

# Collaborative governance model in disaster mitigation in Malang Regency

Asih Widi Lestari<sup>1\*</sup>, Firman Firdausi<sup>2</sup>, Amanda Dewanata Puteri<sup>2</sup>

<sup>1</sup> Universitas Diponegoro, Semarang, Indonesia

Jl. dr. Antonius Suroyo, Kota Semarang, Indonesia. Kode Pos 50275

<sup>2</sup> University of Tribhuwana Tunggaladewi

Jl. Telaga Warna, Tlogomas, Kec. Lowokwaru, Kota Malang, Jawa Timur 65144

\*Email Corresponding: [lestariwidi263@gmail.com](mailto:lestariwidi263@gmail.com)

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## Abstract

Indonesia is a country that has a disaster-prone geographic condition. This is because Indonesia is located at a confluence of tectonic plates, and the tropics have two seasons, namely rainy and dry. Disasters tend to occur in vulnerable communities, and will make communities more vulnerable. The vulnerability of a community begins with the unsafe physical, social and economic conditions attached to it. This insecure condition occurs due to internal and external dynamic pressure, for example in the local institutional community that is less developed and lacks the right skills. Disaster Management Policy is an integral part of national development, namely a series of disaster management activities before, during and after a disaster is carried out by the Malang Regency Government in its efforts to deal with frequent disasters which are not easy, in the implementation process many obstacles occur, disaster mitigation should routinely carried out to reduce the impact of disasters, and make people aware of disaster mitigation, one of which is by carrying out routine socialization on disaster mitigation starting from pre-disaster, during disaster and post-disaster, but BPBD Malang Regency rarely conducts outreach related to disaster mitigation, so that when disaster occurs Disaster impacts are far more severe and result in losses and cause casualties. Malang Regency Government needs to strengthen collaboration with other stakeholders for disaster mitigation efforts.

Keyword: collaborative governance, disaster mitigation, strengthening community.

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## 1. Introduction

Indonesia is a country that has a disaster-prone geographic condition. This is because Indo-

nesia is located at a confluence of tectonic plates, and the tropics have two seasons, namely rainy and dry. The government has so far established

34 Provincial Disaster Management Agencies (BPBD) and 490 district/city BPBDs, for a total of 524 (BPBD's throughout Indonesia (Pramono & Suranto, 2021). This is in accordance with Law Number 24 of 2007 concerning Disaster Management, where in article 18 of the law it is stated that the regional government is obliged to form a BPBD, but this formation is not accompanied by good capabilities and skills in dealing with disasters that occur in the field. Regional capacity in implementing disaster management is an important parameter in determining the success of disaster risk reduction.

Regional capacity in disaster management must refer to the National Disaster Management System contained in Law Number 24 of 2007 concerning Disaster Management and its derivative regulations (Luthfi et al., 2023). Disaster is a natural phenomenon that occurs beyond human control. According to Law Number 24 of 2007 concerning Disaster Management Chapter 1 Article 1, a disaster is defined as an event or series of events that threatens or disrupts people's lives and livelihoods, both caused by natural and/or non-natural factors as well as human factors resulting in casualties, damage environment, property loss, and psychological impact. According to the International Strategy for Disaster Reduction (ISDR) 2004 in (1), a disaster is a serious disruption to the functioning of a society, causing widespread harm to human life in material, economic or environmental terms and which exceeds the ability of the community concerned to cope using their own resources (Presiden Republik Indonesia, n.d.-a). Based on these definitions, disasters contain three basic aspects, namely: (1) The occurrence of events or disturbances that threaten and damage, (2) These events or disturbances threaten the lives, livelihoods and functions of the community and (3) The threats result in victims and beyond the community's ability to cope with their resources (Kepala Badan Nasional Penanggulangan Bencana, n.d.).

Disasters can occur due to two conditions, namely the presence of events or disturbances that threaten and damage or the vulnerability of

the community. Some disasters that occur are caused by failures in supervision and the ability to recognize symptoms and potential disaster risks that could occur at any time (Presiden Republik Indonesia, n.d.-d). Therefore, humans struggle and continue to struggle to be free from disaster. In this struggle, mitigation practices were born, such as flood mitigation, drought mitigation, earthquake mitigation, volcano mitigation, fire mitigation, and others (2).

According to (3) article 5, the implementation of disaster management is a series of efforts that include establishing development policies that are at risk of disasters, disaster prevention activities, emergency response, and rehabilitation. National disaster management operations must be ensured to run effectively, efficiently and sustainably. To support the development of a disaster management system that includes policies, strategies and operations nationally covering the central and regional governments, it is necessary to start by knowing the extent to which regulations related to disaster management are implemented in the regions. It is increasingly important to pay attention to policies, strategies and operational strategies in disaster management, especially in the disaster risk mitigation/reduction (DRR) phase, in which this phase is the foundation for subsequent phases. The disaster risk reduction/mitigation phase has recently received increasing attention, because it is believed that the impact of disasters will be greatly reduced if the risks can be minimized.

Disaster Risk Reduction (DRR) is a systematic approach to identify, assess and reduce disaster risks. Disaster Risk Reduction (DRR) aims to reduce social and economic vulnerability to disasters, increase social and economic capacity and resilience to disasters and deal with environmental and other hazards (Mohd Robi Amri et al, 2016). In its implementation, disaster mitigation is the responsibility of institutions working in the field of development as well as humanitarian aid agencies and must follow the principle of integration.

Therefore, it is necessary to implement good, effective, efficient, rational public policies to handle, minimize and mitigate disasters (Dody Setyawan, 2017). Public policy implementation is a process of carrying out well-planned, rational, efficient and effective policy decisions and actions taken by individuals and government and private groups directed at achieving the goals and objectives that have been set (Sahya Anggara, 2014).

Malang Regency is an area that is prone to earthquakes due to its geographical location near the South Coast of Java Island. This of course also has the potential for a Tsunami disaster to occur. On April 10 2021, an earthquake with a magnitude of 6.7 occurred in Malang Regency, damaging 1,763 buildings. The Malang Regency Regional Disaster Management Agency (BPBD) said that 878 houses were slightly damaged, 329 houses were moderately damaged, and 427 houses were heavily damaged. Apart from houses, there were 66 damaged public facilities. The damaged public facilities consisted of 15 school buildings, 30 houses of worship, 8 units of health facilities, and 13 other public facilities. All affected houses and public facilities are spread across 23 sub-districts, especially in sub-districts on the south coast of Malang, including Ampelgading, Tirtoyudo, and Dampit.

## **2. Literature Review**

Disaster Management Policy is an integral part of national development, namely a series of disaster management activities before, during and after a disaster is carried out by the Government of Malang Regency in its efforts to deal with frequent disasters which are not easy, in the implementation process many obstacles occur, disaster mitigation should routinely carried out to reduce the impact of disasters, and make people aware of disaster mitigation, one of which is by carrying out routine socialization on disaster mitigation starting from pre-disaster, during disaster and post-disaster, but BPBD Malang Regency rarely conducts socialization related to disaster mitigation, so that when disaster occurs Disaster

impacts are far more severe and result in losses and cause casualties. Malang Region of Government needs to strengthen collaboration with other stakeholders for disaster mitigation efforts (Syahputra et al., 2017). This study aims to obtain a Collaborative Governance Model in strengthening the community's role in facing (mitigating) earthquake disasters in Malang Regency. Based on previous research, Indonesia has quite large potential for disasters, especially on the island of Java. Apart from volcanic, tectonic earthquakes also often occur. This means, for example, that Surabaya has progressed significantly in the regional cycle of large earthquakes, whereas Yogyakarta is about midway in its seismic cycle. We observe that a change in magnitude threshold or geographic area has a consistent impact on the nowcast scores. These findings not only enable a rapid yet meaningful way to rank several cities based on their current exposure to earthquake hazards, but also empower earthquake scientists and policymakers towards better policymaking, land-use planning, earthquake insurance, disaster risk mitigation, and social awareness with respect to the seismically active island of Java (Pasari, 2021).

Other studies have noted that prevention is very important, not just limited to lives. Early prevention, even when symptoms are still present, can not only save lives, but also reduce the risk of loss of property (Salmanidou, 2021).

## **3. Research Methods**

This research uses a descriptive method. According to that, "descriptive research is research conducted on independent variables, namely without making comparisons or connecting with other variables" (Lexy J. Moleong, 2018). And using a qualitative approach. According to Bogdan and Taylor in that, "qualitative research is used to produce descriptive data in the form of written or oral data from people and observable behavior." The approach is through case studies carried out at BPBD Malang Regency and its work area. The types and sources of data used in this

study are primary data and secondary data. Primary data obtained directly from the main source, namely in the form of interviews and observations. Secondary data obtained from documents, archives and reports. Data collection in this study used three kinds of techniques, namely Interview, Observation, and documentation. The instruments used in this study were the researchers themselves, and assisting instruments consisting of interview guides, tape recorders, cell phones, and small pocket books. Data analysis in this study used an interactive data analysis model from, namely: data collection, data reduction, data presentation, and drawing conclusions/verification (John W. Creswell, 2010).

#### **4. Results and Discussion**

##### **Collaborative Governance Model in Disaster Mitigation in Kabupaten Malang**

Disaster mitigation is a series of efforts to reduce disaster risk, both through physical development and awareness and capacity building in dealing with disaster threats (Undang-Undang Republik Indonesia Nomor 24 Tahun 2007, n.d.). Disaster mitigation programs are carried out to reduce the risks and impacts caused by disasters on people living in disaster-prone areas. Disaster mitigation is a step that really needs to be done as a main measure of disaster management (Syahputra et al., 2017). In carrying out a disaster mitigation program, the first step that must be taken is to conduct a risk assessment. In calculating disaster risk for an area, it is necessary to know the hazard, vulnerability and capacity of an area. The Malang Regency Government has implemented a disaster mitigation policy concerning Disaster Management, which states that everyone has the right to receive social protection and a sense of security, especially for groups of people who are vulnerable to disasters (Bupati Malang, n.d.-a). Regions are intended to provide a strong policy basis in increasing regional capacity in reducing disaster risk (Sigit Supto Nugroho et al., 2020).

Therefore disaster mitigation programs or activities need to be prepared, planned, and most importantly must be implemented, so that disasters can be minimized. Disaster mitigation, including the collection and analysis of disaster data in an effort to reduce the level of vulnerability and danger of a disaster. Preparation for disaster events, includes (1). Prediction of disaster events (disaster monitoring), (2). Emergency preparedness (preparation for signs of danger, early warning systems and evacuation systems), (3). Dissemination of disaster through print media and lectures (Aulia Fadhli, 2019).

Concerning General Guidelines for Disaster Mitigation stipulates policies carried out jointly by the government, the private sector and the community in disaster mitigation, including the following (Presiden Republik Indonesia, n.d.-c): (1) policies governing disaster management or supporting disaster prevention efforts such as land use policies so as not to build in disaster-prone locations; (2) government institutions that handle disasters, whose activities range from identifying disaster-prone areas, calculating estimates of the impacts caused by disasters, planning disaster management, to carrying out activities that are disaster preventive in nature; (3) Identification of institutions that emerged from community initiatives that are disaster management in nature, so that good work coordination can be realized; (4) implementation of programs or real actions from the government which are the implementation of existing policies, which are disaster preventive in nature; (5) Increasing the knowledge of the community about the characteristics of the local nature which give an indication of the threat of disaster.

Malang Regency is a disaster-prone area and disasters can occur due to natural or non-natural causes (Pramono & Suranto, 2021). This has been proven by the occurrence of various disasters in Malang Regency such as flash floods, landslides, forest and land fires, tornadoes, droughts, technological failures, transportation accidents, epidemics/pests, and social conflicts. The consequences of these disasters have resulted

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in damage to the environment, human settlements, vital infrastructure and have resulted in loss of property and suffering as well as loss of human lives. In addition, these disasters also have an impact on the occurrence of displacement caused by damaged houses or other threats and force them to look for other places that are safer. In order to increase the capacity of human resources in managing disasters during emergencies, it is necessary to have multilevel, tiered and continuous competency-based training for disaster management stakeholders (Setia Nugraha et al., 2020). It is recorded in the data that in recent years, Malang Regency has often experienced earthquakes. 2021 is one of the worst earthquake disasters in Malang Regency. Lots of material losses due to this earthquake disaster. In an effort to mitigate the earthquake disaster in Malang Regency, the Malang Regency government cannot stand alone, a collaborative governance must be formed, especially strengthening the role of the community (Sigit Sapto Nugroho et al., 2020).

Prerequisites for collaborative governance to be realized are the existence of a shared vision which is believed to be a picture of the future by stakeholders, with the existence of a shared vision, each actor or component involved participates in mutually agreed matters (Tri Hardianto et al., 2019). In collaborative partnerships, the principal-agent relationship does not apply because the collaboration that occurs is cooperation between principals and principals (Ansell & Gash, 2008).

There are several important items that are used as indicators to measure the success of Collaborative Governance (La Ode Syaiful Islamy H, 2018). The following is an analysis of collaborative governance in disaster mitigation efforts in Malang Regency: first, type networked structure, explains the conceptual description of a relationship between one element and another element that is integrated together which reflects the physical elements of the network being handled. Then, in collaborative governance, network elements may not form a hierarchy, namely the existence of power from one of the parties. So that

in collaborative government, the network must be organic with the network structure involved, namely there is no hierarchy of power, domination, and monopoly. So, all parties have equal rights, obligations, responsibilities, authorities, and opportunities for accessibility in achieving common goals. In an effort to mitigate earthquakes in Malang Regency, this is the authorized agency BPBD (Regional Disaster Management Agency). However, BPBD continues to embrace many stakeholders, namely the community, NGOs, then the mass media for the earthquake disaster mitigation program in Malang Regency. This proves that the Malang Regency Government has a non-rigid type of organization, because it embraces various stakeholders in terms of earthquake disaster mitigation in Malang Regency.

Second, commitment to a common purpose, Explains the conceptual description of a relationship between one element and another element that is integrated together which reflects the physical elements of the network being handled. Then, in collaborative governance, network elements may not form a hierarchy, namely the existence of power from one of the parties. So that in collaborative government, the network must be organic with the network structure involved, namely there is no hierarchy of power, domination, and monopoly. So, all parties have equal rights, obligations, responsibilities, authorities, and opportunities for accessibility in achieving common goals. In an effort to mitigate earthquakes in Malang Regency, this is the authorized agency BPBD (Regional Disaster Management Agency). However, BPBD continues to embrace many stakeholders, namely the community, NGOs, then the mass media for the earthquake disaster mitigation program in Malang Regency. This proves that the Malang Regency Government has a non-rigid type of organization, because it embraces various stakeholders in terms of earthquake disaster mitigation in Malang Regency.

Third, trust among the participants, trust among the participants is a professional or social relationship, and the belief that the participants rely on information or the efforts of stakehold-

ers or other stakeholders in a network to achieve common goals (Jatmikowati et al., 2021). So that in this case, each stakeholder must trust each other because it is a form of professional relationship that is established to achieve the successful implementation of collaborative governance. Governance collaboration has occurred in the disaster mitigation process in Malang Regency. This can be seen from good communication and trust among stakeholders including the people of Malang Regency in their commitment to disaster mitigation efforts in Malang Regency.

Fourth, governance is a relationship of mutual trust between governance or government actors (Putra & Sajida, 2023). In addition, there are rules that are mutually agreed upon by each stakeholder, and there is freedom to determine how the collaboration is carried out. In this case, governance can be said to be governance if there is clarity about who is a member and who is not a member. As the vanguard, the Government of Malang Regency continues to strive to maximize the role and performance of the Regional Disaster Management Agency (BPBD), however, cross-sectoral synergy is needed to support the success of disaster mitigation, especially in handling disasters that occur in the Malang Regency area. The Malang District Government has also partnered with the community by providing socialization on disaster mitigation so that they become responsive and skilled people in saving themselves, able to survive, and able to bounce back to build a post-disaster life.

Fifth, responsibility is structuring, managing, managing together with stakeholders and sharing a number of decision-making to all members of the network and sharing responsibility for achieving the desired results. Collaborative governance there must be a clear division of responsibilities, and each stakeholder (including the community) must be involved in making policy decisions (Anggriawan, 2019). In making disaster mitigation policies in Malang Regency, the Government of Malang Regency has partnered with several stakeholders, such as NGOs, community leaders, and residents of

Malang Regency (Presiden Republik Indonesia, n.d.-b).

Sixth, Access to Authority is the availability of clear and widely accepted measures or procedural provisions. So, there are clear rules of authority that are accepted by each stakeholder to carry out their roles according to their authority. Access to authority is clear in disaster mitigation efforts in Malang Regency, this is indicated by the existence of clear regional regulations regarding stakeholders who handle disaster mitigation efforts in Malang Regency.

Seventh, information sharing is easy access for members, privacy protection, and limited access for non-members as long as it is acceptable to all parties. So that in collaborative governance there must be clear information sharing, and easy access to information can be obtained for each stakeholder (Carayannis & Campbell, 2010).

In disaster mitigation efforts, BPBD has conducted outreach to various parties, both to the community, as well as to NGOs and other NGOs. Dissemination of disaster mitigation to the community is carried out through villages or sub-districts through the establishment of the "Disaster Resilient Village or Sub-district" program. Communities are given information on how to respond to disasters. In addition, the community is also given education on how to reduce disaster risk. With this socialization, it is hoped that the community will understand the steps in the event of a disaster so as to reduce the number of fatalities due to a disaster. In addition to the community, BPBD also actively communicates with NGOs and NGOs, and provides disaster response training.

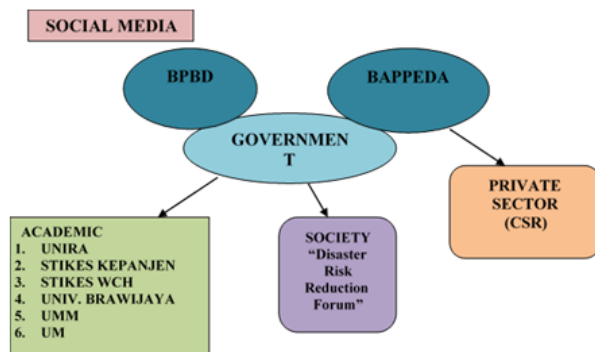
BPBD Malang Regency is also active in socializing disaster mitigation programs through social media, such as Facebook, Twitter and providing special skills to volunteers. In this social media, in addition to socializing, BPBD also provides information on preventive activities in dealing with disasters, such as calling for reforestation activities or tree planting. BPBD has certainly committed to the principles of sustainable development.

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Eight, Access to Resources is the availability of financial, technical, human and other resources needed to achieve network goals. So, there must be clarity and availability of resources for each of the stakeholders involved. The size of the impact of losses and casualties from a disaster can be minimized by increasing the capacity of the apparatus. With the knowledge they have, the apparatus can make the right decisions in carrying out preparedness, mitigation and handling emergencies. BPBD realizes that it still needs to increase the capacity of its apparatus so that they have competency certificates in disaster management issued by the BNPB Professional Certification Agency to meet competency standards. Until now the BPBD of Malang Regency has officials who have professional disaster management certification issued by LSP-PB BNPB.

The following is a pattern of collaborative governance in disaster mitigation in Malang Regency:



**Figure 1** Model Collaborative Governance of Mitigation Disaster at Malang Regency  
Source: Research Results, Analysis.

### Supporting and Inhibiting Factors in Disaster Mitigation Efforts in Malang

Inhibiting and supporting factors in disaster mitigation efforts in Malang Regency, include the following: (1) supporting factors, as for the supporting factors in disaster mitigation efforts in Malang Regency are the existence of regulations or regulations regarding disaster manage-

ment, the existence of the capacity and capability of employees to carry out their duties properly, and the human values of the community are still high, when a disaster occurs they work together to help each other, there is synchronization and coordination in the implementation of disaster management with regional apparatus, there is the participation of the community and NGOs in disaster management, there is a joint commitment in implementing disaster management. In addition, by providing support and rewards to volunteers who carry out their mandate properly, it can make them more enthusiastic about carrying out their duties as strong volunteers; (2) inhibiting factors, in disaster mitigation efforts in Malang Regency carried out by the Regional Disaster Management Agency (BPBD) there are several obstacles, namely the lack of budget availability in implementing disaster mitigation, the lack of sufficient time in carrying out disaster mitigation, the existence of obstacles in terms of facilities that are still inadequate and funds the government is not yet optimal, and there are obstacles to the division of tasks imposed on employees whose number is still limited and there are still people who are apathetic or do not care about disaster hazards, the proof is that people are still converting land functions in potential disaster areas due to a lack of knowledge and understanding of disaster hazards, still inadequate procedures and regulations as guidelines for implementing disaster management, still scattered and not yet developed an integrated and integrated disaster information and communication system, not yet optimal coordination of disaster management implementation and still limited facilities and infrastructure in the implementation of disaster management (Bupati Malang, n.d.-b).

### 5. Conclusion

Disaster Mitigation Efforts in Malang Regency by BPBD are planned in a structured manner. Central and regional planning integration programs can be carried out appropriately and can be realized effectively. Collaborative Gover-

nance has a communication pattern between interconnected actors. The key to this collaboration pattern is holding educational, outreach and training activities for the people of Malang Regency. Collaboration between actors has been carried out in disaster mitigation efforts. The government invites the public, NGOs, through social media to provide education regarding disaster mitigation and preventive efforts in dealing with disasters.

Planning does not escape failure. This failure is an inhibiting factor that can be evaluated in the future. Inhibiting factors include a lack of ap-

paratus in implementing disaster management, a lack of budget required for the process of managing and minimizing the risks posed by disasters, as well as a lack of awareness of the dangers of community disasters that they cause. around it, there is evidence that there are still people changing land functions. Meanwhile, the supporting factors are the still high human values of the community when a disaster occurs, their working together to help disaster victims, then the capacity and capability of employees to carry it out well.

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