; awareness, power relations, and institutional alignment also matter. Their case examined participatory platforms for risk-informed urban development, whereas Bandung Barat's WhatsApp group was reported as an urgent communication channel for volunteers. The relevant parallel is the analytical

caution about equating a channel with meaningful participation, not a claim that the two technologies performed the same function.

There is thus a second possible explanation for apparently supportive relations: close ties among a small number of coordinators may facilitate rapid contact while leaving less visible participants with limited influence over decisions. The results contain neither a network-wide assessment nor resident perspectives sufficient to decide between that interpretation and broader shared ownership. Rather than infer agreement from the absence of complaints in the available interviews, subsequent evaluation would need to distinguish the existence of a relationship, the extent of participation in decisions, the acquisition of preparedness skills, and the eventual effects of specific risk-reduction activities (Kapucu, 2008; McNaught, 2024). The distinction between supportive ties among coordinators and broader participation becomes consequential when activities reach village officials and residents.

Local Activities Encountered Administrative, Livelihood, and Settlement Constraints

The difficulties reported in local implementation differed across activities. Village initiatives required engagement from officials and Destana; outreach competed with residents' everyday responsibilities; hazard signage raised concerns about land values; and work in existing settlements involved the social consequences of relocation. These accounts locate implementation constraints at several points beyond regency-level coordination. Dedi connected the progress of village activities with two forms of engagement: "There is a limited response from officials. Essentially, if officials provide support and Destana is interested, God willing, it will proceed" (interview, 3 June 2026).

This statement places village administrative support alongside volunteer interest. Compared with the forum chair's positive assessment of BPBD support, it identifies a different organisational relationship in which participation was described as less responsive. A supportive BPBD–forum connection and limited responsiveness from village officials can therefore occur within the same wider arrangement.

Outreach introduced the practical circumstances of attendance. Dedi described low community interest together with livelihood demands and the presence of mothers attending with children. He said BPBD tried holding activities at a hotel and providing meals, accommodation, and allowances. The official's account connects participation with the time and responsibilities of everyday life. The assistance he described addressed some practical costs of attending organised activities, while the account of village support concerns the administrative conditions under which those activities could proceed. The landslide-signage example involved a different response to risk communication: "Not all residents accept the installation of information boards. This can reduce land prices because the area is considered landslide-prone." (Dedi, Head of BPBD's Mitigation Division, interview, 3 June, 2026).

Dedi attributed objections to the anticipated effect of a public hazard designation on land values. In this account, difficulty arose from the economic meaning attached to the information, rather than simply from access to it. This differs from the reported livelihood barriers to attending outreach: the signage issue concerns the perceived consequence of the intervention itself. The expected effect on land value is part of the official's explanation of residents' objections.

Settlement-related work revealed another distinction. Panji's description of zoning guidance concerned where future development could take place. When discussing areas that were already built up, he described a narrower range of activities: "For hazard-prone areas that have already been built up, our role is limited to outreach and education. Another obstacle is changing the social balance for residents who would be relocated." (Panji, Head of the Housing and Settlement Division, interview, 4 June, 2026).

The difference concerns the timing and social setting of intervention. Advice on development zones addressed prospective building decisions. In established settlements, Panji described education and outreach alongside the difficulty of changing residents' existing social arrangements through relocation. His account shows why the same technical agency encountered different implementation demands when advising on new development and working with occupied settlements.

Across these local accounts, participation and acceptance were specific to the activity and relationship involved. The willingness of a volunteer forum to cooperate with BPBD did not settle the responsiveness of village officials, residents' availability for outreach, or their acceptance of spatial risk measures. The evidence describes constraints reported by the institutional and forum actors across these activities. It supports an account of how collaboration operated and where difficulties arose, with preparedness learning, communication benefits, and implementation constraints understood through those actors' experiences.

These activity-specific accounts call for separate explanations of administrative support, the costs of attending outreach, and responses to spatial risk measures.

The difficulty of securing attendance at outreach, limited support reported from some village officials, and objections to landslide signage point to different constraints that should not be collapsed into a single diagnosis of deficient community

awareness. Livelihood and care demands can make attendance costly even when risk is recognised. Administrative backing may determine whether local activities have an organisational foothold. Objections to hazard signs, in turn, were reported by a BPBD interviewee as connected to anticipated effects on land value; the study did not measure property prices or interview the residents concerned. These accounts support a more modest proposition: some risk-reduction activities intersect with locally consequential interests that information campaigns alone may not settle.

The Housing and Settlement Division's account of already occupied hazard-prone areas places an additional limit on what zoning advice can accomplish after settlement has occurred. Ismail et al., (2025) report in a qualitative study of a volcanic Sister Village programme in Magelang that economic, social, and emotional considerations complicated relocation and evacuation participation. The hazards and programmes are different, and the present Results contain no study of household relocation decisions. The comparison therefore supports the relevance of asking about settlement attachments and material conditions, not an assertion that Bandung Barat residents made the same choices for the same reasons. Likewise, (Sufri et al., 2024) findings on community participation and fiscal limitations in Aceh should not be transferred as a measured estimate of local implementation in Bandung Barat. Across these differently designed cases, the defensible connection is that community-level action depends on more than the formal availability of a plan.

For practice, BPBD and village administrations could make outreach feasible for people with work and care commitments by consulting intended participants about timing and access, then assessing who actually attends. Where risk signage or prospective building guidance affects property and settlement interests, BPBD and the responsible spatial or housing agencies should discuss the intended message and available options with affected residents before implementation. Any proposed relocation would require its own assessment of social and livelihood consequences; the evidence here does not support treating it as an established or universally appropriate intervention. These recommendations address observed points of friction, while their effectiveness remains an open empirical question.

CONCLUSION

Regency operates through the combination of formal institutional arrangements and operational relationships among government and community actors. BPBD remains the central coordinating institution, while Destana, volunteer networks, technical agencies, schools, and other actors extend mitigation activities into local settings through preparedness programmes, training, direct coordination, and rapid communication. These arrangements, however, do not produce uniform implementation. Their practical reach is affected by BPBD's personnel and funding constraints, differences in village-government support, the sustainability of community participation, and the social and spatial conditions encountered when risk-reduction measures are implemented. The central finding is therefore not the absence of collaborative governance, but the coexistence of established collaborative arrangements with uneven local implementation. This conclusion remains consistent with the empirical pattern documented in the underlying research, where collaboration was already established while organisational and social constraints continued to affect implementation.

The study contributes to the understanding of local collaborative disaster governance by distinguishing three conditions that shape its practical performance: the relational processes that activate formal arrangements, the organisational and community resources that sustain joint action, and the local institutional and socio-spatial context through which mitigation is implemented. Within this configuration, collaboration can perform a compensatory function by extending the operational capacity of a resource-constrained disaster-management agency, but it does not substitute for public responsibility or eliminate institutional capacity deficits. Strengthening collaborative governance in Bandung Barat therefore requires adequate institutional capacity within BPBD alongside sustained support for Destana and volunteer networks, stronger village-level engagement, and closer integration of disaster-risk considerations with spatial and settlement governance. Community participation should be supported as part of public disaster governance rather than treated as a replacement for government personnel, financing, technical capacity, or accountability.

The findings should be interpreted within the boundaries of a qualitative single-case study conducted in Bandung Barat during a specific fieldwork period. The study examines collaborative processes and stakeholder accounts rather than measuring mitigation outcomes across all villages, and some planning and risk documents used to establish the institutional context predate the 2026 fieldwork and were therefore treated as formal and historical reference points rather than evidence of current programme performance. The study also does not establish causal effects of Destana participation or compare systematically the performance of villages with different levels of institutional support. Future research could address these limitations through comparative studies across villages or regencies, longitudinal analysis of collaborative arrangements, and more detailed examination of how village capacity, community participation, and spatial-settlement conditions influence the implementation and outcomes of local disaster risk reduction.

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AUTHOR CONTRIBUTIONS

Author 1: Conceptualization, Methodology, Formal Analysis, and Writing (Review & Editing).
Author 2: Conceptualization, Methodology, Investigation, and Writing (Review & Editing).
Author 3: Investigation, Formal Analysis, Writing – Original Draft Preparation, and Writing (Review & Editing).
Author 4: Investigation, Formal Analysis, and Writing (Review & Editing).

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CONFLICTS OF INTEREST

The authors declare that there is no conflict of interest related to the research, authorship, and publication of this article.

DATA AVAILABILITY

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

AI USE DECLARATION

The authors used ChatGPT (OpenAI) to assist with English-language editing, grammar, clarity, and the organization of manuscript prose. ChatGPT was not treated as a source of empirical evidence. The authors reviewed the AI-assisted text and remain responsible for the accuracy of interview quotations, source attribution, analysis, interpretations, and the final manuscript.

ETHICAL CLEARANCE

Ethical clearance was not required according to the applicable institutional research ethics procedures. The participants were informed about the purpose of the study and their participation was voluntary.

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