

**JLPH:**
**Journal of Law, Politic
and Humanities**

E-ISSN: 2962-2816
P-ISSN: 2747-1985

<https://dinastires.org/JLPH> dinasti.info@gmail.com [+62 811 7404 455](tel:+628117404455)

DOI: <https://doi.org/10.38035/jlph.v6i5>
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Government Coordination In Anticipation of The Mount Merapi Eruption Disaster In Sleman Regency, DIY

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Abstract: The eruption of Mount Merapi poses a significant disaster threat to Sleman Regency, necessitating a paradigm shift from emergency response to disaster risk reduction through synergistic government coordination. This article aims to analyze the forms and mechanisms of government coordination in anticipating the Mount Merapi eruption, identify obstacles, and formulate strategies for improvement. Employing a qualitative descriptive method, this study examines coordination based on Herbert Simon's procedural and substantive typology, alongside collaborative governance concepts. The findings indicate that procedural coordination is established through structured regulations, hierarchical command, and the Cross-Merapi Joint Secretariat collaboration. Substantively, preparedness is realized through the Sister Village program and the pentahelix-based utilization of the SIMANTAB application. However, coordination effectiveness is hindered by sectoral egos, rigid budgetary bureaucracy, personnel limitations, and cultural resistance among locals. Therefore, the study recommends cross-sectoral data synchronization, the debureaucratization of emergency decision-making, and an inclusive cultural mitigation approach to achieve adaptive regional resilience.

Keyword: Government Coordination, Mount Merapi Eruption, Collaborative Governance, Disaster Risk Reduction.

INTRODUCTION

Sleman Regency is a region with very high disaster vulnerability complexity in the Special Region of Yogyakarta (Pemerintah Kabupaten Sleman, 2013). Its geographical location, which stretches directly on the southern slopes of Mount Merapi, one of the most active volcanoes in the world makes this region constantly faced with the threat of high-hazard eruptions (Kholik et al., 2025). Historically, the major eruption that occurred in 2010 was the largest recorded disaster in the last century, which resulted in significant changes in disaster-prone zones, ecosystem damage, total paralysis of the economic sector, and claimed hundreds of lives (Kholik et al., 2025), (Yusrifa & Danugroho, 2026). The impact of massive material losses requires a shift in the disaster management paradigm from being responsive during emergency events (emergency response) to a disaster risk reduction (DRR) paradigm based on

preparedness and mitigation that is planned in a sustainable manner (BPBD Kabupaten Sleman, 2026; Mustofa et al., 2022).

In public administration, volcanic disaster risk is conceptualized as a function of the interaction between hazard, vulnerability, and capacity (Hermawan et al., 2025). The theoretical formula to describe the relationship between disaster risk levels (R) is as follows:

$$R = \frac{H \times V}{C}$$

Based on this formulation, if the capacity value (C) owned by government authorities and local communities is higher, then the level of disaster risk (R) faced by a region will be smaller (Hermawan et al., 2025). This capacity increase can only be achieved optimally if there is synergistic, integrated, fast, and precise government coordination (BPBD Kabupaten Sleman, 2026). Natural disasters with a wide scale of impact such as the eruption of Mount Merapi cannot be handled by a single -agency network alone, but rather requires a complex inter-organizational network (Isnainiati et al., 2014).

The legal basis for disaster management in Indonesia is rigidly regulated through Law Number 24 of 2007, which divides responsibility and authority proportionally between the Central Government and Regional Governments. At the local level, the Sleman Regency Government followed up by issuing Sleman Regency Regional Regulation Number 7 of 2013 concerning Disaster Management (Pemerintah Kabupaten Sleman, 2013). This regional regulation mandates that disaster management must be carried out in an integrated manner and coordinated by the Regional Disaster Management Agency (BPBD) of Sleman Regency (Pemerintah Kabupaten Sleman, 2013).

Despite the availability of legal instruments, coordination in the field often faces classic bureaucratic obstacles, such as overlapping authority, sectoral egos, communication barriers, and limited resources (BPBD Kabupaten Sleman, 2026). Therefore, this article aims to analyze the forms and mechanisms of government coordination in anticipating the Mount Merapi eruption disaster in Sleman Regency, identify the obstacles encountered, and formulate strategic efforts to improve the effectiveness of such coordination in order to achieve inclusive and sustainable regional resilience.

Herbert Simon's Typology of Coordination and Collaborative Governance

The study of coordination in public sector organizations is deeply rooted in classical administrative thought (Mooney & Reiley, 1939). Herbert A. Simon (1947), in his landmark work *Administrative Behavior*, explained that coordination is a key prerequisite for aligning the behavior of individuals and specialized organizational units to move simultaneously toward common goals (Simon, 1947). Simon divided coordination in organizations into two main dimensions, namely procedural coordination and substantive coordination (Simon, 1947).

Procedural coordination is closely related to the specifications of the organizational structure itself (Simon, 1947). This dimension includes the preparation of formal descriptions of tasks, authorities, relationship flows, official communication channels, and the division of work functions among members of the organization (Simon, 1947). In the context of disaster management, procedural coordination is manifested through the formation of operational command charts, the preparation of Standard Operating Procedures (SOPs), formal legal regulations, and official lines of instruction that underlie working relationships between government agencies (Simon, 1947; Pemerintah Kabupaten Sleman, 2013).

On the other hand, substantive coordination focuses on the content or material of organizational activities (Simon, 1947). This dimension is aimed at aligning concrete action

programs, policy content, technical decisions, and resource allocation in the field to avoid overlapping or conflicts of interest (Simon, 1947). Substantive coordination ensures that every operational action in the field, such as determining evacuation routes, managing emergency logistics, and implementing simulations, is functionally aligned with the disaster threat scenario being faced (Simon, 1947; BPBD Kabupaten Sleman, 2026).

As the public administration paradigm develops, the concept of internal government coordination is shifting towards collaborative governance (Ansell & Gash, 2008). Ansell and Gash (2008) define collaborative governance as a governance arrangement that involves one or more public institutions directly with non-government stakeholders in a formal, consensus-oriented, deliberative collective decision-making process aimed at formulating or implementing public policy (Ansell & Gash, 2008).

In a high-risk context such as the eruption of Mount Merapi, this collaboration is realized through a pentahelix approach that synergizes five main pillars: government, community, private sector, academia, and mass media (Azzqy, 2026). This collaboration aims to create a shared understanding of the risks, build mutual trust, and unite ownership of the problem for the sake of public safety (Ansell & Gash, 2008).

Table 1. Procedural Coordination and Substantive Coordination Dimensions

Dimensions of Analysis	Procedural Coordination	Substantive Coordination
Theoretical Definition	Formal specifications of organizational structure that define official lines of relationship and authority (Simon, 1947).	Alignment of the content of activities and the actual work program material of the organization (Simon, 1947).
Applications in Disaster	Regulations, emergency SOPs, disaster command charts, and formal decrees (Pemerintah Kabupaten Sleman, 2013).	Evacuation simulation, logistics provision, Sabo Dam construction, and Sister Village program (BPBD Kabupaten Sleman, 2026), (Elysia & Wihadanto, 2018).
Operational Focus	Legality of employment relationships, command hierarchy, and jurisdictional compliance (Pemerintah Kabupaten Sleman, 2013).	Flexibility of action, effectiveness of resource allocation, and field integration (Simon, 1947), (Pemerintah Kabupaten Sleman, 2013).
Acting Actor	Regional heads, regional secretariats, heads of BPBD implementation, and heads of OPDs (BPBD Kabupaten Sleman, 2026).	Rapid Response Team, barracks officers, volunteer groups, academics, and residents (BPBD Kabupaten Sleman, 2026; Dinas Kesehatan Kabupaten Sleman, 2025).
Communication tool	Official memos, official circulars, monthly formal coordination meetings (BPBD Kabupaten Sleman Regency, 2026).	Cross-community WhatsApp groups, SIMANTAB application, and emergency communication radio (BPBD Kabupaten Sleman, 2026; Azzqy, 2026).

METHOD

This study employed a descriptive qualitative method with an institutional and policy analysis approach (Isnainiati et al., 2022). The research location was centered in Sleman Regency, Yogyakarta Special Region, specifically the Disaster-Prone Area (KRB) locus on the slopes of Mount Merapi (BPBD Kabupaten Sleman, 2026).

The data sources in this study are divided into two categories, namely: Primary Data, Obtained through confirmation of disaster operational data and the results of interviews with informants from the Chief Executive and technical officials of the Sleman Regency BPBD in April 2026 (BPBD Kabupaten Sleman, 2026). And, Secondary Data Obtained from official

legal documents including Law Number 24 of 2007 concerning Disaster Management (Republik Indonesia, 2007), Regulation of the Head of BNPB Number 11 of 2014 concerning Community Participation in Disaster Management (BNPB, 2014), Regional Regulation of Sleman Regency Number 7 of 2013 concerning Disaster Management (Pemerintah Kabupaten Sleman, 2013), and Regulation of the Regent of Sleman regarding contingency plans and disaster management action plans (BPBD Kabupaten Sleman, 2026).

Data analysis was conducted using content analysis techniques and triangulation of regulatory data with operational realities in the field. The theoretical basis for analyzing this coordination problem is based on Herbert Simon's (1947) Coordination Typology, which separates coordination into procedural and substantive dimensions (Simon, 1947), as well as Ansell and Gash's (2008) Collaborative Governance Theory to measure the degree of multi-actor involvement (Ansell & Gash, 2008).

RESULTS AND DISCUSSION

Procedural Coordination in Anticipating the Merapi Eruption Disaster

The Sleman Regency Government has designed a comprehensive procedural coordination architecture to ensure bureaucratic readiness in facing the potential eruption of Mount Merapi (Pemerintah Kabupaten Sleman, 2013). Formal authority for disaster management at the regional level is delegated to the Sleman Regency Regional Disaster Management Agency (BPBD), which acts as the main cross-sectoral coordinator (Pemerintah Kabupaten Sleman, 2013), (BPBD Kabupaten Sleman, 2026). The position, organizational structure, duties, functions, and work procedures of the BPBD are rigidly regulated through Sleman Regency Regional Regulation Number 12 of 2011 and Sleman Regent Regulation Number 7 of 2024 (BPBD Kabupaten Sleman, 2026). Through these regulations, the BPBD has a legal mandate to formulate technical policies, carry out guidance, and control disaster preparedness operations (BPBD Kabupaten Sleman, 2026).

In order to anticipate command constraints due to an excessively wide span of control (Simon, 1947), the Sleman Regency Government Authority implemented a procedural decentralization policy (BPBD Kabupaten Sleman, 2026). Through Sleman Regent Regulation Number 62 of 2015, a tiered coordination structure was formed involving the Disaster Management Operational Unit at the Kapanewon (sub-district) level chaired by the Panewu (district head), as well as the Disaster Management Implementation Unit at the Kalurahan (village) level led directly by the local Lurah (BPBD Kabupaten Sleman, 2026). This tiered structure ensures that the chain of command from the regent can be transmitted quickly to the lowest level of government apparatus (BPBD Kabupaten Sleman, 2026).

To expedite operational movements in the field during crisis situations, the Regent of Sleman issued several decisions appointing tactical task forces (BPBD Kabupaten Sleman, 2026). These include Sleman Regent Decree Number 14.36/Kep.KDH/A/2024 concerning the Sleman Regency Disaster Management Rapid Reaction Team, and Sleman Regent Decree Number 15.8/Kep.KDH/A/2025 concerning the Regional Disaster Emergency Rapid Response Implementation Team (BPBD Kabupaten Sleman, 2026). As an operational instrument, procedural coordination is based on three main internal SOPs of BPBD Sleman, namely the SOP for Disaster Incident Management, the SOP for Rapid Assessment of Emergency Incidents, and the SOP for Presenting Disaster Data and Information (BPBD Kabupaten Sleman, 2026).

When Mount Merapi's activity status increases, the decision-making process at the district level is controlled through the Disaster Emergency Management Command System (SKPDB) mechanism, which refers to the Head of BNPB Regulation Number 3 of 2016 (BPBD Kabupaten Sleman). The results of the rapid assessment conducted by the BPBD TRC within

24 hours serve as the basis for the regent to hold a cross-sector coordination meeting to determine the regional emergency status (BPBD Kabupaten Sleman, 2026).

For emergency response scenarios, the command structure is formally coordinated in accordance with Sleman Regent Decree Number 36.1/Kep.KDH/A/2025, which positions the Regent as the director, the Deputy Regent as the deputy director, the Regional Secretary as the person in charge, and the Head of the Sleman BPBD as the command commander BPBD Kabupaten Sleman, 2026). The tactical command is assisted by the Commander of the Military District (Kodim) 0732 Sleman and the Chief of the Sleman Resort Police (Polres) who hold the positions of Deputy Commander I and II (BPBD Kabupaten Sleman, 2026).

At the regional level, the administrative boundaries of the regencies surrounding Mount Merapi are bridged through the Joint Secretariat (Sekber) of the Merapi Cross-Regional Disaster Management Agency (BPBD Kabupaten Sleman, 2026), (Azzqy, 2026). This cross-regional and provincial procedural coordination involves the BPBD of Sleman Regency, BPBD of Magelang Regency, BPBD of Klaten Regency, BPBD of Boyolali Regency, BPBD of Yogyakarta, BPBD of Central Java Province, the Center for Research and Development of Geological Disaster Technology (BPPTKG), the Mount Merapi National Park (TNGM), and the BMKG Climatology Yogyakarta (BPBD Kabupaten Sleman, 2026). Formal working relationships between members of this Sekber are regulated through a memorandum of understanding (MoU) and a joint action plan to harmonize volcanic activity monitoring and regional contingency plans (BPBD Kabupaten Sleman, 2026).

Substantive Coordination and Alignment of Sectoral Activities

Substantive coordination in Sleman Regency focuses on the implementation of real preparedness programs that directly affect the safety of residents on the slopes of Merapi (BPBD Kabupaten Sleman, 2026). In pre-disaster situations (no disaster occurs), substantive activities are directed at the preparation of long-term planning documents (BPBD Kabupaten Sleman, 2026; Pemerintah Kabupaten Sleman, 2013). The Sleman Regency Disaster Management Plan for 2024-2028, which was ratified through Sleman Regent Regulation Number 98 of 2024, stipulates a table of substantive division of organizational roles to avoid overlapping implementation of tasks in the field (BPBD Kabupaten Sleman, 2026).

One vital manifestation of non-structural substantive coordination is the Sister Village Program (BPBD Kabupaten Sleman, 2026; Elysia & Wihadanto, 2018). This program functionally connects villages located in Disaster-Prone Area (KRB) III with villages in safe areas that act as buffers (Elysia & Wihadanto, 2018; Rozaki et al., 2021). For example, Umbulharjo Village, located in high-vulnerability KRB III, is formally paired with Umbulmartani Village and Wukirsari Village, which have safe refugee barracks (Rozaki et al., 2021).

When the status of Merapi is declared to increase to the Alert or Warning level, substantive coordination ensures the allocation of transportation fleets from related agencies (such as TNI/Polri trucks, private fleets, and self-help vehicles from residents) to move simultaneously to move vulnerable residents directly to partner buffer villages according to the agreed evacuation route map (BPBD Kabupaten Sleman, 2026; Rozaki et al., 2021).

In the public health sector, substantive coordination is implemented tactically (Sleman Health Office, 2025). For example, on October 7, 2025, the Yogyakarta Special Region Health Office in collaboration with the Sleman Health Office held a Table Top Exercise (TTX) on Health Crisis Preparedness in the Sleman PMK Office Oproom (Dinas Kesehatan Kabupaten, 2025). This room simulation involved elements of the Sleman Health Office's Health Emergency Operation Center (HEOC), BPBD, Sleman Regional General Hospital (RSUD), Prambanan Regional General Hospital (RSUD), Grhasia Hospital, Panti Nugroho Hospital, community health centers (Puskesmas), medical professional organizations (IDI, PPNI, IBI,

Persagi, HAKLI), the Indonesian Red Cross (PMI), and community organization ambulances (such as AmbulansMu, AmbulansNU, and Banyuraden Village Ambulance) (Sleman Health Office, 2025). This TTX was guided by PKMK FK-KMK Universitas Gadjah Mada to actually test the coordination of handling victims of hot cloud burns, ARI due to volcanic ash, emergency reproductive health services, and hospital referrals (Dinas Kesehatan Kabupaten Sleman, 2025).

The substantive alignment of sectoral roles in Sleman Regency is shown systematically in the table below:

Table 2. Substantive Role of Pre-Disaster and Substantive Role in Emergency Response

Stakeholders	Substantive Role of Pre-Disaster (Mitigation & Preparedness)	Substantive Role in Emergency Response (Active Response)
Regional Disaster Management Agency (BPBD) of Sleman Regency	Developing Disaster Resilient Villages (Destana), preparing Contingency Plans, testing EWS tools (BPBD Kabupaten Sleman, 2026; Simarmata & Kurniawan, 2026).	Activating command posts, disseminating rapid assessment data releases, coordinating logistics distribution (BPBD Kabupaten Sleman, 2026).
BPPTKG (Ministry of Energy and Mineral Resources)	Continuously monitor the seismicity, deformation, and geophysics of the Merapi lava dome (BPBD Kabupaten Sleman, 2026).	Issuing technical recommendations for sectoral safe limits and the direction of hot cloud avalanches (BPBD Kabupaten Sleman, 2026).
Social Services / Tagana	Preparing emergency food stocks, training public kitchen volunteers at the village level (BPBD Kabupaten Sleman, 2026).	Establishing public kitchens in refugee barracks, distributing clothing assistance, managing food logistics (BPBD Kabupaten Sleman, 2026).
Health Department / HEOC	Training the community health center's rapid response medical team, preparing a health crisis contingency plan (Dinas Kesehatan Kabupaten Sleman, 2025).	Establishing health posts in refugee camps, distributing masks, coordinating patient referrals (BPBD Kabupaten Sleman, 2026; Dinas Kesehatan Kabupaten Sleman, 2025).
DPUPKP	Maintaining physical evacuation routes, building Sabo Dams on rivers prone to lava flows (BPBD Kabupaten Sleman, 2026).	Deploy heavy equipment to clear roads of volcanic ash/rocks, provide clean water (BPBD Kabupaten Sleman, 2026).
Indonesian National Armed Forces / Indonesian National Police	Coordinating emergency alert roll calls, mapping evacuation fleet needs (BPBD Kabupaten Sleman, 2026).	Conducting rescue operations (SAR), sterilizing danger zones, securing refugee barracks (BPBD Kabupaten Sleman, 2026).
Volunteer Community (FKKRS)	Conducting disaster education for residents, holding independent evacuation field drills (BPBD Kabupaten Sleman, 2026).	Disseminating early warnings quickly, organizing local evacuation fleets, helping manage barracks (BPBD Kabupaten Sleman, 2026).

Pentahelix Collaboration and Technology Integration in Community Participation

Community participation on the slopes of Mount Merapi has transformed from merely passive objects to the main subjects of disaster management (BPBD Kabupaten Sleman, 2026). This involvement is in line with the Regulation of the Head of BNPB Number 11 of 2014 and Article 61 of Sleman Regional Regulation Number 7 of 2013 which emphasizes the importance of encouraging local independence and initiative in disaster risk reduction by utilizing local wisdom (BNPB, 2014; Pemerintah Kabupaten Sleman, 2013). On the southern slopes of

Merapi, the integration between cultural values and scientific awareness is realized harmoniously (BPBD Kabupaten Sleman, 2026).

The community independently formed a resilient volunteer community coordinated by the Sleman Volunteer Community Communication Forum (FKKRS) and the Disaster Risk Reduction Forum (FPRB) (BPBD Kabupaten Sleman, 2026; Dinas Kesehatan Kabupaten Sleman, 2025). As a manifestation of local resilience, volunteer communities such as Pasag Merapi, which brings together residents in the four districts surrounding Merapi (Sleman, Magelang, Klaten, Boyolali), actively conduct independent environmental monitoring (Azzqy, 2026). Horizontal brotherhood among residents of the slopes of Merapi facilitates coordination of independent evacuations without having to always wait for formal government instructions during urgent emergency conditions (Azzqy, 2026).

The Sleman Regency Government embraced this community initiative by providing information technology support through the development of the SIMANTAB (Sleman Disaster Resilient Information System) application, which can be downloaded from the Playstore (BPBD Kabupaten Sleman, 2026). The SIMANTAB application integrates 11 key disaster service features, including real-time monitoring of Merapi activity, KRB zoning maps, the nearest evacuation route, active evacuation barracks locations, logistics inventory, and an emergency reporting channel for the public (BPBD Kabupaten Sleman, 2026).

The use of SIMANTAB synergized with the coordination of instant communication groups (WhatsApp) and Twitter volunteer communities shows the implementation of a dynamic pentahelix collaboration model in Sleman (BPBD Kabupaten Sleman, 2026; Azzqy, 2026). Here, academics (through scientific technical studies), the government (as policy and system providers), the private sector (through communication network infrastructure support), the media (as disseminators of official releases), and the volunteer community share data to accelerate the mitigation response (BPBD Kabupaten Sleman, 2026; Azzqy, 2026).

Structural-Cultural Barriers and Challenges in Coordination

Although the mitigation model in Sleman is considered one of the best in Indonesia, in-depth analysis identified several structural and cultural barriers that have the potential to hinder effective coordination when a major volcanic crisis occurs (BPBD Kabupaten Sleman, 2026; Rozaki et al., 2021):

1. Sectoral Ego and Data Compartmentalization

The biggest structural challenge in government coordination in Sleman is the persistence of sectoral egocentrism among several local government agencies (BPBD Kabupaten Sleman, 2026). Some technical agencies still view disaster preparedness and response programs as the exclusive responsibility of BPBD (Simarmata & Kurniawan, 2026). This has led to weak integration of disaster response programs into sectoral spatial planning and the budgets of non-disaster agencies (BPBD Kabupaten Sleman, 2026; Pemerintah Kabupaten Sleman, 2013). Furthermore, the lack of fully integrated national disaster data standardization has resulted in frequent duplication or mismatches in data on the number of vulnerable refugees, emergency logistics, and the capacity of refugee camps at the village and social service levels (BPBD Kabupaten Sleman, 2026).

2. Rigid Bureaucratic Flow and Complicated Budget Procedures

Formal, multi-level government administration systems are often slow to respond to the dynamics of Merapi's eruption threat, which can change within minutes (BPBD Kabupaten Sleman, 2026). Procedures for rapid assessment, reporting, and issuing the Regent's Decree on Emergency Status require a time-consuming administrative verification process (BPBD Kabupaten Sleman, 2026; Pemerintah Kabupaten Sleman, 2013).

In addition, accountability for the use of emergency funds such as Unexpected Expenditures (BTT) and on -call funds has a very strict financial accountability mechanism (Pemerintah Kabupaten Sleman, 2013). Bureaucratic officials' concerns about administrative sanctions or legal investigations in the future often trigger hesitation in making quick decisions to distribute the budget tactically when a crisis has just begun (Pemerintah Kabupaten Sleman Government, 2013; Simon, 1947).

3. Limited Quantity and Capacity of Personnel

The Sleman Regency Regional Disaster Management Agency (BPBD) faces the challenge of limited personnel with Civil Servant (ASN) status compared to the vast disaster-prone areas that must be managed on the slopes of Mount Merapi (BPBD Kabupaten Sleman, 2026). This limited personnel capacity results in a less than optimal span of control for Destana guidance coordination and EWS supervision (BPBD Kabupaten Sleman, 2026).

On the other hand, although the number of volunteers in Sleman Regency is very large, the technical capacity and mastery of minimum standard procedures for humanitarian services (such as disability-friendly shelter management, protection of vulnerable groups, and coordination of command sectors/clusters) are not evenly distributed across all village volunteer lines (BPBD Kabupaten Sleman, 2026).

4. Cultural Resistance and the Meaning of Traditional Risk

Among the communities on the slopes of Mount Merapi, there is a cultural challenge in the form of dualistic interpretations of disaster risk (Hermawan, 2026). Some local residents who have lived on the slopes of Mount Merapi for generations have very strong socio-psychological ties to the physical environment of the mountain (Kholik et al., 2025; Yusrifa & Danugroho, 2026).

In some cases, residents have resisted or been reluctant to evacuate early, even though the government has declared Mount Merapi's activity level at Alert (Level III) (Rozaki et al., 2021). Residents often choose to remain behind to guard their livestock or rely more on local traditional cultural cues than official scientific early warnings (Azzqy, 2026; Hermawan, 2026). This requires more persuasive and time-consuming disaster communication coordination efforts (Hermawan, 2026).

Optimization Strategy and Policy Recommendations

To improve the effectiveness of government coordination in anticipating the eruption of Mount Merapi in Sleman Regency, several strategic steps are recommended to improve collaborative governance as follows (BPBD Kabupaten Sleman, 2026; Ansell & Gash, 2008):

1. Cross-Sectoral Data Synchronization (Resilient Dashboard)

The Sleman Regency Government must accelerate the standardization and strengthening of disaster databases across agencies (BPBD Kabupaten Sleman, 2026). This can be achieved by developing an integrated data platform (Resilient Dashboard) that integrates population data from the Population and Civil Registry Office, health data from the Health Office, logistics data from the Social Affairs Office, and volcanic activity data from the BPPTKG (BPBD Kabupaten Sleman, 2026).

With one accurate data gateway, the formulation and updating of Contingency Plans and tactical emergency response decision-making can be carried out precisely and objectively (Notohamijoyo, 2026).

2. Debureaucratization of Decision Making and Budget Flexibility

The Regional Government needs to formulate regional regulations that provide bureaucratic flexibility specifically in volcanic disaster emergency alert conditions (BPBD Kabupaten Sleman, 2026; Pemerintah Kabupaten Sleman, 2013). The process of determining emergency status must be able to be activated automatically (automatic trigger) based on scientific data directly from the BPPTKG sensor (BPBD Kabupaten Sleman, 2026).

In addition, it is necessary to prepare a guide to simplify financial accountability for the use of ready-to-use funds and special BTT funds for emergency disasters, in order to provide a sense of legal security for technical officials in carrying out quick action to save lives in the field (Simon, 1947; Pemerintah Kabupaten Sleman, 2013).

3. Human Resource Capacity Building and Volunteer Competency Standardization

The budget allocation of the Sleman Regional Budget (APBD) must be directed adequately to increase the number and capacity of BPBD personnel, as well as provide standardized training for volunteers who are members of FKKRS evenly (BPBD Kabupaten Sleman, 2026; Pemerintah Kabupaten Sleman, 2013).

Training focused on inclusive shelter management, emergency response for vulnerable groups, and mastery of disaster communication technology (BPBD Kabupaten Sleman, 2026) and (Dinas Kesehatan Sleman, 2025). Support for infrastructure, such as the addition of evacuation trucks specifically for the disabled and livestock, and maintenance of physical infrastructure (Sabo Dams and evacuation routes) must be continuously improved (BPBD Kabupaten Sleman, 2026).

4. Culturally Based Inclusive Mitigation Education and Multi-Stakeholder Collaboration

Disaster socialization and education must be carried out evenly and inclusively by embracing all levels of society on the slopes of Mount Merapi (BPBD Kabupaten Sleman, 2026). The BPBD Sleman needs to continue integrating modern scientific approaches with local wisdom (BPBD Kabupaten Sleman, 2026; Azzqy, 2026). The involvement of traditional figures, community leaders, and local key custodians in the delivery of official disaster information will minimize cultural resistance (BPBD Kabupaten Sleman, 2026).

In addition, written collaboration with academic institutions, the private sector through CSR programs, and local mass media must be optimized to expand the reach of preparedness education at the school (SPAB) and village community (Destana) levels (BPBD Kabupaten Sleman, 2026; Simarmata & Kurniawan, 2026).

CONCLUSION

Government coordination in anticipating the eruption of Mount Merapi in Sleman Regency has been quite effective through the integration of strong procedural and substantive coordination dimensions. Procedurally, Sleman has a formal legal framework, a hierarchical division of command from the district to the village, tactical SOPs, and cross-regional coordination organized in the Merapi Cross-Secretary. Substantively, preparedness is realized through concrete action programs in the field, such as physical mitigation of the Sabo Dam, the establishment of 77 Destana, the initiation of the innovative Sister Village program, and the use of the SIMANTAB application. Pentahelix synergy involving the government, volunteer communities, academics, the private sector, and the media is the main determining factor in the high capacity of regions in reducing disaster risks.

The reliability of this coordination system is still limited by several crucial obstacles, including sectoral egos that trigger data misalignment, rigid bureaucracy in emergency

decision-making, limited quantity of competent personnel, and cultural resistance from residents of the slopes of Merapi in interpreting the risk of danger.

In order to realize long-term regional resilience that is resilient and adaptive, the Sleman Regency Government is recommended to periodically update contingency documents, synchronize cross-sectoral data through the Resilient Dashboard, simplify the emergency response bureaucratic flow, increase the capacity and supporting infrastructure of volunteers inclusively, and conduct disaster education that integrates modern science with local wisdom.

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