



Citizen Participation in Disaster Mitigation in Serang City

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Abstrak

Penelitian ini mengkaji partisipasi warga negara dalam upaya mitigasi bencana di Kota Serang, wilayah yang kerap terdampak bencana hidrometeorologi seperti banjir dan angin kencang. Dengan pendekatan kualitatif dan metode deskriptif, studi ini dilakukan melalui pengamatan langsung terhadap masyarakat di daerah rawan bencana serta wawancara dengan Badan Penanggulangan Bencana Daerah (BPBD). Teknik pengumpulan data meliputi observasi, wawancara semi-terstruktur, dan dokumentasi, yang kemudian dianalisis menggunakan model interaktif Miles dan Huberman. Hasil menunjukkan bahwa kesadaran masyarakat terhadap risiko bencana cukup tinggi, namun belum sepenuhnya diwujudkan dalam bentuk keterlibatan aktif yang berkelanjutan. Rendahnya literasi bencana, ketimpangan akses informasi, serta tekanan ekonomi menjadi hambatan utama. Meskipun pemerintah telah menjalankan berbagai program seperti simulasi, pelatihan, dan pembentukan Kelurahan Tangguh Bencana, implementasinya masih bersifat top-down dan kurang merata. Penelitian ini menekankan pentingnya pendekatan mitigasi berbasis komunitas yang lebih partisipatif dan berkelanjutan, melalui penguatan koordinasi kelembagaan, pemerataan akses, serta pembangunan kapasitas warga di tingkat lokal.

Abstract

This study investigates the role of citizen participation in disaster mitigation efforts in Serang City, Indonesia, a region frequently affected by hydrometeorological disasters such as floods and strong winds. Using a qualitative approach with descriptive methods, the research was conducted through field studies involving residents in disaster-prone areas and the local Disaster Management Agency (BPBD). Data were collected via observation, semi-structured interviews, and documentation, then analyzed using an interactive model consisting of data reduction, display, and conclusion drawing. The results indicate that while public awareness of disaster risks is relatively high, actual participation remains sporadic and reactive. Factors such as limited disaster literacy, economic pressures, and unequal access to information hinder active involvement. Government programs aimed at promoting preparedness—such as simulations, training, and the creation of disaster-resilient villages—have been implemented but are often centralized and lack follow-up. The study finds that strengthening community-based mitigation efforts requires a shift toward more inclusive and continuous engagement strategies that integrate both structural and non-structural approaches. Enhancing institutional coordination, ensuring equitable access, and building local capacity are identified as critical elements in fostering a more proactive and resilient community.

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Introduction

Indonesia as an archipelagic country located at the confluence of three major tectonic plates and on the Pacific Ring of Fire has a high vulnerability to natural disasters, both geological and hydrometeorological. This risk is amplified by tropical climate conditions that cause two extreme seasons: long dry seasons and heavy rains that can trigger disasters such as floods, landslides, and tornadoes. The National Disaster Management Agency (BNPB) noted that more than 95 percent of disasters that occurred in 2017 were hydrometeorological disasters, making floods the most dominant type of disaster in Indonesia (Kinanthi, 2022). In this context, Serang City as the capital of Banten Province is one of the areas facing real challenges. This city is often hit by floods and strong winds that damage infrastructure and disrupt the socio-economic life of the community. The flood that occurred in early 2024 in Kaujon Village, for example, was caused by the overflowing of the Cibanten River due to high-intensity rain (Kompas, 2024). In addition, strong winds also damaged hundreds of houses in various sub-districts, adding to the complexity of vulnerability in the area (Antara News, 2024).

Disaster mitigation is one of the important efforts in reducing the risk of losses caused by disasters, as regulated in Law Number 24 of 2007 concerning Disaster Management. However, a structural approach alone has proven to be insufficient. Many mitigation programs are still top-down, focused on physical development such as embankments or river normalization, but minimal in involving the community. In fact, community participation plays an important role in the effectiveness of disaster mitigation. Communities that are actively involved in planning and implementing mitigation activities have a greater ability to anticipate, respond to, and recover from disasters independently. In the context of Serang City, community participation is still relatively low and often reactive. Most are only involved when a disaster has occurred, not in the prevention or preparation stages.

Previous studies have shown that community involvement in mitigation can be increased through ongoing education. Heri (2020) found that disaster management education had a significant impact on increasing the preparedness of Serang residents. However, the implementation of this kind of education program is still uneven. However, the implementation of this kind of education program is still uneven. Similar findings were also obtained by Rizki (2021) in Tangerang, who revealed that the majority of respondents felt that they did not understand the mitigation steps well enough and really needed additional education. In Pesawaran, community participation was generally limited to simple mutual

cooperation activities (Rismayanti, 2020), showing a large gap between the potential and reality of community participation.

In this context, an effective educational approach becomes very important. Jamaludin and Taufik (2022) emphasize that learning media has a central role in stimulating students' thoughts, interests, feelings, and attention during the learning process, so that learning can take place optimally. This also applies to disaster education for the community, where an interesting and participatory approach can help improve understanding of mitigation material. Technological support cannot be ignored. As explained by Jamaludin, Pribadi, and Arrasyidi (2023), the use of technology in learning can strengthen understanding of teaching materials and facilitate the achievement of learning objectives. Therefore, the use of media and technology in disaster counseling needs to be considered as part of a strategy to increase community preparedness, so that the knowledge conveyed does not stop at the transfer of information, but is truly understood and applied in everyday life.

The challenges in increasing community participation in Serang City are rooted in several fundamental factors. First, low disaster literacy among residents means that most do not understand the early signs of a disaster or basic evacuation procedures. Second, limited access to information and disaster management resources worsens preparedness. Third, the mitigation program implemented by the government has not fully involved the community, so it does not foster a sense of collective ownership. Fourth, socio-economic factors such as the pressure of daily needs make participation a low priority in the eyes of some people.

To understand patterns of community involvement in mitigation, a theoretical approach is very important. The Theory of Proactive Behavior explains that community involvement in mitigation is greatly influenced by internal motivation and personal capacity such as knowledge and skills (Muchsin, 2021). Meanwhile, the Disaster Preparedness Theory proposed by Carter (2008) emphasizes the importance of systematizing disaster preparedness through education, training, and community involvement in simulations and emergency plans. In the context of Serang City, these two theories provide an important framework for analyzing why community participation is not optimal and what needs to be done to improve it.

The Serang City Government has actually initiated various mitigation efforts such as river dredging, drainage construction, and the formation of disaster preparedness communities. Unfortunately, the effectiveness of these steps is still limited. Many of the programs that are running are not accompanied by an adequate monitoring and evaluation

system. Coordination between institutions, academic involvement, and civil society participation have not yet run synergistically. In addition, the development approach that is still predominantly physical tends to ignore non-structural approaches that are more sustainable in the long term.

Amid these limitations, there is a glimmer of hope. Examples of participation such as routine drainage cleaning activities by residents show that social capital actually exists (Masuku & Lasaiba, 2022). However, this potential has not been optimally mobilized. Approaches that focus too much on technical solutions often ignore the social dimension of mitigation. In fact, as stated by Wesli (2016), a community-based approach that prioritizes local social and cultural capital can be a strong foundation for building a sustainable and adaptive mitigation system to community dynamics.

This study is based on the urgent need to understand more deeply how citizen participation can be strengthened in disaster mitigation in urban areas such as Serang City. In addition to providing theoretical contributions to the literature on community participation and disaster management, this study also aims to provide practical recommendations for policy makers. Three main focuses are analyzed in this article: the form of citizen participation in disaster preparedness, the role of government in encouraging such participation, and strategies to increase the effectiveness of community-based disaster mitigation.

Citizen involvement in mitigation is not only in line with the principles of inclusive governance, but also contributes directly to the achievement of the Sustainable Development Goals (SDGs), especially goal 13 on action on climate change. In the context of the global climate crisis, improving community preparedness and resilience is an inseparable part of efforts to protect the lives and well-being of citizens.

Method

This study uses a qualitative approach with a descriptive method to explore in depth how citizen participation is formed in the context of disaster mitigation in Serang City. This approach was chosen because it is able to capture social dynamics in their natural context, and provides space to understand the views, experiences, and interpretations of subjects towards the events they experience (Asra et al., 2017). As a field study, data was obtained

directly through interactions between researchers and subjects at the location that is the center of the phenomenon being studied.

The study was conducted in Serang City, Banten Province, with a focus on several areas that are highly vulnerable to hydrometeorological disasters, especially floods. Areas such as Serang, Kaujon, Walantaka, and Curug Districts were chosen because they have a history of recurring floods and are the targets of various disaster mitigation initiatives. The selection of this location also took into account the geographical conditions traversed by the Cibanten River, as well as variations in community responses to mitigation programs. The data collection process was carried out for five months, from August to December 2024, coinciding with the rainy season period which allows direct observation of the preparedness and actions of residents and government institutions.

The subjects in this study consisted of two main groups. The first is Serang City residents who live in disaster-prone areas, especially those who are directly affected by floods or other hydrometeorological disasters. This group was chosen to describe the extent to which the community understands, responds to, and is involved in mitigation efforts. The second is the Serang City Regional Disaster Management Agency (BPBD) as a government institution that has the authority to formulate and implement disaster management policies. The involvement of these two groups is considered representative enough to see the relationship between state structures and community participation in the context of mitigation.

Data collection was carried out using three main techniques: observation, semi-structured in-depth interviews, and documentation. Observation was used to capture real practices that took place in the field, including community activities in protecting the environment and forms of interaction between residents and BPBD officers. In-depth interviews were conducted with residents and BPBD representatives to explore perceptions, experiences, and obstacles faced in the mitigation process. Meanwhile, documentation focused on collecting official documents such as BPBD activity reports, disaster incident data, and relevant policy and program archives.

Data analysis was conducted using an interactive model developed by Miles and Huberman (2014), which consists of three main stages: data reduction, data presentation, and drawing conclusions. Data reduction was carried out to sort out relevant information from interviews, observations, and documents, then group them based on emerging themes. The next stage is data presentation, where the reduced information is arranged into a matrix or

thematic narrative to facilitate interpretation. Finally, conclusions are drawn gradually through a reflective process, referring to theoretical frameworks on community participation, proactive behavior, and disaster preparedness.

Through this approach, the study seeks to provide a comprehensive understanding of how the relationship between residents and BPBD is formed in the context of disaster mitigation, and how this interaction affects the level of preparedness at the community level. Focusing on two main actors—residents as the affected subjects and BPBD as the policy implementer—is expected to provide a sharper and more contextual picture of the effectiveness of the mitigation strategies that have been implemented in Serang City.

Results and Discussion

The results of the study indicate that citizen participation in disaster mitigation in Serang City is in a transition phase towards more active involvement, although it is still faced with various structural and cultural challenges. In general, residents are aware of the importance of disaster preparedness, especially floods and strong winds that often hit this area. However, this awareness has not been fully converted into sustainable preventive actions. In several areas such as Kaujon and Walantaka Villages, residents admitted that they had been involved in disaster simulations or socialization by BPBD, but these activities tended to have no continuity. After the training was completed, there was no mentoring or follow-up process carried out, so that the knowledge that residents had obtained was not transformed into habits or practical skills that lasted long.

Some residents stated that they would like to participate more actively in mitigation training, but are hampered by a lack of information, limited access, and busy daily activities. When there are no easily accessible channels for obtaining information or joining activities, residents tend to revert to passive patterns—participating only when directly mobilized. This results in sporadic and non-institutionalized community participation, limited to routine activities such as community service to clean water channels. While these activities are important in the context of flood prevention, they are not enough to create a truly disaster-resilient community.

Other factors that influence community participation are local socio-economic and cultural conditions. The Serang City BPBD stated that the habit of littering and low concern for environmental cleanliness are still the main causes of flooding. At the same time, daily economic needs make some residents consider mitigation activities as a secondary priority.

Even when facilities or programs are available, participation still depends on the extent to which residents feel they have a direct interest or feel real benefits from the activity.

From the institutional side, BPBD Serang City has implemented various efforts to improve community preparedness, ranging from disaster education, first aid training, to evacuation simulations in several sub-districts. However, the distribution of this program is still uneven. Information and activities reach more central city areas than suburban areas. Several sub-districts have received assistance such as Alert Bags and independent training, but not all areas have received equal access. On the other hand, the involvement of students and volunteer groups is considered quite strategic in disseminating mitigation knowledge to the community, although this contribution also requires ongoing assistance so that it does not stop at short-term initiatives.

Overall, the results of the study show that the main challenge in increasing community participation lies not only in the willingness of the community, but also in the availability of effective information channels, program continuity, and policy approaches that truly touch the needs and characteristics of residents at the grassroots level. Inequality of access to mitigation programs, limited time for residents to participate, and minimal repeated training are the main obstacles in forming collective preparedness. However, findings in the field also show that there is great potential that can be optimized if there is strong collaboration between the government and the community.

Citizen participation in disaster mitigation in Serang City is an important element in building a community that is resilient to disaster risks. Research findings show that most residents have a basic level of awareness of potential hazards, especially disasters that occur frequently such as floods and strong winds. However, this awareness is generally formed from direct experience experienced by residents over years of living in vulnerable areas, rather than from a structured and ongoing education process. This empirical knowledge, although important, is not always accompanied by readiness to act when a disaster occurs, especially in technical aspects such as evacuation procedures, use of safety equipment, and organizing residents in emergency situations.

This phenomenon shows that the educational efforts that have been made have not been sufficient to meet the practical needs of the community. Knowledge of risk has not been fully linked to action skills, which should be the core of preparedness. In this context, the Theory of Proactive Behavior (Muchsin, 2021) is very relevant to understand how community preparedness is formed. Individuals with strong internal motivation and understanding tend to

be more active in seeking information and engaging in mitigation programs. However, findings in the field show that this proactive behavior is not evenly distributed. Some residents feel that they have never had the opportunity to participate in training, while others stated that the activities they have participated in were not followed up with long-term assistance. This indicates that community participation still depends on momentum, not on a system that continues to encourage active involvement.

The role of the government, especially the Serang City BPBD, in encouraging citizen participation has been realized through a number of programs, including disaster socialization, annual simulations, the establishment of Disaster Resilient Villages, and the distribution of basic preparedness tools such as Alert Bags. These efforts reflect an institutional commitment to building a participatory mitigation system. However, as shown by local governance theory, the effectiveness of government intervention is largely determined by the capacity for cross-sector coordination and the ability to reach the most vulnerable community groups.

Although the government has established a fairly comprehensive program framework, its implementation still faces challenges in the form of unequal distribution of programs between regions, budget constraints, and low community participation in the planning phase. Most programs are still top-down, where the community is only involved as a recipient of information without the opportunity to participate in determining the form and direction of the program. In many cases, residents are only involved when a disaster occurs or when the government holds certain activities, not as active partners who are routinely involved in the disaster risk management cycle.

This pattern is in line with the findings of Kinanthi (2022) who highlighted the strong tendency of the community to be passive towards mitigation programs. This is influenced by economic factors, where residents' daily priorities are more absorbed in meeting their living needs than disaster preparedness which is considered rare. In conditions like this, a community-based mitigation approach is needed that does not only rely on the transfer of information, but also strengthens community capacity in the form of practical training, involvement in planning, and the creation of sustainable participation spaces.

One of the steps that is considered strategic is the formation of disaster cadres at the sub-district level. These cadres act as liaisons between the community and government institutions, as well as education and rapid response agents in their respective areas. Unfortunately, not all sub-districts in Serang City have this structure optimally. Some areas

show positive developments, but others still do not have adequate administrative support and resources. This indicates an imbalance in local institutional capacity, which should be the focus of future mitigation system strengthening strategies.

When talking about government efforts to prepare citizens for disasters, the role of education is crucial. Education cannot stop at one-way counseling or leaflet distribution. An approach is needed that encourages two-way dialogue, understanding of the local context, and strengthening communities through ongoing simulations and adaptive training. The involvement of educational institutions, youth organizations, and volunteer groups is a potential strategy to expand the scope of disaster education. Moreover, amidst the increasing intensity of disasters due to climate change, community preparedness is an increasingly urgent aspect to be strengthened.

In general, the results of this study confirm that disaster preparedness in Serang City does not only depend on government policies or individual citizen awareness. Both must form a synergistic relationship that strengthens each other. The government needs to ensure that every policy is designed by considering citizen input, and is able to reach vulnerable groups evenly. On the other hand, citizens also need to realize that disaster mitigation is part of a collective responsibility that cannot be entirely left to the state. The transformation of the culture of participation from passive to active is a prerequisite for building a resilient society in facing disaster risks.

Conclusion

This study shows that citizen participation in disaster mitigation preparedness in Serang City is still in the development stage. The community in general has an awareness of disaster risks, especially floods and strong winds, which is obtained from direct experience. However, this awareness has not been fully accompanied by active involvement in training, simulations, or other mitigation programs. Participation is still passive and sporadic, limited to environmental activities such as community service, without adequate technical skills to deal with emergency situations. This shows that community preparedness has not been formed comprehensively.

The local government through the Serang City BPBD has implemented a number of programs to encourage community involvement, including socialization, disaster education, simulation training, and the establishment of Disaster Resilient Villages. These programs are

an important foundation in community-based mitigation efforts. However, the coverage of the programs is still uneven and their sustainability is still an issue. In many cases, the community is not involved in policy planning, so their active role has not been fully internalized in the mitigation system that has been built.

Government efforts to prepare citizens for disasters have been carried out through a cross-sectoral collaborative approach, provision of basic facilities, and involvement of local communities. However, its effectiveness depends on the continuity of implementation, the quality of training, and the extent to which the policy is adjusted to the needs and social characteristics of the community. Limited resources, administrative constraints, and unequal access to information and programs are challenges that still need to be overcome.

Overall, disaster mitigation in Serang City is not yet fully participatory. There needs to be a shift from a reactive and top-down approach to a more inclusive and citizen-empowering approach. Strengthening institutional capacity, continuity of education programs, and creating equal participation space between the government and the community are important prerequisites for realizing sustainable and community-based preparedness.

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