

The Effectiveness of Earthquake Disaster Management Policy in Indonesia

Willya Achmad

Universitas Pasundan, Bandung, Indonesia
willyaachmad@unpas.ac.id

Abstract

Indonesia is highly susceptible to a variety of natural and man-made disasters, including earthquakes, volcanoes, tsunamis, droughts, forest fires, flooding, and landslides. The central government and regional administrations have developed numerous disaster management policies, including earthquake disaster management policies. This study's objective is to assess the efficacy of Indonesia's earthquake management policies. This study employed a qualitative research methodology with a descriptive approach. The results of the study indicate that Indonesia's seismic disaster management policies have been comprehensively and systematically formulated through Law Number 24 of 2007 concerning Disaster Management and its derivatives. Government Regulation Number 21 of 2008 Regarding Disaster Management Implementation. At the stage of implementing earthquake disaster management policies in Indonesia, in general, it has been running effectively. This can be measured from indicators of effective communication, availability of resources, disposition and bureaucratic structure. However, even though it has been running effectively, improvements are still needed, such as in terms of information, infrastructure, budget, coordination between the central and regional governments. From this study it can be concluded that to increase the effectiveness of earthquake management policies, the government can increase access to information, infrastructure and resources for earthquake disaster management.

Keywords: Effectiveness; Disaster Management Policy; Earthquake

Abstrak

Indonesia sangat rentan terhadap berbagai bencana alam dan ulah manusia, antara lain gempa bumi, gunung berapi, tsunami, kekeringan, kebakaran hutan, banjir, dan tanah longsor. Berbagai kebijakan penanggulangan bencana telah dikembangkan oleh pemerintah pusat dan daerah, termasuk kebijakan penanggulangan bencana gempa bumi. Tujuan studi ini adalah untuk menilai efektivitas kebijakan penanganan gempa bumi di Indonesia. Penelitian ini menggunakan metodologi penelitian kualitatif dengan pendekatan deskriptif. Hasil kajian menunjukkan bahwa kebijakan penanggulangan bencana seismik Indonesia telah dirumuskan secara komprehensif dan sistematis melalui Undang-Undang Nomor 24 Tahun 2007 tentang Penanggulangan Bencana dan turunannya. Peraturan Pemerintah Nomor 21 Tahun 2008 Tentang Penyelenggaraan Penanggulangan Bencana. Pada tahap pelaksanaan kebijakan penanggulangan bencana gempa bumi di Indonesia secara umum sudah berjalan efektif. Hal ini dapat diukur dari indikator komunikasi yang efektif, ketersediaan sumber daya, disposisi dan struktur birokrasi. Namun demikian, meskipun sudah berjalan efektif, masih diperlukan perbaikan-perbaikan seperti dari segi informasi, infrastruktur, anggaran, koordinasi antara pemerintah pusat dan daerah. Dari kajian ini dapat disimpulkan bahwa untuk meningkatkan efektivitas kebijakan penanggulangan bencana gempa bumi, pemerintah

dapat meningkatkan akses informasi, infrastruktur dan sumber daya penanggulangan bencana gempa bumi.

Kata Kunci: Efektivitas; Kebijakan Penanggulangan Bencana; Gempa Bumi

Introduction

More than 17,000 islands dot the Indonesian archipelago, which is located in Southeast Asia and the Western Pacific, making it the world's biggest archipelagic country. Indonesia is the 14th largest country in terms of total land area in the globe. The country's total land area is around 1.9 million square kilometres. In terms of its physical location, Indonesia is sandwiched between the continents of Asia and Australia, as well as the Indian Ocean, the Pacific Ocean, and the Arctic Ocean. Because to this geographical feature, Indonesia has a very long coastline, which extends for more than 54,000 km, as well as a substantial amount of water. (Supriatna, 2018).

The largest islands in Indonesia are the islands of Kalimantan, Sumatra, Papua, Sulawesi and Java, which are the administrative centers of this country. In addition, Indonesia has many small islands that are still uninhabited, as well as islands which are popular tourist spots such as Bali, Lombok, and Komodo Island (Kodoatie, 2021). Various tribes and different cultures live in a large area, making Indonesia a country with rich ethnic and cultural diversity. However, Indonesia's geographical conditions also pose various challenges in economic and infrastructure development, as well as improving people's quality of life (Hidayat, 2017).

Indonesia has a high level of vulnerability to various types of natural and man-made disasters such as earthquakes, volcanoes, tsunamis, droughts, forest fires, floods and landslides (Adiyoso, 2018). In the last 10 years, the number of disaster events has increased and in the last 5 years, there have been around 3000-3500 incidents per year. Each year, these disasters cause huge economic losses, reaching IDR 22.8 trillion or around US\$1.4 billion. In 2021, extreme weather and floods are the main causes of natural disasters in Indonesia, in addition to geological disasters such as landslides and earthquakes. There were 3,115 disaster events that impacted people's lives and resulted in more than 8,575,776 people having to flee because of damage to their homes (Akhmaddhian et al., 2022).

Specifically for the type of earthquake disaster, earthquakes are the biggest natural disaster for humans so they need to be watched out for. An earthquake is a vibration that will usually be felt on the surface of the earth that occurs due to seismic waves from the earthquake source that are in the layers of the earth's crust (Murtianto, 2016). The history of earthquakes in Indonesia is quite long. If we look at the distribution map of world earthquake sources, Indonesia is located in an earthquake-prone area. The number of earthquakes that have occurred in Indonesia has also tended to increase in number and strength since 2013. A significant increase occurred in 2018 where there were 11,920 earthquakes (2,763 Lombok and 1,438 Palu earthquakes). Whereas in 2019 there were 11,588 earthquakes with various levels of strength. Previously, the number of earthquakes occurring in Indonesia was between 4,000-7,000 times/year while during 2008-2020 there were 163 destructive earthquakes and throughout 2020 there were 8,258 incidents, earthquakes were felt 757 times with an earthquake scale >5 SR: 242 times and among them destructive earthquakes: 11 occurrences (National, 2022).

Earthquake disasters are fundamentally recurrent events, and in every major earthquake disaster (> 5 on the Richter Scale), damage is always caused, with the nature of the disaster's impact being the disruption of people's livelihoods and large economic losses (> Rp. 1 trillion) (Sinambela et al, 2021). This condition necessitates that the

Government and Regional Government, along with the community, collaborate on disaster management efforts. The formulation of appropriate seismic disaster management policies in Indonesia is one of the measures that can be taken (Heryati, 2020).

Several disaster events indicated by the impact of massive damage and large economic losses and communities losing their basic needs in the form of housing and having to stay for a long time in refugee camps as well as disruption of economic, social and even government service access occurred in several major disaster events that suddenly appeared in Indonesia such as earthquakes. in Central Aceh District and Bener Meriah District in 2013, the earthquake in Pidie Jaya in 2016–Nanggroe Aceh Darussalam, the 2018 West Nusa Tenggara Earthquake and other places made all parties aware of the need for an effective and sustainable earthquake management policy considering that earthquakes are not only during the earthquake but also after the earthquake (Ridha et al, 2022).

Because it has not been explicitly regulated in laws and regulations and there are no implementation technical regulations to serve as a guideline, the practice of earthquake management has not been consistent and has not been comprehensively implemented. Recovery of survivors' lives is still limited and early recovery becomes action during an emergency transition period prioritizing the housing sector facilitated by ready-to-use funding sources, the local government is not clear on the implementation strategy: when will the implementation (start and end), how to manage it, who are the parties involved, what are the roles and regional support

Indonesia's disaster management is governed by Law Number 24 of 2007, which is titled "Disaster Management." This law aims to protect the community from the perils of natural disasters and to promote cooperation among residents by organizing, planning, and coordinating all of these factors (Rustan & Firdaus, 2011). Numerous natural disasters have occurred in Indonesia, necessitating the creation of a system to organize natural disaster management in Indonesia. According to Article 5 of Law No. 24 of 2007, disaster management is the responsibility of the government and regional governments. The Indonesian central government and regional administrations are primarily responsible for disaster management, according to the article.

The Government and Regional Governments initiated the development of disaster management policies, strategies, and operations in accordance with the directive for policy development issued by the central government. (Pratama & Roza, 2019) Regional policies designed to combat disasters in accordance with existing regulations must precede efforts to manage regional disasters. Regional disaster response strategies must be tailored to regional conditions. Ensure the effectiveness, efficiency, and sustainability of national disaster management operations (Salles et al., 2020).

All of these must be planned in accordance with the provisions of the implementing regulations for Law No. 24 of 2007, specifically Government Regulation No. 21 of 2008 concerning the Implementation of Disaster Management. Indonesia's disaster management is governed by this government regulation. This regulation seeks to protect communities from natural disasters, increase disaster preparedness, and strengthen community resilience. Government Regulation Number 21 of 2008 stipulates that the government and society must take measures to prevent and respond to earthquake disasters.

In response to the threat posed by earthquakes, the Indonesian government has issued numerous policies and programs to enhance disaster preparedness and management. In order for these policies and programs to be more effective in coping with earthquake disasters in Indonesia, they must be evaluated and enhanced. This study seeks

to evaluate the efficacy of Indonesia's earthquake disaster management policies. This study will evaluate the implemented policies based on communication, resource, disposition, and bureaucratic structure indicators. By evaluating these policies, it is anticipated that this research will be able to provide suggestions for enhancing Indonesia's earthquake disaster management policies and programs.

Methods

Based on the kinds of data that were collected, the method of research that was applied in this investigation was a qualitative method. As for what is meant by qualitative research, this is research that is intended to understand the phenomenon of what is experienced by research subjects holistically, and through the use of descriptions in the form of words and language, in a unique natural context, and by making use of a variety of scientific methods (Sugiyono, 2011). The method of research used is known as descriptive research. Research that aims to describe existing approaches to issue solving on the basis of data is called descriptive research. This study makes use of secondary sources of data, namely data gained through mediation. This means that the data obtained was already available prior to the research being conducted, so the researchers did not have to travel directly to the respondents in order to collect the information. Finding articles that were linked to the earthquake disaster management policies in Indonesia was the method that was used for the data collection approach in this study. This was accomplished through observation and documenting. In addition, qualitative data analysis methods were utilized during the process of collecting and analyzing the data. Analyzing qualitative data with the Miles and Huberman model requires three stages: the data reduction stage, the data presentation/analysis stage after data collection, and the conclusion and verification stages. These stages are listed in the following order: the Data Reduction Stage, the Data Presentation/Analysis Stage After Data Collection, and the Conclusion and Verification Stages.

Result and Discussion

1. Indonesia's disaster management system

Since the earthquake and subsequent tsunami that struck Aceh and the neighboring area in 2004, Indonesia has realized that the problem of natural disasters must be taken seriously. A discussion of disaster is extremely comprehensive and multidimensional. All parties must comprehend and implement disaster management in order to respond to the increasing frequency of natural disasters each year. A catastrophe is everyone's concern.

Reflecting on several earthquakes that occurred in Indonesia such as the earthquake in Palu in 2018, the main problem in policy effectiveness is in terms of communication, especially in terms of transmission, clarity, consistency, all of which encounter obstacles both technically and inadequate means of communication. link between OPDs. Then there are resources, especially in terms of facilities such as heavy equipment that are not adequate so that every disaster management action still depends entirely on the government (Anggriawan, 2019).

Furthermore, in the Poso earthquake the implementation of disaster management policies became less than optimal because there were still inhibiting factors such as misunderstandings about the flow of assistance and outreach, resources, political conditions, social conditions and bureaucratic structures. But besides that, there are also driving factors, namely standards and targets indicated by SOPs regarding emergencies and relationships between organizations and related institutions that have been going well (Karatu, 2022).

Indonesia periodically constructs a national disaster management system. This national system contains numerous components, including:

a. Legislation

In terms of legislation, the Indonesian government has passed Law No. 24 of 2007 on Disaster Management. Government Regulations, Presidential Regulations, Head of Agency Regulations, and regional regulations fall under its jurisdiction. (For details see Legal Products).

The government, in accordance with Law No. 24 of 2007, Nurjannah et al. (2012), prepares a disaster management plan based on its initiative and commitment. The focus then shifts to post-disaster management, resulting in a paradigm shift in Indonesia's capacity to surmount natural disasters. Previously, disaster management was based on emergency response, but this has shifted to risk reduction (mitigation)-specific preventive activities. The National Medium-Term Development Plan (RPJMN) structures and regulates mitigation efforts from the perspective of development planning, which in 2022-2024 concentrates on disaster management and stabilization of living space. The central/regional government has the authority to implement disaster management through planning and development, which includes disaster-related decision-making procedures.

Law Number 24 of 2007 on Disaster Management defines a disaster as a series of events that pose a threat due to natural and non-natural factors, as well as human factors, and result in loss of life, damage to the surrounding environment, material losses, and psychological effects (Hadi et al., 2019). With the passage of Law No. 24 of 2007, a policy regarding the planning and financing of disaster management has emerged. Moreover, Febriana and Abubakar (2015) discovered that the majority of regions lacked disaster management awareness in the era of regional autonomy. There are a number of important factors to consider now that this law has been passed, including the following: shifting the paradigm of disasters to focus on minimizing risk or pre-disaster conditions; disaster management becoming more proactive and less reactive; the government prioritizing community participation over being dominant or controlling; and the central government's monopoly on disaster management no longer being absolute.

Since the publication of this law, and continuing with the publication of Government Regulation Number 21 of 2008 concerning the Implementation of Disaster Management, Government Regulation Number 22 of 2008 concerning the Funding and Management of Aid, Government Regulation Number 23 of 2008 concerning the Participation of International Agencies and Foreign Non-Governmental Organizations in Disaster Management, and Presidential Regulation Number 8 of 2008 concerning the, there have been a number of other regulations that have been published. These regulations include: Presidential Regulation Number 8 of 2008 concerning the. In this specific situation, the community is keeping their fingers crossed that the execution of crisis management will not be carried out in a haphazard manner because doing so would result in even greater losses.

The community expresses its sincere desire that the execution of disaster management will not be carried out in a haphazard manner in order to prevent more damage and suffering. This demonstrates that the community is aware of the significance of disaster management that is both effective and efficient (Muhammad & Aziz, 2020). This type of management not only safeguards people's lives and property, but it also prevents a greater negative impact on the environment and the communities that are located in the surrounding area.

Laws and regulations that have been published by the government are supposed to help the general people become more aware of the significance of effective disaster management, as well as ensure that disaster management is carried out correctly and in

accordance with the criteria that have been set. As a result, it is intended that disaster losses can be handled more effectively, and that communities can recover from the effects of natural disasters in a shorter amount of time.

b. Institutional

Institutions can be regarded from both a formal and informal angle. Formally, the National Disaster Management Agency (BNPB) serves as the central hub for government agencies. Regional Disaster Management Agency (BPBD) is the focal point for disaster management at the provincial and district/city levels (Rahma, 2020).

The BNPB is a non-ministerial government agency directly subordinate to and accountable to the president. The primary responsibility of the BNPB is to provide guidance and direction for disaster management initiatives, including disaster prevention, emergency response, rehabilitation, and reconstruction. According to the National Disaster Management Agency's official website, its functions are as follows:

- 1) Formulation and determination of policies for disaster management and treatment of refugees through prompt, appropriate, and effective action;
- 2) Coordinating the implementation of disaster management activities in a comprehensive, planned manner.

A Regional Disaster Management Agency (BPBD) was established so that the BNPB's performance in terms of disaster management could operate efficiently and effectively. The only distinction between BPBD and BNPB is the scope of their duties and responsibilities. The BNPB is responsible for national disaster management, while the BPBD is responsible for regional disaster management. BPBD provides assistance to BNPB in terms of regional disaster management. BPBDs are ordinarily found in provincial and district/city regions. (Lubis et al., 2019) BPBD coordinates directly with BNPB or other equivalent officials.

On the informal side, forums were established at both the national and local levels to strengthen disaster management implementation in Indonesia. At the national level, a National Platform (Planas) consisting of civil society, the business community, universities, the media, and international institutions was established. This forum was established to provide space for participation by various stakeholders in disaster management implementation in Indonesia, so that these efforts can be conducted in an inclusive and sustainable manner. Planas also seeks to improve inter-agency coordination and foster synergies between disaster management parties in Indonesia.

In addition to Planas, local forums have been established to strengthen the implementation of disaster management. As an illustration, the Yogyakarta DRR Forum and the East Nusa Tenggara DRR Forum are provincial forums established to coordinate disaster management efforts in the region. This forum is comprised of various parties, such as the government, civil society, academic institutions, and non-governmental organizations, who collaborate to carry out disaster management activities, such as preparing disaster management plans, developing early warning systems, and enhancing community resilience to disasters (Lubis et al., 2019). With these forums, it is hoped that the implementation of disaster management in Indonesia can be further strengthened and sustainable, so as to reduce the negative impacts of disasters and speed up the post-disaster recovery process.

c. Funding

The pre-disaster, emergency response, and post-disaster phases of disaster management must be reflected in government and regional funding mechanisms for disaster management. During the pre-disaster phase, the government utilizes APBN budgeted contingency funds and other APBN or APBD budgeted funds. During the emergency response, the government and regional governments utilized funds that were

immediately available. Local governments can provide ready-to-use funds in the APBD, which are placed in the BPBD budget. ready-to-use funds are provided in the APBN, which is placed in the BNPB budget. During the post-disaster phase, the government offers humanitarian assistance funds in the form of grants and emergency funds. Both of these funds come from the State Budget and are designated for effective and efficient post-disaster reconstruction and rehabilitation activities, such as the evacuation of residents, the fulfillment of basic needs in the form of temporary shelters, the provision of food and non-food assistance, health services, and others, which are carried out in potential disaster situations. This stage is classified as pre-disaster because the actual catastrophe has not yet occurred (Rivani, 2019).

Disasters currently involve not only the local or national community, but also the international community. The international community supports the Indonesian government's efforts to improve disaster management. On the other hand, the Indonesian government has a high level of concern and seriousness regarding catastrophe issues, as evidenced by a significant budget allocation for disaster risk reduction in development. The following are some of the Indonesian institutions related to disaster management:

- 1) DIPA Funds (APBN/APBD)
- 2) Contingency Fund
- 3) On-call funds
- 4) Grant-patterned Social Assistance Fund
- 5) Community-sourced funds
- 6) International community support fund

2. The Effectiveness of Earthquake Disaster Management Policy in Indonesia

Policy implementation for earthquake disaster management in accordance with Government Regulation Number 21 of 2008 concerning Disaster Management has been proceeding smoothly and equitably through the phases of preparedness, emergency response, rehabilitation, and reconstruction. Using the following metrics, Indonesian authorities can evaluate the success of their earthquake control strategies:

a. Communication

Communication in policy implementation is needed to provide understanding to policy implementers in order to achieve goals, so that policy implementers feel motivated to carry out the duties and responsibilities assigned to them. Through an effective communication creation, various kinds of obstacles can be found which become obstacles, and then try to find alternative solutions to these obstacles.

In terms of earthquake disaster Communication is very important in the implementation of government policies in handling earthquake natural disasters because this involves officers working in the field, so that all officers can act quickly in handling the earthquake natural disaster that occurs. Effective communication has implications for understanding policy implementation, by providing an explanation of what must be done, how well they are doing, and what is done and what will be obtained if they carry out their work properly, it will have an impact on optimizing policy implementation.

Likewise BNPB as the agency responsible for handling disasters including earthquakes quickly and responsively always deploys officers in terms of disaster risk management. We can see this from the earthquakes that occurred in Aceh, in Lombok and the Poso and Palu earthquakes. This is solely due to effective communication so that victims can be handled properly.

b. Resource

Obtaining the necessary resources in order to put into action the policy of the government on the management of earthquakes and other natural disasters. Even though

the contents of the policy have been presented in a transparent and consistent manner, the implementation of the policy will not be effective if the implementer does not have the resources necessary to carry it out. These resources have the potential to take the form of human resources. The availability of resources is a crucial component for the successful handling of earthquakes and other natural disasters in Indonesia, one of the world's most populous countries. Without resources, policies can simply be written down and turned into paperwork; ultimately, resources address the ability of policy implementers.

The management of earthquake disasters in Indonesia truly requires sufficient resources in order to put into action the regulations that have been established. Even when the policy has been stated in a transparent and consistent manner, the implementation of the policy will not be successful if the person responsible for executing the policy does not have the resources necessary to do so.

The availability of resources is an essential component in the process of putting earthquake natural disaster management strategies into action in Indonesia. Without sufficient resources, these policies will never get off the ground and will instead become meaningless paperwork. The term "resources" can refer to a variety of different things, including qualified people resources, advanced technology, adequate equipment, and adequate financial resources. On the other hand, human resources are one of the resources that are considered to be among the most significant in the process of putting earthquake natural disaster management policies into action in Indonesia. It is necessary to have a staff that is both skilled and trained in the field of earthquake natural disaster management in order to carry out the tasks that have been allocated in the event of an emergency.

As a result, it is necessary to make an effort to improve the quality of the human resources involved in the management of earthquake disasters in Indonesia. These efforts should include training, education, and the development of competency. In addition, the government is responsible for ensuring that a enough budget is available to fulfill the needs of other resources, such as highly advanced technology and equipment, and for ensuring that these resources are available at the appropriate time and location. It is possible for the implementation of earthquake natural disaster management policies in Indonesia to function efficiently if sufficient resources are available, and the community will be able to observe and experience the effects of these policies.

c. Disposition

The character or attributes possessed by policy implementers, such as commitment, honesty, and democratic traits, are referred to as dispositions. If the person responsible for putting the policy into effect has admirable qualities or character, then he will put the policy into effect correctly and in accordance with the goals and desires of the people who made the policy. It is quite possible that the objectives of government policy on the management of earthquake natural catastrophes in Indonesia can be optimally and successfully realized, provided that policy implementers treat those objectives with good respect. In this study, the inclination of policy implementers may be seen from a number of different elements, such as the policies that were proposed, those that were realized, and feedback on the execution of these policies. These factors are adequate on their own to reflect the conduct of implementers in the context of policy implementation.

In disaster management efforts, both before and after a disaster, Disaster Risk Management is carried out by building a disaster management system (Disaster Management Plan), namely first, legitimacy by preparing plans, actions, emergency response and others. Second, institutions that regulate positions, duties, functions, authorities and responsibilities as well as work relations both horizontally and vertically. Third, planning related to disaster management into regional development planning and disaster risk reduction. Fourth, funding relates to the provision and arrangement of funds

for disaster management. Fifth, capacity building related to the community must be able to anticipate, be prepared for disasters, be able to handle emergencies (at least be able to help themselves/family) and be able to bounce back from the effects of disasters.

d. Bureaucratic Structure

One that is considered important in the process of diagnosing policy development is diagnosing the bureaucratic structure of policy implementers. In other words, does the structure actually serve the policy objectives or does the organizational structure not match the policy objectives? This means that the structure and objectives are aligned or not aligned. In order to successfully implement complicated government policies for the management of natural catastrophes such as earthquakes in Indonesia, the participation of a variety of parties is required. When the bureaucratic structure that is not conducive to the execution of a policy leads to effectiveness and hinders the implementation of the policy, this will lead to the effectiveness of the policy.

The Standard Operational Procedure, more commonly abbreviated to SOP, is an innovation that arose in response to the requirement for uniformity in the execution of labor that was both large and complicated. These standard operating procedures (SOP) or work processes can be utilized to deal with a variety of different scenarios. And policy implementers, by employing SOPs, can optimize the time available to them and can serve to standardize complex and widespread actions, which results in a great deal of flexibility and a better degree of uniformity in the application of regulations.

Policy implementation maintains consistency and performance levels, there are SOPs to clearly know the roles and functions of policy implementers as well as to clarify the flow of tasks, authority and responsibilities in the end to avoid mistakes, doubts and inefficiencies, so in implementing policies a standard operating procedure (SOP) is needed. The function of the SOP is to expedite the task of implementing the policy, as a legal basis in the event of a deviation, knowing clearly the obstacles and easily tracking them, directing the implementation of the policy to be equally disciplined to work as a guide in carrying out routine work.

A good SOP will become a guideline for policy implementers, become a communication and monitoring tool and make work completed consistently, policy implementers will have more confidence in working and know what must be achieved in each job besides that SOP can also be used as one of the training tool and can be used to measure the performance of policy implementers.

The effectiveness of earthquake disaster management policies in Indonesia still has challenges and needs to be continuously improved. Even though the government already has rules and regulations to deal with earthquake disasters, the implementation of these policies is still constrained by several factors, such as:

- 1) Lack of access to information and education about the dangers of earthquakes and how to deal with them for the community.
- 2) The development of earthquake-resistant infrastructure in earthquake-prone areas is still lacking, especially in remote and hard-to-reach areas.
- 3) Lack of adequate budget and human resources for earthquake disaster management.
- 4) Challenges in coordination between government, community, and related institutions in disaster management efforts.
- 5) The high level of community vulnerability to earthquake disasters is due to poverty and inability to carry out disaster mitigation.

Nonetheless, the Indonesian government continues to strive to improve the effectiveness of earthquake disaster management policies by developing better emergency response plans, strengthening cooperation between related agencies, and improving coordination in disaster management. In addition, the government must also

increase access to information and education about earthquake hazards and how to deal with them for the community, strengthen the development of earthquake-resistant infrastructure, and allocate adequate budget and human resources for earthquake disaster management.

Conclusions

Law 24 of 2007 regarding Disaster Management and its implementing regulations, including Government Regulation 21 of 2008 on Implementation of Disaster Management, form the legal basis for the country's disaster management policy. This official rule establishes guidelines for handling natural disasters in Indonesia. More supplementary regulations, including Presidential Regulation No. 8 of 2008 regarding the National Disaster Management Agency, Government Regulation No. 22 of 2008 regarding the Funding and Management of Aid, and Government Regulation No. 23 of 2008 regarding the Participation of International Agencies and Foreign Non-Governmental Organizations in Disaster Management, have also been issued. In Indonesia, the National Disaster Management Agency at the national level and the Regional National Disaster Management Agency at the regional level are the statutory entities mandated by Presidential Regulation number 8 of 2008. The implementation of disaster management is bolstered not only by formal institutions like the National Platform (Planas), but also by non-formal institutions like DRR forums, etc. In addition, the mechanism can take the shape of DIPA (APBN/APBD), Contingency Funds, On Call Funds, Hibabs, etc. in terms of the budget. Communication, resources, disposition, and bureaucratic structure are only few of the areas where Indonesia's earthquake disaster management strategies have excelled.

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