



Strengthening collaborative governance in preventive and sustainable flood disaster management

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ABSTRACT

Background: The present scholarly inquiry examines collaborative governance in flood disaster management in Bengkulu Province, Indonesia, where recurrent hydrometeorological floods generate multidimensional consequences for communities, public services, infrastructure, health, livelihoods, and the environment. Rather than treating floods solely as natural hazards, the inquiry positions flood management as a governance challenge that requires coordinated action across institutions, sectors, and levels of society. **Methods:** Using a qualitative approach based on document analysis, the research draws on policy documents, regulations, government reports, National Agency for Disaster Counterterm National Agency for Disaster Counterterm and Regional Agency for Disaster Management publications, media coverage, and relevant scholarly articles. The analysis is guided by Ansell and Gash's collaborative governance framework, with attention to starting conditions, institutional design, facilitative leadership, and collaborative processes. **Findings:** The findings indicate that collaborative practices have begun to emerge in Bengkulu's flood management, particularly during emergency response. Local governments, Regional Agency for Disaster Management, regional apparatus organizations, sub-district and village officials, volunteers, community groups, media actors, and other stakeholders participate in rapid assessment, evacuation, logistical distribution, temporary shelters, evacuation tents, and mobile public kitchens. However, collaboration remains predominantly reactive, operational, and incident-based. Preventive collaboration in mitigation, preparedness, risk reduction, and post-disaster recovery is still limited by uneven institutional capacity, fragmented information systems, overlapping roles, and weak community involvement in decision-making. **Conclusion:** The article argues that flood governance in Bengkulu must move from reactive coordination toward preventive, adaptive, and sustainable collaboration involving government agencies, technical institutions, volunteers, media, and communities, while embedding disaster risk reduction into regional development planning systems. **Novelty/Originality of this article:** The novelty of this inquiry lies in its governance-oriented reading of flood management in Bengkulu, which links recurring flood impacts with the maturity of collaborative governance arrangements rather than merely describing emergency response activities.

KEYWORDS: collaborative governance; disaster management policy; flood disaster management; local government.

1. Introduction

Flood disasters are one of the public problems that often occur in various regions of Indonesia. Floods not only cause material losses but also impact the disruption of social and economic activities, public services, public health, infrastructure, and environmental security. In the context of public administration, floods cannot be understood merely as natural events, but also as governance issues

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that demand institutional readiness, cross-sector coordination, and the participation of various actors in the processes of prevention, response, and recovery (Ritnawati et al., 2025).

Contemporary flood management has therefore shifted from an exclusive emphasis on controlling floodwater toward a more integrated approach to managing flood risk. Structural measures, such as drainage improvement, embankments, retention facilities, and river normalization, remain important, but they cannot completely eliminate the residual risks associated with flooding. These measures need to be combined with non-structural interventions, including land-use planning, preparedness, risk communication, environmental management, and community participation. Such an integrated approach is consistent with the principle of living with floods, which seeks to reduce social, economic, and environmental losses while maintaining the ecological functions and values of floodplains (Katyal & Petrisor, 2011; Silva et al., 2004).

The implementation of disaster management in Indonesia is regulated by Law Number 24 of 2007 concerning Disaster Management. The regulation states that disaster management is the responsibility of the central government and local governments, carried out in a planned, integrated, coordinated, and comprehensive manner (Pemerintah RI, 2007). Thus, local governments have an important role in building a disaster management system that is not only responsive when a disaster occurs, but is also able to strengthen mitigation, preparedness, emergency response, rehabilitation, and reconstruction efforts.

Bengkulu Province is one of the regions that still faces vulnerability to hydrometeorological disasters, particularly floods. In the 2025–2026 period, floods remain an ongoing issue in several areas of Bengkulu. In 2025, the Bengkulu Provincial Government designated floods as one of the focuses of the regional disaster mitigation and risk management action plan, along with earthquakes and landslides (Antara Bengkulu, 2024). This shows that floods have become one of the priority issues in regional disaster policy.

Flood events in Bengkulu also reveal problems of infrastructure and environmental governance. In March 2025, floods in Rejang Lebong Regency were reported to have occurred in several sub-districts, such as Curup Tengah, Curup Kota, and Curup Utara. These floods were attributed to heavy rain, inadequate drainage capacity, and waste problems clogging water channels (Antara Bengkulu, 2025). This condition shows that floods are influenced not only by rainfall factors but are also related to drainage management, environmental cleanliness, community behavior, and local government coordination in disaster risk reduction.

Entering early 2026, flood events in Bengkulu City occurred again. On January 3, 2026, several areas of Bengkulu City were flooded due to heavy rain, including Bentiring, Rawa Makmur, Semarang, and Tanjung Jaya. In response to this condition, the Bengkulu City Regional Agency for Disaster Management/*Badan Penanggulangan Bencana Daerah (BPBD)* deployed mobile public kitchen units, rubber boats, fiber boats, and evacuation tents for affected residents (Media Center Kota Bengkulu, 2026). This response shows the local government's emergency actions, but at the same time also demonstrates that flood management requires resource readiness and rapid inter-agency coordination.

Wider flood events occurred again in April 2026. National Disaster Management Authority/*Badan Nasional Penanggulangan Bencana (BNPB)* reported that floods in Bengkulu City affected 26 sub-districts across eight districts, with 2,855 houses, one place of worship, and one educational facility impacted. In this event, personnel conducted assessments, data collection, distribution of logistical aid, evacuation of residents, and the setup of evacuation tents (Badan Nasional Penanggulangan Bencana, 2026). In the same period, floods also occurred in Central Bengkulu Regency and impacted a number of villages in several sub-districts, thus showing that the flood problem in Bengkulu is cross-regional in nature and requires coordination between levels of government.

Based on several flood events that occurred in Bengkulu Province during the 2025–2026 period, floods are a recurring disaster problem affecting various regions. These events not only show the

region's high vulnerability to hydrometeorological disasters but also demonstrate the importance of cross-actor coordination in the processes of mitigation, emergency response, and recovery. A summary of recent flood events in Bengkulu Province can be seen in Table 1 below.

Table 1. Summary of flood events in Bengkulu Province, 2025–2026

Date/Period	Region	Main Impacts/Findings	Response/Notes
December 31, 2024	Bengkulu Province	The Provincial Government of Bengkulu designated the focus of the 2025 disaster mitigation and risk management action plan on earthquakes, floods, and landslides	Shows floods have become a regional disaster priority.
March 1, 2025	Rejang Lebong Regency	Floods occurred in Curup Tengah, Curup Kota, and Curup Utara. Triggers mentioned: heavy rain, inadequate drainage capacity, and waste problems.	Confirms the combination of natural factors and environmental
January 3, 2026	Bengkulu City	Several areas such as Bentiring, Rawa Makmur, Semarang, and Tanjung Jaya were flooded due to heavy rain.	The city government/Regional Agency for Disaster Management set up evacuation tents, deployed mobile public kitchens, and rubber boats
April 5–8, 2026	Central Bengkulu Regency	Floods in 9 villages across 3 sub-districts affected 219 households	Cross-agency collaboration, and evacuation of residents by conducting rapid assessment actions
April 6–8, 2026	Bengkulu City	Floods impacted 26 sub-districts in 8 districts. 2,855 houses, 1 place of worship, and 1 educational facility affected	Regional Agency for Disaster Management conducted assessments, logistics, evacuations, and set up evacuation tents

These facts show that flood management in Bengkulu Province cannot be adequately carried out through a sectoral approach that relies only on a single agency. The complexity of the flood problem involves many factors, such as drainage capacity, spatial planning management, environmental cleanliness, community preparedness, logistics availability, disaster information systems, and inter-agency coordination. Therefore, flood management requires the involvement of various actors, including local governments, Bengkulu City Regional Agency for Disaster Management/*Badan Penanggulangan Bencana Daerah (BPBD)*, public works agencies, social services, health services, sub-district and village officials, security forces, volunteers, community organizations, media, the private sector, academics, and affected communities. Among these actors, community leaders have a strategic role because they can connect formal disaster management institutions with residents at the local level. Community leaders can represent the interests and concerns of flood-affected residents, disseminate risk information, support early warning communication, mobilize local resources, and encourage participation in disaster training and simulations. Evidence from flood-prone communities in Jakarta demonstrates that community leaders contribute to preparedness and emergency response through local warning mechanisms, communication networks, preparedness training, and the mobilization of essential community resources. Their involvement indicates that communities should not be treated merely as recipients of emergency assistance, but as active partners throughout the disaster management cycle (Fatmah, 2025).

This argument is supported by flood disaster management literature, which shows that flooding is a systemic and multi-dimensional problem involving social, technical, institutional, infrastructural,

environmental, and community factors. Therefore, flood management requires not only technical response, but also integrated governance, institutional capacity, public awareness, information systems, and stakeholder coordination across the disaster management cycle (Mai et al., 2020; Price & Vojinovic, 2008; Rehman et al., 2019).

From an institutional perspective, flood management reform is not merely a technical matter but also a political and administrative process. Effective flood risk management requires coordination across governmental levels, administrative jurisdictions, and policy sectors, as well as mechanisms that provide meaningful opportunities for stakeholder participation. When authority, resources, and responsibilities are fragmented among institutions, the transition from reactive flood control toward proactive and integrated flood risk management becomes difficult to implement. Therefore, institutional coordination and stakeholder involvement are essential components of sustainable flood management reform (Moore, 2018).

The involvement of many actors in flood management requires a governance model capable of unifying the roles, authorities, resources, and interests of each party. One relevant approach to explain this is collaborative governance. Collaborative governance is a governance arrangement where one or more public institutions directly involve non-state actors in formal, deliberative, consensus-oriented collective decision-making processes to formulate or implement public policy or manage public programs (Ansell & Gash, 2007). In the context of flood management, this approach is important because local governments cannot work alone without the support of other actors.

The collaborative governance model also emphasizes several important aspects, namely initial conditions of collaboration, institutional design, facilitative leadership, and collaborative process (Ansell & Gash, 2007). The initial conditions aspect relates to the level of trust, history of cooperation, resource inequality, and incentives for participation among actors. Institutional design relates to the rules of the game, coordination mechanisms, transparency, and actor involvement in collaborative forums. Facilitative leadership relates to the ability of key actors, especially local governments and Regional Agency for Disaster Management, to facilitate communication, build trust, and coordinate resources. Meanwhile, the collaborative process includes dialogue, trust-building, mutual commitment, shared understanding, and interim outcomes in solving public problems.

In the context of Bengkulu Province, the collaborative governance approach is important because recurring flood events indicate the need to strengthen disaster management governance in a more integrated manner. Flood management not only demands rapid response during emergency situations, but also requires strengthening mitigation, public education, drainage normalization, environmental management, risk mapping, early warning systems, and post-disaster recovery. All these processes require consistent coordination and collaboration among actors (Greenwood et al., 2021).

Recent studies in developing-country contexts also indicate that sustainable flood management requires a framework that integrates governance, technical methodology, monitoring and evaluation, socio-economic considerations, environmental protection, natural-resource management, and infrastructure development. Structural interventions alone are insufficient when they are not accompanied by appropriate spatial planning, community capacity-building, disaster education, institutional coordination, and mechanisms for stakeholder participation (Takeleb et al., 2025). However, in the context of Bengkulu Province, there remains a need to explain how these integrated principles are translated into collaborative arrangements among government agencies, communities, volunteers, media, academics, private actors, and other stakeholders. It is particularly important to examine whether collaboration has been institutionalized throughout the stages of mitigation, preparedness, emergency response, and recovery, or whether it remains predominantly reactive and concentrated in the emergency phase.

Based on the explanation above, research on Collaborative Governance in Flood Disaster Management in Bengkulu Province is important to conduct. This research is directed to analyze how the collaborative process among actors takes place, who the actors involved are, how the division of

roles in flood management is, and what the supporting and inhibiting factors for the implementation of collaborative governance are. Thus, this research is expected to contribute to the development of public administration studies, particularly in the field of collaborative governance and regional disaster management policy.

2. Method

2.1 Research design and data collection

This study uses a qualitative approach with document analysis method to explore the implementation of collaborative governance in flood disaster management in Bengkulu Province. This approach is used because the study seeks to understand in depth the collaborative process among actors, the roles of local government, Regional Agency for Disaster Management/*Badan Penanggulangan Bencana Daerah (BPBD)*, relevant agencies, communities, volunteers, media, and other stakeholders in dealing with flood problems (Ansell & Torfing, 2018). The data in this study were collected from various secondary sources, such as policy documents, laws and regulations, official reports of government agencies, Regional Agency for Disaster Management/National Disaster Management Authority publications, media reports, and journal articles relevant to collaborative governance and flood disaster management. These sources were used to obtain an overview of coordination patterns, division of roles, forms of policy response, and institutional dynamics in flood management in Bengkulu Province. The use of document analysis is also consistent with previous flood disaster management studies that examine policy documents, institutional reports, literature, and disaster-related information to understand coordination mechanisms, stakeholder roles, policy linkages, and knowledge management in disaster response (Anbarasi & Mayilvahanan, 2016; Raungratanaamporn et al., 2014; Rehman et al., 2019).

2.2 Analytical framework

The analytical framework in this study refers to the collaborative governance model. Collaborative governance is a governance arrangement where one or more public institutions directly involve non-state actors in formal, deliberative, consensus-oriented collective decision-making processes to formulate or implement public policy or manage public programs (Ansell & Gash, 2007). This model is relevant to use because flood management in Bengkulu Province is not only the responsibility of local government and Regional Agency for Disaster Management, but also requires the involvement of various actors, such as technical agencies, sub-district and village officials, volunteers, communities, media, academics, and other non-government sectors.

The collaborative governance model is used as an analytical tool through four main dimensions, namely starting conditions, institutional design, facilitative leadership, and collaborative process (Ansell & Gash, 2007). The starting conditions dimension is used to examine the initial conditions of collaboration, such as resource inequality, capacity differences among actors, incentives or barriers to participation, and the history of cooperation or conflict among stakeholders. The institutional design dimension is used to analyze the clarity of rules, coordination mechanisms, inclusive participation, process transparency, and division of roles in flood management. The facilitative leadership dimension is used to assess the role of local government, Regional Agency for Disaster Management/*Badan Penanggulangan Bencana Daerah (BPBD)*, and other key actors in facilitating communication, building trust, coordinating resources, and maintaining the sustainability of cooperation (Sadiq & Noonan, 2015). Meanwhile, the collaborative process dimension is used to analyze the process of dialogue, trust-building, mutual commitment, shared understanding, and interim outcomes that emerge in the processes of mitigation, emergency response, and post-disaster

recovery (Economic and Social Commission for Asia and the Pacific & United Nations Development Programme, 1991).

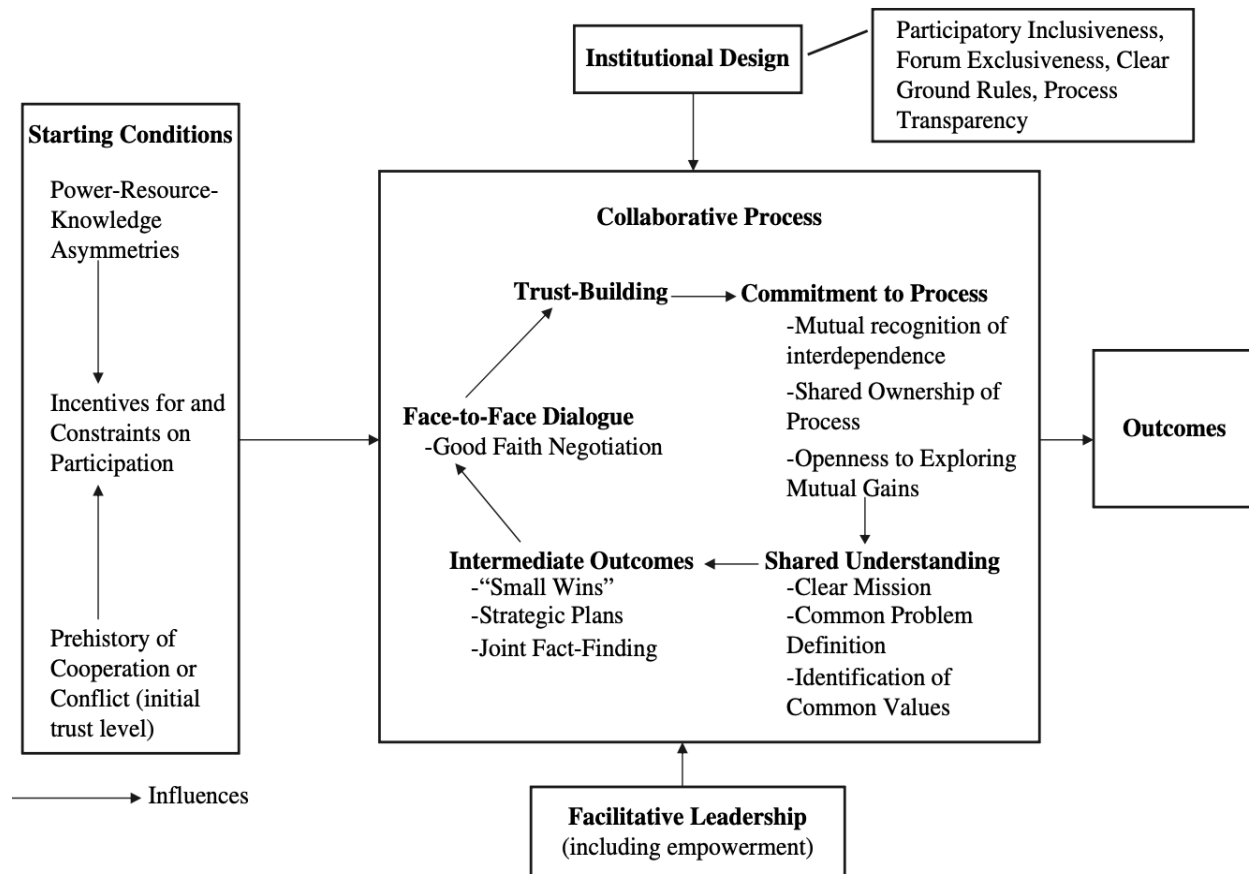


Fig. 1. The Ansell and Gash collaborative governance model (Ansell & Gash, 2007)

2.3 Data analysis

Data analysis was conducted thematically by identifying main themes related to the collaborative governance process, such as actor involvement, inter-agency coordination, division of authority, communication, decision-making, resource mobilization, and supporting and inhibiting factors of collaboration. The data obtained were then classified based on the dimensions of the collaborative governance model (Ansell & Gash, 2007), then compared and interpreted to understand how collaborative governance is implemented in flood disaster management in Bengkulu Province. This approach was chosen because it allows researchers to understand the social, institutional, and policy context of flood management without directly intervening in the research object. Furthermore, the qualitative approach is suitable for examining complex public governance phenomena because it emphasizes meaning, context, process, and interpretation of the dynamics of collaboration among actors in solving public problems (Creswell & Creswell, 2022).

3. Results and Discussion

This section presents the results of the analysis regarding the implementation of collaborative governance in flood disaster management in Bengkulu Province. The analysis was conducted using

the Ansell and Gash model as the main conceptual framework, which places starting conditions, institutional design, facilitative leadership, and collaborative process as important dimensions in understanding the successes and obstacles of collaboration (Ansell & Gash, 2007). Through this framework, the discussion is directed to examine how the initial conditions, institutional arrangements, leadership, and interaction processes among actors' shape flood management governance at the regional level. The discussion in this section focuses not only on the emergency response of local government and Regional Agency for Disaster Management, but also on inter-agency relations, role distribution, resource capacity, and the involvement of non-government actors in flood management. Thus, this analysis seeks to show that flood management is a cross-sectoral governance process that requires continuous coordination between government, communities, volunteers, media, and other stakeholders.

3.1 Starting conditions in flood disaster management

The starting conditions dimension is used to examine the initial conditions that influence the formation of collaboration in flood disaster management in Bengkulu Province. In the collaborative governance model, the initial conditions of collaboration include resource inequality, incentives and barriers to participation, and the history of cooperation or conflict among actors (Ansell & Gash, 2007). Ansell and Gash explain that starting conditions shape the initial level of trust, conflict, and social capital that can serve as resources or obstacles in the collaborative process. These initial conditions also determine the extent to which actors have the capacity, incentives, and willingness to engage meaningfully in collaborative forums. Thus, analysis of starting conditions is important to understand why collaboration in flood management is needed, and also why such collaboration is not always easy to implement.

From a systems perspective, flood vulnerability is not only shaped by rainfall or physical exposure, but also by the interaction of institutional capacity, community awareness, infrastructure conditions, environmental management, and coordination among stakeholders. This means that the starting conditions of collaboration must be understood as a combination of ecological, social, technical, and governance factors that influence the ability of actors to prevent, respond to, and recover from floods (Mai et al., 2020; Rehman et al., 2019). In the context of flood management in Bengkulu, the starting conditions show that collaboration arises from recurring disaster situations, limited institutional capacity, and the need to involve many actors in disaster management. Floods are not only related to emergency response, but are also connected to spatial planning, drainage capacity, watershed management, community behavior, logistical readiness, and inter-agency coordination. Therefore, floods can be understood as a complex public problem. Bianchi, Nasi, and Rivenbark explain that public problems that are wicked problems cannot be solved within the boundaries of a single organization because they are dynamic, multi-level, multi-actor, and multi-sectoral in nature. In this context, public service delivery and community problem-solving require inter-organizational cooperation and the involvement of various actors to produce public value.

First, the initial conditions of flood management in Bengkulu are marked by the high vulnerability of the region to flood disasters. Bengkulu City, for example, shows a tendency of recurring flood events. Data from the Bengkulu City Regional Agency for Disaster Management shows that in 2020 there were 24 flood events affecting 6 sub-districts, 18 urban villages, and 446 households. In 2021 there were 20 flood events affecting 5 sub-districts, 14 urban villages, and 1,646 households. Meanwhile, in 2022 flood events increased to 29 events affecting 6 sub-districts, 20 urban villages, and 4,086 households. This pattern shows that floods are not an incidental event, but a recurring disaster that requires a more coordinated and sustainable management system.

Second, the initial conditions of collaboration are also influenced by environmental and infrastructural factors. Floods in Bengkulu City are influenced by high rainfall, the large number of residents living in low-lying areas and along riverbanks, low public awareness in maintaining

environmental cleanliness, and weak flood prevention and management efforts. Additionally, the damage to the Air Bengkulu River watershed and the overflowing of several rivers crossing the city area further strengthens the flood risk. This condition shows that the flood problem is not only within the domain of Regional Agency for Disaster Management, but is also related to spatial planning, drainage, environmental management, community behavior, and inter-agency coordination. Emerson, Nabatchi, and Balogh explain that collaborative governance is always influenced by the system context, such as resource conditions, legal and policy frameworks, political dynamics, power relations, levels of conflict or trust, and the interconnectedness of actor networks. Thus, the environmental and institutional conditions in Bengkulu can be understood as a system context that shapes both the need for and challenges of collaboration.

Third, there is resource inequality that serves as an initial obstacle in building effective collaboration. The Bengkulu City Regional Agency for Disaster Management still faces constraints in the form of limited budget, human resources, and disaster facilities and infrastructure. These limitations affect the institution's ability to carry out mitigation, preparedness, emergency response, and recovery functions. A study on the preparedness of the Bengkulu City Regional Agency for Disaster Management shows that there are still shortages of facilities such as tents, boats, chainsaws, and several disaster equipment that are damaged. Furthermore, budget limitations also affect the effectiveness of mitigation and the availability of resources in the field. In the perspective of collaborative governance, resource inequality like this can affect the position and capacity of actors in the collaborative process. Ansell and Gash assert that power and resource inequality can cause the collaborative process not to run equally if certain actors lack the capacity, organization, status, or adequate resources to participate meaningfully.

Fourth, the incentive to collaborate arises because flood management cannot be solved by a single organization alone. Floods are a cross-sectoral and cross-regional problem, thus requiring the involvement of local government, Regional Agency for Disaster Management, public works agencies, environmental agencies, social services, health services, sub-district and village officials, volunteers, communities, media, and other non-government sectors. Bianchi, Nasi, and Rivenbark emphasize that fragmentation is often the cause of inconsistencies in efforts to improve community outcomes, especially when organizations work separately. Therefore, the need to share resources, information, authority, and responsibility becomes the basis for the emergence of collaboration in flood management. Fifth, participation barriers are also part of the starting conditions that need to be considered. In the context of Bengkulu, community participation still faces challenges, particularly regarding low awareness of maintaining the environment and keeping water channels clean. In fact, the success of flood management is not only determined by government response, but also by community involvement in mitigation and preparedness. Low community participation can hinder the collaborative process because flood prevention efforts require collective behavioral changes, such as not throwing garbage into drainage systems, maintaining watersheds, and engaging in mutual cooperation activities and disaster education. In this context, starting conditions are not only about government readiness, but also about the social readiness of the community to engage in collective action.

Based on the above description, the starting conditions in flood management in Bengkulu Province show a combination of the need for collaboration and structural obstacles. On one hand, recurring floods, widespread impacts, and the limited capacity of local government serve as strong incentives to build cross-actor cooperation. On the other hand, budget limitations, facilities and infrastructure, human resources, capacity inequality among actors, and low public awareness are initial challenges that can hinder the effectiveness of collaboration. Therefore, the success of collaborative governance in flood management in Bengkulu greatly depends on the ability of local government and Regional Agency for Disaster Management to transform these initial conditions into a foundation for more inclusive, coordinated, and sustainable cooperation

3.2 Institutional design in flood disaster management

The institutional design dimension in the collaborative governance model refers to the institutional arrangements that govern how collaboration is formed, implemented, and maintained. Ansell and Gash place institutional design as one of the important variables influencing the success of collaboration, particularly through aspects of inclusivity of participation, forum exclusivity, clarity of basic rules, and process transparency (Ansell & Gash, 2007). In the context of flood disaster management in Bengkulu Province, institutional design is an important aspect because flood management not only requires the existence of formal institutions but also needs coordination mechanisms capable of connecting various actors, authorities, resources, and information within a directed framework.

Normatively, the institutional design for disaster management in Bengkulu has a clear regulatory basis. The implementation of disaster management at the regional level refers to national legal frameworks, such as Law Number 24 of 2007 concerning Disaster Management and Government Regulation Number 21 of 2008 concerning the Implementation of Disaster Management (Pemerintah RI, 2008). At the local level, Bengkulu City also has Bengkulu City Regional Regulation Number 02 of 2017 concerning the Implementation of Disaster Management in Bengkulu City (Pemerintah Kota Bengkulu, 2017). These regulations affirm that the local government is responsible for the implementation of disaster management, while Regional Agency for Disaster Management acts as a technical agency with a coordinating function in regional disaster management (Herdiana, 2024). Thus, institutionally, Regional Agency for Disaster Management becomes the main node in the planning, coordination, implementation, and evaluation of flood management.

In urban flood management, institutional design should integrate both structural and non-structural measures because neither approach is sufficient on its own. Structural measures such as drainage improvement and flood protection infrastructure need to be combined with non-structural measures such as land-use control, early warning systems, risk communication, community preparedness, and stakeholder participation (Nivolianitou et al., 2015; Price & Vojinovic, 2008). The existence of Regional Agency for Disaster Management as the main actor shows that flood management in Bengkulu has been supported by a formal institutional structure. Regional Agency for Disaster Management plays a role in preparing response teams, managing data on affected victims, coordinating emergency responses, and connecting various regional agencies in the disaster management process. However, from the perspective of collaborative governance, the existence of a formal structure is not enough to guarantee the effectiveness of collaboration. Collaboration requires institutional arrangements that allow government and non-government actors to be actively involved in decision-making processes and policy implementation. This aligns with Ansell and Gash's view that collaborative governance is not merely consultation, but a deliberative process involving two-way communication, multilateral forums, and direct stakeholder involvement in the management of public policies or programs (Ansell & Gash, 2007).

The actual flood conditions in Bengkulu show that the institutional design for disaster management has worked primarily at the emergency response stage. During the January 2026 flood in Bengkulu City, Regional Agency for Disaster Management together with relevant elements deployed mobile public kitchen units, rubber boats, fiber boats, and evacuation tents in affected areas, such as Korpri Housing and Ejuka Housing (Antara Bengkulu, 2026b; Media Center Kota Bengkulu, 2026). These responses demonstrate the existence of operational mechanisms for evacuation, logistics provision, and temporary shelter for affected residents. However, these responses also show that the institutional design is still very prominent at the emergency phase, while strengthening the institutional design at the mitigation and prevention stages requires greater attention.

Similar conditions were seen in the April 2026 flood in Bengkulu City. National Disaster Management Authority/*Badan Nasional Penanggulangan Bencana (BNPB)* reported that the flood impacted 26 sub-districts in eight districts, with 2,855 houses, one place of worship, and one

educational facility affected. In that event, personnel conducted assessments, data collection, distribution of logistical aid, evacuation of residents, and the setup of evacuation tents (Badan Nasional Penanggulangan Bencana, 2026). Data from the Bengkulu City Government also recorded that the April 2026 flood affected 11,601 residents or 2,881 households in eight districts (Antara Bengkulu, 2026a). This condition shows that the institutional design for flood management already has emergency response procedures, particularly in terms of data collection, evacuation, and aid distribution. However, the extent of the affected areas indicates that coordination mechanisms across sub-districts, urban villages, regional agencies, and community actors need to be strengthened so that they are not only reactive but also capable of working from the pre-disaster stage.

In the context of Bengkulu, the institutional design for flood management needs to be understood as a cross-sectoral mechanism. Floods are not only related to emergencies, but also to drainage, spatial planning, watersheds, environmental cleanliness, public health, social assistance, logistics, evacuation, and post-disaster recovery. The Rejang Lebong flood case in March 2025 shows that drainage problems exceeding capacity and waste clogging water channels were important factors causing the flood (Antara Bengkulu, 2025). This condition shows that the institutional design for flood management cannot be limited to Regional Agency for Disaster Management but must integrate the roles of the public works agency, environmental agency, sub-district and village governments, and the community. Thus, floods become a cross-sectoral institutional problem that requires clarity in the division of roles between emergency response, infrastructure improvement, environmental management, and public education.

Emerson, Nabatchi, and Balogh explain that collaborative governance encompasses the processes and structures of public decision-making that involve actors across institutions, levels of government, public, private, and civil society sectors to achieve public goals that cannot be achieved individually (Emerson et al., 2012). This perspective is relevant for understanding the conditions in Bengkulu because cross-regional floods require an institutional design capable of connecting the provincial government, district/city governments, technical agencies, Regional Agency for Disaster Management, regional apparatus, volunteers, and the community. In the case of the April 2026 flood, the widespread impact on many sub-districts and urban villages shows that area-based coordination is an important institutional need. That is, institutional design is not sufficient if based only on formal structure but must also be able to build operational working mechanisms at the urban village and community levels.

An important aspect of institutional design is the clarity of role division. Flood management requires a division of labor between actors handling structural and non-structural aspects. Structural aspects include drainage improvement, river normalization, provision of evacuation facilities, logistical readiness, and strengthening of disaster facilities. Meanwhile, non-structural aspects include public education, increasing environmental awareness, early warning systems, disaster simulations, dissemination of risk information, and involving citizens in mitigation activities. Without a clear division of roles, collaboration has the potential to run reactively, overlap, and depend on emergency response once floods have already occurred. In this regard, a good institutional design must be able to regulate who does what, at what stage, with what resources, and through what coordination mechanisms.

However, findings related to the preparedness of the Bengkulu City Regional Agency for Disaster Management show that formal institutional design still faces implementation constraints. The Bengkulu City Regional Agency for Disaster Management still faces limitations in facilities and infrastructure, budget, and human resources in flood management (Herdiana, 2024). This condition shows a gap between normative institutional design and operational capacity in the field. Bianchi, Nasi, and Rivenbark assert that the implementation of collaborative governance is not sufficient if supported only by formal rules, but must also be able to connect service policy, service delivery, and institutional and inter-institutional perspectives in producing sustainable public outcomes (Bianchi et al., 2021). Thus, the institutional challenge in Bengkulu lies not only in the presence or absence of

regulation, but to the extent to which such regulation is translated into effective collaborative working mechanisms.

Institutional design is also related to information management. In flood management, data on vulnerable areas, data on affected residents, drainage conditions, logistics availability, evacuation status, and facility and infrastructure capacity are important information that determines the effectiveness of collective action. Doberstein emphasizes that the success of collaborative governance is influenced by formal coordination mechanisms, participation rules, decision-making rules, and information management in the collaborative process (Doberstein, 2016). In the context of Bengkulu, the need for information management is evident from the process of data collection on affected houses and residents during the January and April 2026 floods. During the January 2026 flood, the number of submerged houses was still being recorded because water levels remained fluctuating (Antara Bengkulu, 2026b). Meanwhile, during the April 2026 flood, assessment and data collection were part of the initial actions of personnel in disaster response (Badan Nasional Penanggulangan Bencana, 2026). This condition shows that the disaster information system needs to be continuously strengthened so that data on impacts, logistical needs, and evacuation priorities can be available quickly, accurately, and in an integrated manner.

In addition to government coordination aspects, institutional design must also open space for meaningful community participation. In flood management, the community cannot be placed merely as objects of aid but needs to be involved as actors in mitigation and preparedness. Community involvement can be realized through mutual cooperation in cleaning drainage systems, reporting flood-prone environmental conditions, participating in disaster simulations, and disseminating early warning information at the community level. This perspective aligns with the view that collaboration requires the involvement of citizens and civil society as part of public capacity-building processes. Weir, Lenkowsky, Coles, and Deneen show that governments have an important role in establishing the rules of the game, providing resources, and encouraging the participation of community groups so that collaboration does not rely solely on voluntary engagement that emerges spontaneously (Weir et al., 2010). Thus, inclusive institutional design needs to ensure that communities have the space, access to information, and capacity to participate in flood management.

From the perspective of network leadership, institutional design also demands the ability of local government and Regional Agency for Disaster Management to work across organizations. Silvia explains that in network-based governance, public managers not only lead their own formal organizations, but also work within networks involving various organizations with different goals, resources, and authorities (Silvia, 2011). This is relevant to flood management in Bengkulu because Regional Agency for Disaster Management must be able to coordinate actors that are not entirely under a single administrative chain of command. Therefore, institutional design needs to provide space for horizontal coordination, building mutual commitment, identifying resources, and strengthening shared understanding among actors.

Based on the above description, the institutional design in flood management in Bengkulu Province shows the existence of a formal institutional foundation through regulations and the presence of Regional Agency for Disaster Management/*Badan Penanggulangan Bencana Daerah (BPBD)* as the main actor. The empirical conditions of the 2025–2026 floods also show that institutional mechanisms have been functioning in the form of data collection, evacuation, logistics distribution, setting up evacuation tents, and mobilization of emergency facilities. However, this institutional design still needs to be strengthened so that it is not only oriented toward emergency response, but is also able to integrate mitigation, prevention, environmental management, infrastructure improvement, and community participation. Thus, the main challenge in the institutional design dimension is to transform the administrative and reactive institutional design into a more inclusive, operational, transparent, and adaptive collaborative design in dealing with recurring and cross-sectoral floods.

3.3 Facilitative leadership of local government in collaborative governance of flood management

The facilitative leadership dimension in the collaborative governance model refers to the role of leadership in facilitating the collaborative process, bringing actors together, building trust, maintaining communication, and directing stakeholders to work toward shared goals. Ansell and Gash place facilitative leadership as an important element in the success of collaboration because leaders play a role in bringing actors into the forum, mediating differing interests, maintaining the rules of the game, and encouraging more equal participation (Ansell & Gash, 2007). In the context of flood management in Bengkulu Province, facilitative leadership can mainly be seen from the role of local government and Bengkulu City Regional Agency for Disaster Management/*Badan Penanggulangan Bencana Daerah (BPBD)* in coordinating disaster response, activating regional agencies, mobilizing resources, and building cooperation with communities and other supporting actors.

Institutionally, BPBD has a strategic position as the main actor facilitating disaster management coordination at the regional level. In the context of Bengkulu City, Bengkulu City Regional Regulation Number 02 of 2017 concerning the Implementation of Disaster Management affirms that the local government is responsible for the implementation of disaster management, while BPBD carries out technical and coordinative functions in disaster response (Herdiana, 2024). This position places BPBD not only as an emergency response implementer, but also as an institution that must be able to connect various actors, such as regional apparatus organizations, sub-district and village officials, volunteers, communities, and other supporting institutions. Thus, BPBD's leadership capacity becomes an important factor in determining the effectiveness of flood management collaboration.

Facilitative leadership in flood management in Bengkulu was evident in response to the early January 2026 flood in Bengkulu City. In that event, the Bengkulu City BPBD together with relevant regional apparatus organizations, such as the Fire and Rescue Department, Social Services, Satpol PP, and Disaster Preparedness Cadets, moved to carry out field response. BPBD set up evacuation tents, deployed mobile public kitchen units, rubber boats, and fiber boats in affected locations, especially in the Korpri Housing and Ejuka Housing areas (Antara Bengkulu, 2026b; Media Center Kota Bengkulu, 2026). These actions demonstrate a facilitative leadership function, namely coordinating actors across regional apparatus and mobilizing resources to meet the basic needs of affected residents. In the perspective of collaborative governance, such actions reflect the leader's role as an inter-agency connector and a driver of collective action during the emergency response phase.

In the April 2026 flood, the facilitative leadership role was also evident in the processes of assessment, data collection, evacuation, distribution of logistical aid, and setting up evacuation tents. National Disaster Management Authority/*Badan Nasional Penanggulangan Bencana (BNPB)* reported that the flood in Bengkulu City impacted 26 sub-districts in eight districts, with 2,855 houses, one place of worship, and one educational facility affected. In that event, personnel conducted assessments and field response to meet the needs of affected residents (Badan Nasional Penanggulangan Bencana, 2026). The Bengkulu City Government also recorded that as many as 11,601 residents or 2,881 households were affected by the flood, spread across eight districts (Antara Bengkulu, 2026a). The scale of these impacts shows that leadership in flood management cannot be merely administrative but must be able to facilitate cross-regional and cross-sectoral coordination. The wider the affected area, the greater the need for leadership capable of coordinating data, logistics, personnel, evacuation facilities, and basic services quickly and in an integrated manner.

The importance of information integration is also emphasized in disaster information studies, which show that crisis response requires the ability to collect, organize, search, disseminate, and use real-time disaster information. In this sense, disaster information systems are not merely technical tools, but institutional mechanisms that support coordination, decision-making, and accountability during emergency response (Anbarasi & Mayilvahanan, 2016; Price & Vojinovic, 2008).

In the context of collaborative governance, facilitative leadership also functions to activate actor networks. Silvia explains that in network-based governance, public managers not only lead their own formal organizations, but also work within networks involving various organizations with different goals, resources, and authorities (Silvia, 2011). This is relevant to flood management in Bengkulu because Regional Agency for Disaster Management/*Badan Penanggulangan Bencana Daerah (BPBD)* does not have all the resources needed to solve flood problems independently. BPBD needs support from technical agencies for drainage and infrastructure, social services for logistical assistance, health services for health care of affected residents, sub-district and village officials for area data collection, volunteers for evacuation and aid distribution, and communities for community-based mitigation. Therefore, facilitative leadership must be able to shift the working pattern from sectoral command toward more horizontal and participatory network coordination.

The March 2025 flood condition in Rejang Lebong shows that facilitative leadership is needed not only at the emergency response stage, but also at the mitigation and prevention stages. The floods in the areas of Curup Tengah, Curup Kota, and Curup Utara were linked to drainage exceeding capacity and waste clogging water channels. Rejang Lebong BPBD stated that BPBD personnel and cleaning workers had to clean the waste clogging the drainage so that water would not overflow onto roads and residential areas (Antara Bengkulu, 2025). This condition shows that facilitative leadership needs to bridge the work of BPBD with the public works agency, environmental agency, cleaning workers, village governments, and the community. Thus, a collaborative leader is not sufficient if they only mobilize aid after a flood occurs but also needs to encourage joint work in drainage management, waste reduction, and environmental education before a disaster occurs.

Facilitative leadership is also related to the ability to build shared understanding among stakeholders. Emerson, Nabatchi, and Balogh emphasize that collaborative governance requires collaborative dynamics that include principled engagement, shared motivation, and capacity for joint action (Emerson et al., 2012). In the context of Bengkulu, the leadership of BPBD and local government needs to be directed toward building a shared understanding that floods are not merely an emergency matter, but a cross-sectoral governance issue involving infrastructure, environment, spatial planning, community behavior, and community preparedness. This shared understanding is important so that each actor does not work in a partial manner but understands the interconnectedness of their roles within the overall disaster management cycle.

However, the effectiveness of facilitative leadership in Bengkulu still faces several obstacles. Herdiana's study shows that the Bengkulu City BPBD faces limitations in facilities and infrastructure, budget, and human resources in handling flood disasters (Herdiana, 2024). These limitations can restrict the leadership's room to maneuver in mobilizing collaboration, especially when floods occur widely and require rapid response. Under conditions of limited resources, facilitative leadership must be able to optimize external resources through cross-sectoral networks, whether from government, volunteers, communities, or non-government sectors. In other words, institutional limitations strengthen the need for leadership capable of mobilizing support beyond BPBD's internal capacity.

Bianchi, Nasi, and Rivenbark assert that the implementation of collaborative governance requires the ability to connect policy, service delivery, and inter-institutional perspectives in solving complex public problems (Bianchi et al., 2021). In the context of Bengkulu, this means that facilitative leadership must be able to integrate mitigation, preparedness, emergency response, and recovery policies into a single continuous process. If leadership is only oriented toward response after a flood occurs, then collaboration will tend to be reactive. Conversely, if leadership is able to mobilize coordination forums, strengthen information systems, encourage community education, and ensure the division of roles among institutions, then collaboration can develop into a more preventive and adaptive approach.

Doberstein emphasizes that collaborative governance requires good design and management to produce collaborative advantage, i.e., policy or coordination outcomes that cannot be achieved by a single organization on its own (Doberstein, 2016). In flood management in Bengkulu, the potential

for collaborative advantage can emerge if the leadership of local government and Regional Agency for Disaster Management/*Badan Penanggulangan Bencana Daerah (BPBD)* is able to unite the technical knowledge of agencies, the field experience of volunteers, the local information of communities, the logistical capacity of government, and media support into a single collective action. Thus, the quality of leadership is measured not only by the speed of responding to floods, but also by its ability to facilitate shared learning, strengthen networks, and produce more integrated working patterns.

Furthermore, facilitative leadership needs to encourage more meaningful citizen participation. Weir, Lenkowsky, Coles, and Deneen explain that governments have an important role in establishing the rules of the game, providing resources, and encouraging citizen engagement so that collaboration does not rely solely on spontaneous participation (Weir et al., 2010). In the context of Bengkulu, local government and BPBD need to facilitate community participation through flood risk education, preparedness training, evacuation drills, early reporting of environmental conditions, and collective movements to maintain drainage systems. Thus, facilitative leadership not only plays a role in mobilizing government apparatus but also builds the social capacity of the community as part of the disaster management system.

Based on the above description, facilitative leadership in flood management in Bengkulu Province has been evident in the ability of local government and BPBD to coordinate emergency responses, mobilize regional apparatus, set up evacuation tents, provide mobile public kitchens, conduct assessments, distribute aid, and facilitate the evacuation of residents. However, facilitative leadership still needs to be strengthened so that it works not only during the emergency response phase, but also during the pre-disaster and post-disaster phases. This strengthening includes the ability to activate cross-sectoral networks, build shared understanding, strengthen information systems, integrate resources, and encourage community participation in mitigation and preparedness. Thus, the success of collaborative governance in flood management in Bengkulu greatly depends on the leadership capacity of local government and BPBD to facilitate inclusive, adaptive, and sustainable collaboration.

3.4 Collaborative process in flood disaster management

The collaborative process dimension is the core of the collaborative governance model developed by Ansell and Gash. The collaborative process includes several main elements, namely face-to-face dialogue, trust-building, commitment to the process, shared understanding, and intermediate outcomes (Ansell & Gash, 2007). In the context of flood disaster management in Bengkulu Province, the collaborative process can be seen from how local government, BPBD, regional apparatus organizations, sub-district and village officials, volunteers, communities, and other supporting actors interact in the processes of mitigation, emergency response, data collection, evacuation, aid distribution, and post-disaster recovery.

The collaborative process in flood management in Bengkulu is especially evident during the emergency response phase. During the January 2026 flood in Bengkulu City, local government and BPBD conducted field coordination by deploying mobile public kitchen units, rubber boats, fiber boats, and evacuation tents for affected residents (Antara Bengkulu, 2026b; Media Center Kota Bengkulu, 2026). These actions demonstrate a process of joint work between BPBD and relevant regional apparatus in meeting the basic needs of the community. In the perspective of Ansell and Gash, these actions can be understood as an initial form of the collaborative process, because there is inter-agency interaction, resource mobilization, and efforts to build a collective response to the flood crisis (Ansell & Gash, 2007). In collaborative governance, leadership is not limited to command and control, but also involves the ability to enable joint work, build trust, connect actors, and transform fragmented resources into collective capacity. Therefore, the leadership of local government and Regional Agency for Disaster Management/*Badan Penanggulangan Bencana Daerah (BPBD)* needs to function as a facilitative mechanism that allows government agencies, communities, volunteers, and

non-government actors to work as partners in flood management (O'Flynn & Wanna, 2008; Sirianni, 2009).

The first element in the collaborative process is dialogue or direct communication among actors. In flood management, direct communication is needed to ensure that data on affected residents, flood locations, logistical needs, evacuation priorities, and shelter conditions can be known quickly. During the April 2026 flood in Bengkulu City, personnel conducted assessments, data collection, evacuation of residents, distribution of logistical aid, and setting up evacuation tents in affected areas (Badan Nasional Penanggulangan Bencana, 2026). These activities show that field communication is an important foundation in the collaborative process. Without fast and directed communication, inter-agency responses risk being out of sync, especially when floods impact many areas at once.

The second element is trusting building. Trust in collaboration does not appear automatically, but is built through consistency of actions, the presence of government actors in the field, and the ability of institutions to respond to community needs. In the case of the Bengkulu floods, the setting up of evacuation tents, provision of mobile public kitchens, evacuation of residents, and distribution of logistical aid can be read as forms of action that have the potential to strengthen public trust in local government and Regional Agency for Disaster Management/*Badan Penanggulangan Bencana Daerah (BPBD)*. Ansell and Gash explain that trust is an important element in the collaborative process because it serves as the basis for the formation of commitment, openness, and willingness of actors to cooperate (Ansell & Gash, 2007). Therefore, the rapid response of local government in the emergency phase is not only technically valuable but also has institutional meaning in building legitimacy and public trust.

The third element is commitment to the collaborative process. This commitment is evident from the involvement of various actors in flood management, both in aspects of evacuation, data collection, logistics, and environmental management. In the case of the 2025 flood in Rejang Lebong, the issue of drainage exceeding capacity and waste clogging water channels shows that flood management requires cross-sectoral commitment, not only from BPBD, but also from the public works agency, environmental agency, cleaning workers, sub-district and village governments, and the community (Antara Bengkulu, 2025). Collaborative commitment in this context is not sufficient if it only emerges when a flood occurs but must be extended to the pre-disaster stage through cleaning water channels, waste management, mapping of flood-prone areas, and community education.

The fourth element is shared understanding. Flood management in Bengkulu requires an understanding that floods are not merely hydrometeorological events, but also governance issues related to drainage, spatial planning, watersheds, community behavior, facility and infrastructure readiness, and institutional capacity. Herdiana's study shows that floods in Bengkulu City are influenced by high rainfall, the existence of settlements in low-lying areas and along riverbanks, low public awareness of environmental cleanliness, and weak flood prevention and management efforts (Herdiana, 2024). These findings show the importance of building a shared understanding among institutions and the community that flood management cannot be limited to emergency response but must include sustainable structural and non-structural mitigation.

Shared understanding is also important because floods in Bengkulu have a cross-regional character. In April 2026, floods in Bengkulu City impacted 26 sub-districts across eight districts, while floods in Central Bengkulu Regency impacted several sub-districts and hundreds of households (Badan Nasional Penanggulangan Bencana, 2026). This condition shows that the collaborative process needs to involve coordination across levels of government and across regions. Emerson, Nabatchi, and Balogh explain that collaborative governance is a process and structure of public decision-making that involves actors across institutions, across levels of government, and across sectors to achieve public goals that cannot be achieved individually (Emerson et al., 2012). Thus, the collaborative process in flood management in Bengkulu needs to be directed toward strengthening the connectivity between provincial government, district/city governments, Regional Agency for

Disaster Management/*Badan Penanggulangan Bencana Daerah (BPBD)*, technical agencies, and local communities.

The fifth element is intermediate outcomes. In the Ansell and Gash model, intermediate outcomes can strengthen the collaborative process because they produce tangible progress that can reinforce actor trust and commitment (Ansell & Gash, 2007). In the context of Bengkulu, intermediate outcomes can be seen in the successful implementation of data collection on affected residents, the setting up of evacuation tents, the provision of mobile public kitchens, the evacuation of residents, the distribution of logistical aid, and the cleaning of drainage systems during several flood events. These outcomes show that collaboration has produced practical outputs during the emergency response phase. However, these outcomes still need to be expanded toward more preventive results, such as a reduction in inundation points, increased public awareness, the availability of an effective early warning system, and strengthened pre-disaster coordination.

The collaborative process in flood management in Bengkulu also faces challenges related to institutional capacity. Herdiana shows that the Bengkulu City BPBD still faces limitations in facilities and infrastructure, budget, and human resources in flood management (Herdiana, 2024). These limitations can affect the quality of the collaborative process, particularly in terms of response speed, service reach, and continuity of mitigation. Bianchi, Nasi, and Rivenbark assert that the implementation of collaborative governance not only requires institutional design, but also a process capable of connecting policy, service delivery, and inter-institutional perspectives to produce sustainable public outcomes (Bianchi et al., 2021). Thus, the collaborative process in Bengkulu needs to be strengthened through increasing institutional capacity, data integration, and continuity of cross-sectoral coordination.

In addition, the collaborative process must be able to avoid working patterns that are too reactive. Empirical data shows that the response of local government and BPBD is quite visible when floods occur, such as through evacuation, data collection, evacuation tents, and logistical aid. However, issues such as inadequate drainage, waste in water channels, damage to watersheds, and low public awareness show that collaboration needs to be strengthened at the mitigation and preparedness stages. Doberstein emphasizes that collaborative governance can produce collaborative advantage if the processes of deliberation, coordination, and information management are able to produce decisions or actions that cannot be achieved by a single organization on its own (Doberstein, 2016). In the context of Bengkulu, collaborative advantage can be achieved if the collaborative process not only produces emergency response but also changes in flood prevention patterns through joint work between institutions and the community.

Community involvement becomes an important aspect in strengthening the collaborative process. The community has local knowledge regarding flood-prone points, drainage conditions, inundation patterns, and the needs of affected residents. Therefore, the community cannot be positioned merely as recipients of aid, but must be involved as subjects in mitigation, preparedness, early reporting, and recovery. Weir, Lenkowsky, Coles, and Deneen emphasize that governments have an important role in establishing the rules of the game, providing resources, and encouraging citizen engagement so that collaboration does not rely solely on spontaneous participation (Weir et al., 2010). In the context of Bengkulu, this means that local government and BPBD need to strengthen citizen communication forums, disaster education, evacuation drills, and mutual cooperation activities as part of the collaborative process. However, government-community collaboration should not stop at passive forms of participation such as information sharing or attendance in training. Previous disaster management research shows that collaboration becomes more meaningful when communities are involved in preparedness, monitoring, damage assessment, local risk communication, and collective learning before, during, and after disaster events (Raungratanaamporn et al., 2014; Sirianni, 2009).

Based on the above description, the collaborative process in flood management in Bengkulu Province has been evident in the form of field coordination, assessment, data collection, evacuation,

aid distribution, setting up evacuation tents, providing mobile public kitchens, and cleaning drainage systems. However, this process still tends to be strong during the emergency response phase and needs to be strengthened in the mitigation, preparedness, and recovery phases. Using the Ansell and Gash framework, it can be concluded that the collaborative process in Bengkulu requires strengthening in the aspects of inter-agency dialogue, trust-building, cross-sectoral commitment, shared understanding of the root causes of flooding, and the achievement of intermediate outcomes that are more prevention-oriented. Thus, the success of collaborative governance in flood management in Bengkulu greatly depends on the ability of relevant actors to transform emergency coordination into a sustainable collaborative process.

3.5 Synthesis of collaborative governance in flood disaster management

Based on the analysis of the starting conditions, institutional design, facilitative leadership, and collaborative process dimensions, collaborative governance in flood disaster management in Bengkulu Province shows a combination of collaborative potential and implementation obstacles. Conceptually, collaborative governance emphasizes the involvement of government and non-government actors in formal, deliberative, consensus-oriented public policy decision-making and implementation processes (Ansell & Gash, 2007). In the context of Bengkulu, this principle has begun to be seen through the involvement of local government, Regional Agency for Disaster Management/*Badan Penanggulangan Bencana Daerah (BPBD)*, regional apparatus organizations, sub-district and village officials, volunteers, communities, and other supporting actors in flood management. However, the collaborative pattern that has developed remains stronger in the emergency response phase than in the mitigation and prevention phases.'

This finding is consistent with flood risk management literature, which criticizes the dominance of ex-post responses and emphasizes the need for proactive investment in infrastructure, technology, institutional capacity, management practices, public behavior change, and early warning systems. Thus, collaborative governance in Bengkulu should be directed toward transforming emergency coordination into a preventive and adaptive governance system (Mai et al., 2020; Price & Vojinovic, 2008; Rehman et al., 2019).

The main supporting factor for collaborative governance in Bengkulu is the existence of a formal institutional framework for disaster management. The existence of Law Number 24 of 2007, Government Regulation Number 21 of 2008, and Bengkulu City Regional Regulation Number 02 of 2017 provides a legal basis for local government and BPBD to carry out coordination functions in disaster management (Herdiana, 2024). Institutionally, BPBD becomes the main node in data collection, response coordination, resource mobilization, and emergency response. The existence of this formal structure is important because collaboration requires basic rules, clarity of roles, and process transparency so that actors can work within the same framework (Ansell & Gash, 2007).

Another supporting factor is the empirical experience in handling recurring floods. Flood events in Bengkulu in 2025–2026 have encouraged local government and BPBD to carry out various emergency actions, such as assessment, data collection on affected residents, evacuation, setting up evacuation tents, providing mobile public kitchens, and distributing logistical aid. During the January 2026 flood in Bengkulu City, BPBD together with relevant regional apparatus deployed mobile public kitchen units, rubber boats, fiber boats, and evacuation tents for affected residents (Antara Bengkulu, 2026b; Media Center Kota Bengkulu, 2026). During the April 2026 flood, National Disaster Management Authority/*Badan Nasional Penanggulangan Bencana (BNPB)* reported actions of assessment, data collection, evacuation of residents, distribution of logistical aid, and setting up evacuation tents in affected areas (Badan Nasional Penanggulangan Bencana, 2026). These practices show that operational collaboration mechanisms have been established, particularly in responding to the basic needs of the community during the emergency phase.

In addition to the institutional framework and handling experience, another supporting factor is the need for interdependence among actors. Floods in Bengkulu cannot be solved by a single institution because the causes and impacts are related to drainage, spatial planning, watersheds, the environment, public health, social assistance, logistics, evacuation, and socio-economic recovery. Emerson, Nabatchi, and Balogh explain that collaborative governance takes place through processes and structures that involve actors across institutions, across levels of government, and across sectors to achieve public goals that cannot be achieved individually (Emerson et al., 2012). In the context of Bengkulu, this need for interdependence is evident from the involvement of Regional Agency for Disaster Management/*Badan Penanggulangan Bencana Daerah (BPBD)*, technical agencies, regional apparatus, volunteers, communities, and supporting actors in flood management.

Despite this, collaborative governance in flood management in Bengkulu also faces several obstacles. The first obstacle is limited institutional capacity, particularly in terms of budget, human resources, and facilities and infrastructure. Herdiana's study shows that the Bengkulu City BPBD still faces constraints in the form of lack of facilities and infrastructure, budget limitations, and the need to improve human resources to be better prepared to act quickly, precisely, effectively, and efficiently (Herdiana, 2024). These limitations affect BPBD's ability to carry out mitigation, preparedness, and emergency response functions optimally. In the perspective of Ansell and Gash, resource inequality can affect the effectiveness of collaboration because actors with limited capacity will have difficulty participating meaningfully in the collaborative process (Ansell & Gash, 2007).

The second obstacle is the still dominant reactive response pattern. Analysis of the January and April 2026 flood events shows that inter-agency coordination is quite visible during the emergency response phase, particularly through evacuation, data collection, logistics, and setting up evacuation tents. However, the flood problem in Bengkulu is also related to structural and social root problems, such as drainage capacity, waste, damage to watersheds, and low public awareness of environmental cleanliness. The Rejang Lebong flood case in March 2025 shows that drainage exceeding capacity and waste clogging water channels were important factors causing the flood (Antara Bengkulu, 2025). This condition shows that collaboration is not sufficient if it is only directed toward response after a flood occurs, but must be extended to strengthening mitigation, environmental management, and changing community behavior.

The third obstacle is that information integration and cross-sectoral coordination have not been optimized. In flood management, data on vulnerable areas, number of affected residents, drainage conditions, logistical needs, shelter capacity, and evacuation status are important foundations for collective action. Doberstein emphasizes that the success of collaborative governance is influenced by formal coordination mechanisms, participation rules, decision-making rules, and information management in the collaborative process (Doberstein, 2016). In the context of Bengkulu, the process of data collection on affected residents during the January and April 2026 floods shows the importance of a fast, accurate, and integrated disaster information system. If data is not managed openly and across institutions, disaster response risks being slow, overlapping, or mistargeted.

The fourth obstacle is that community participation has not yet been fully institutionalized in the mitigation process. In fact, floods in Bengkulu cannot be separated from community behavioral factors, particularly in maintaining the cleanliness of water channels, not littering, and participating in mutual cooperation and preparedness activities. Herdiana shows that low public awareness in maintaining the environment is one of the factors causing floods in Bengkulu City (Herdiana, 2024). In a collaborative perspective, the community should not only be positioned as recipients of aid, but also as actors in mitigation and preparedness. Weir, Lenkowsky, Coles, and Deneen emphasize that governments have an important role in establishing the rules of the game, providing resources, and encouraging citizen engagement so that collaboration does not rely solely on voluntary participation that emerges spontaneously (Weir et al., 2010).

The synthesis of these supporting and inhibiting factors shows that collaborative governance in flood management in Bengkulu is in a developing stage. On one hand, there is an institutional basis,

response experience, and interdependence needs that drive collaboration. On the other hand, there are obstacles in the form of limited institutional capacity, dominance of emergency response, weak information integration, and suboptimal community participation in mitigation. Bianchi, Nasi, and Rivenbark explain that the implementation of collaborative governance requires connectivity between policy, service delivery, and inter-institutional perspectives in order to produce sustainable public outcomes (Bianchi et al., 2021). Therefore, Bengkulu's main challenge is to connect emergency actions with more structured mitigation and prevention agendas.

In this context, collaborative governance needs to be directed to produce collaborative advantage, i.e., policy or coordination outcomes that cannot be achieved by a single organization on its own (Doberstein, 2016). In flood management in Bengkulu, collaborative advantage can be achieved if Regional Agency for Disaster Management/*Badan Penanggulangan Bencana Daerah (BPBD)* is able to integrate local government resources, the technical capacity of relevant agencies, local community knowledge, volunteer support, media information, and support from non-government sectors into a sustainable working system. Thus, the success of collaboration is measured not only by the ability to respond to floods when they occur, but also by the ability to reduce flood risk through drainage management, strengthening early warning systems, public education, and participatory mapping of vulnerable areas.

Based on this analysis, collaborative governance in flood management in Bengkulu Province can be concluded to have a sufficient institutional foundation but still requires strengthening in the implementation aspect. This strengthening includes increasing BPBD's capacity, integrating disaster information systems, expanding cross-sectoral coordination, meaningfully involving the community, and shifting the orientation from emergency response toward mitigation and preparedness. Thus, collaborative governance in flood management in Bengkulu needs to be developed as a governance model that is not only reactive, but also preventive, adaptive, and sustainable.

4. Conclusions

The findings demonstrate that flood disaster management in Bengkulu Province has developed a basic foundation for collaborative governance, particularly during the emergency response phase. Local governments, BPBD, regional apparatus organizations, sub-district and village authorities, volunteers, communities, and other stakeholders have collaborated in conducting assessments and evacuations, distributing logistical assistance, and establishing temporary shelters and mobile public kitchens. Nevertheless, the existing collaboration remains largely reactive and incident-based, whereas mitigation, preparedness, prevention, and post-disaster recovery have not been institutionalized to the same extent.

Viewed through the collaborative governance framework developed by Ansell and Gash, the existing arrangements are shaped by recurring floods, high regional vulnerability, unequal institutional capacities, limited budgets, inadequate human resources and infrastructure, and limited public awareness of environmental management. Although national and regional regulations, together with BPBD's coordinating role, provide an institutional foundation, implementation remains constrained by an unclear allocation of responsibilities, fragmented disaster information systems, limited transparency, and insufficient community participation. Facilitative leadership and collaborative processes are evident in field coordination and resource mobilization; however, they need to extend beyond emergency operations to include sustained inter-agency dialogue, trust-building, shared understanding, and collective action throughout the disaster management cycle.

Accordingly, flood governance in Bengkulu should transition toward a more preventive, adaptive, and sustainable collaborative model. Strategic priorities include strengthening BPBD's institutional and operational capacity, integrating disaster information systems, clarifying the responsibilities of provincial, regency, and municipal governments and technical agencies, and ensuring the meaningful involvement of communities, volunteers, media organizations, academics, and private-sector actors

in mitigation and preparedness. Disaster risk reduction should also be embedded in regional development planning and integrated into drainage and watershed management, public education, early warning systems, and participatory risk mapping. These measures would enable collaboration not only to improve emergency response but also to reduce long-term flood risks.

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Author Contribution

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The data used in this study comes from publicly available public documents (academic literature). No new data was created primarily for this study.

Conflicts of Interest

The author declares no conflict of interest in this research.

Declaration of Generative AI Use

During the preparation of this work, the author used Grammarly to assist in improving grammar, clarity, and the academic tone of the manuscript. After using this tool, the author carefully reviewed and edited the content as needed and took full responsibility for the content of the publication.

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References

- Anbarasi, C., & Mayilvahanan, P. (2016). The Analysis of Flood Disaster Management in Chennai. *Indian Journal of Science and Technology*, 9(1), 1–6. <https://doi.org/10.17485/ijst/2016/v9iS1/101647>
- Ansell, C., & Gash, A. (2007). Collaborative Governance In Theory And Practice. *Journal Of Public Administration Research And Theory*, 18(4), 543–571. <https://doi.org/10.1093/jopart/mum032>
- Ansell, C., & Torfing, J. (2018). *How does Collaborative Governance Scale?* London: Policy Press.
- Antara Bengkulu. (2024). *Pemprov Bengkulu Fokus Tekan Risiko Bencana Gempa, Banjir dan Longsor*. AntaraNews Bengkulu.
- Antara Bengkulu. (2025). *BPBD: Banjir di Rejang Lebong Akibat Drainase Kelebihan Kapasitas*. AntaraNews Bengkulu.
- Antara Bengkulu. (2026a). *Pemkot Bengkulu Catat 11.601 Warga Terdampak Bencana Banjir*. AntaraNews Bengkulu.
- Antara Bengkulu. (2026b). *Pemkot Bengkulu Dirikan Tenda Pengungsian Bagi Warga Terdampak Banjir*. AntaraNews Bengkulu.
- Badan Nasional Penanggulangan Bencana. (2026). *Perkembangan Situasi dan Penanganan Bencana di Tanah Air Tanggal 8 April 2026*. BNPB.
- Bianchi, C., Nasi, G., & Rivenbark, W. C. (2021). Implementing Collaborative Governance: Models, Experiences, and Challenges. *Public Management Review*, 23(11), 1581–1589. <https://doi.org/10.1080/14719037.2021.1878777>
- Creswell, J. W., & Creswell, J. D. (2022). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (6th ed.). SAGE Publication Inc.
- Doberstein, C. (2016). Designing Collaborative Governance Decision-Making in Search of a 'Collaborative Advantage.' *Public Management Review*, 18(6), 819–841. <https://doi.org/10.1080/14719037.2015.1045019>
- Economic and Social Commission for Asia and the Pacific, & United Nations Development Programme. (1991). *Manual and Guidelines for Comprehensive Flood Loss Prevention and Management*. Economic and Social Commission for Asia and the Pacific United Nations Development Programme.
- Emerson, K., Nabatchi, T., & Balogh, S. (2012). An Integrative Framework for Collaborative Governance. *Journal of Public Administration Research and Theory*, 22(1), 1–29. <https://doi.org/10.1093/jopart/mur011>
- Fatmah, F. (2025). Roles of Community Leaders in Flood Management at The Selected Flood-Prone Areas of Jakarta Province. *Development in Practice*, 35(4), 619–632. <https://doi.org/10.1080/09614524.2025.2499006>
- Greenwood, S., Singer, L., & Willis, W. (2021). *Collaborative Governance: Principles, Processes, and Practical Tools*. Routledge.
- Herdiana, A. N. (2024). *Kesiapsiagaan Badan Penanggulangan Bencana Daerah terhadap Bencana Banjir di Kota Bengkulu Provinsi Bengkulu*. Institut Pemerintahan Dalam Negeri.
- Katyal, A. K., & Petrisor, I. G. (2011). Flood Management Strategies for a Holistic Sustainable Development. *Environmental Forensics*, 12(3), 206–218. <https://doi.org/10.1080/15275922.2011.595051>
- Mai, T., Mushtaq, S., Reardon-Smith, K., Webb, P., Stone, R., Kath, J., & An-Vo, D.-A. (2020). Defining Flood Risk Management Strategies: A Systems Approach. *International Journal of Disaster Risk Reduction*, 47, 101550. <https://doi.org/10.1016/j.ijdrr.2020.101550>
- Media Center Kota Bengkulu. (2026). *Sejumlah Wilayah di Kota Bengkulu Terendam Banjir, BPBD Kerahkan Mobil Dapur Umum dan Perahu Karet*. Media Center Bengkulu.
- Moore, S. (2018). The Political Economy of Flood Management Reform in China. *International Journal of Water Resources Development*, 34(4), 566–577.

- <https://doi.org/10.1080/07900627.2017.1348937>
- Nivolianitou, Z., Synodinou, B., & Manca, D. (2015). Flood Disaster Management with The Use of AHP. *International Journal of Multicriteria Decision Making*, 5(1–2), 152–164. <https://doi.org/10.1504/IJMCDM.2015.067943>
- O'Flynn, J., & Wanna, J. (2008). *Collaborative Governance: A New Era of Public Policy in Australia?* ANU E Press.
- Pemerintah Kota Bengkulu. (2017). *Peraturan Daerah Kota Bengkulu Nomor 02 Tahun 2017 tentang Penyelenggaraan Penanggulangan Bencana Kota Bengkulu*. Pemerintah Kota Bengkulu.
- Pemerintah RI. (2007). *Undang-undang No. 24 Tahun 2007 tentang Penanggulangan Bencana*. Pemerintah Republik Indonesia.
- Pemerintah RI. (2008). *Peraturan Pemerintah Nomor 21 tahun 2008 tentang Penyelenggaraan Penanggulangan Bencana*. Pemerintah Republik Indonesia.
- Price, R. K., & Vojinovic, Z. (2008). Urban Flood Disaster Management. *Urban Water Journal*, 5(3), 259–276. <https://doi.org/10.1080/15730620802099721>
- Raungratanaamporn, I., Pakdeeburee, P., Kamiko, A., & Denpaiboon, C. (2014). Government-Communities Collaboration in Disaster Management Activity: Investigation in The Current Flood Disaster Management Policy in Thailand. *Procedia Environmental Sciences*, 20, 658–667. <https://doi.org/10.1016/j.proenv.2014.03.079>
- Rehman, J., Sohaib, O., Asif, M., & Pradhan, B. (2019). Applying Systems Thinking to Flood Disaster Management for A Sustainable Development. *International Journal of Disaster Risk Reduction*, 36, 101101. <https://doi.org/10.1016/j.ijdrr.2019.101101>
- Ritnawati, R., Indrayani, P., Kalsum, S. U., Rachim, F., Erdawaty, E., Hasnawi, M., ... Nugroho, E. O. (2025). *Manajemen Bencana Banjir: Dari Mitigasi hingga Pemulihan*. Medan: Yayasan Kita Menulis.
- Sadiq, A.-A., & Noonan, D. S. (2015). Flood Disaster Management Policy: An Analysis of The United States Community Ratings System. *Journal of Natural Resources Policy Research*, 7(1), 5–22. <https://doi.org/10.1080/19390459.2014.963373>
- Silva, W., Dijkman, J. P. M., & Loucks, D. P. (2004). Flood Management Options for The Netherlands. *International Journal of River Basin Management*, 2(2), 101–112. <https://doi.org/10.1080/15715124.2004.9635225>
- Silvia, C. (2011). Collaborative Governance Concepts for Successful Network Leadership. *State and Local Government Review*, 43(1), 66–71. <https://doi.org/10.1177/0160323X11400211>
- Sirianni, C. (2009). *Investing in Democracy: Engaging Citizens in Collaborative Governance*. Bloomsbury Publishing PLC.
- Takeleb, A. M., Costa, C. A. de J. da, & Godinho, A. F. (2025). Sustainable Flood Management System Frameworks in Dili Municipality, Timor Leste. *Australasian Journal of Water Resources*, 29(2), 215–225. <https://doi.org/10.1080/13241583.2025.2583751>
- Weir, M., Lenkowsky, L., Coles, R., & Deneen, P. (2010). Collaborative Governance and Civic Empowerment A Discussion of Investing in Democracy: Engaging Citizens in Collaborative Governance. *Perspectives on Politics*, 8(2), 595–607. <https://doi.org/10.2307/25698620>

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