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# The Urgency of Establishing a Natural Disaster Management Agency in Indonesia

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## **ABSTRACT**

Severe damage and large losses will be the result of the earthquake. Thus, pre-disaster activities to reduce the impact of carried out by various parties such as the central and local governments, relevant agencies and society is very important. Therefore, the central government will make a design "action against earthquakes" as a master plan for dealing with disasters earthquakes, including pre-disaster measures, emergency response, and post-disaster stages. To measure the impact of these disaster risk reduction efforts, the central government will set one goal that can be measured quantitatively for a certain period of time. Observations of the achievements of these efforts will be continued on a regular basis. Moreover, participation and coordination with local government is very important to achieve this goal, so the local government concerned must take responsibility for responsible for developing regional goals that are in line with the coping strategy national disaster.

#### 1. INTRODUCTION

Natural disasters or disasters that befall a country can come suddenly, so that people who are in disaster areas do not have time to anticipate and prevent these disasters. Geographically, Indonesia is located within the ring of fire, where the 1,200 km long path from Sabang to Papua is the boundaries of the three major world plates, namely: the Indo-Australian, Eurasian and Pacific plates which will potentially trigger various events great natural disaster [1]. Indonesia is also located in three mountain systems (Alpine Sunda, Circum Pacific and Circum Australia). Indonesia has more than 500 volcanoes of which 128 are still active, and is an archipelagic country because 2/3 of Indonesia's area is sea, has nearly 5,000 large and small rivers and 30% of them cross densely populated areas [2]. Hadi and Sugiantoro [3] stated that 87% of Indonesia's territory is prone to natural disasters, as many as 383 districts or municipalities are natural disaster-prone areas out of 440 districts or municipalities throughout Indonesia [4]. In addition, the condition of Indonesia with a large and unequal population, diversity of tribes, religions, customs, cultures and groups makes Indonesia very vulnerable to natural disasters. Natural disasters such as earthquakes, tsunamis, floods, volcanic eruptions, landslides, and hurricanes that often occur in Indonesia certainly have an impact on destruction, also causing suffering and loss for both the community and the country [5]. With the frequent occurrence of natural disasters in Indonesia, disaster risk management is needed for better and systematic handling of disaster assistance [6]. The problem that arises is that there are still many Indonesians who do not know and understand what a disaster is, how to anticipate and deal with a disaster, so that the risks caused by the disaster are minimized, and who is responsible for the disaster [7].

One of the things that people who are affected by disasters often complain about is the government's lack of readiness in dealing with the impacts caused by disasters. Often disasters are only partially responded to by the government [8]. The lack of an integral government policy and lack of coordination between departments are considered as some of the possible causes for this to happen. Too long and tortuous bureaucratic processes are also sometimes the cause of the government's lack of readiness in dealing with post-disaster impacts [9]. Natural disasters that hit Indonesia almost every season are floods and landslides. With the enactment of Law Number 24 of 2007 concerning Disaster Management, it is hoped that the implementation of disaster management will improve, because the government and local governments are responsible for the implementation of disaster management [10]. Disaster management is carried out in a targeted manner starting predisaster, during emergency response and post-disaster [11]. The pattern of disaster management gained a new dimension with the issuance of Law Number 24 of 2007 concerning Disaster Management, Regulation of the Head of the National Disaster Management Agency (Perka BNPB) Number 3 of 2008 concerning Guidelines for the Establishment of Regional Disaster Management Agency (BPBD) and Regulation of the Minister of Home Affairs (Permendagri) Number 48 of 2008 concerning Guidelines for Organization and Work Procedures of BPBDs followed by several related implementing regulations, namely Presidential Regulation (Perpres) Number 8 of 2008 concerning the National Disaster Management Agency (BNPB), Government Regulation (PP) Number 21 of 2008 concerning Management of Disaster Management. Disasters, Government Regulation (PP) Number 22 of 2008 concerning Funding and Management of Disaster Aid, and Government Regulation (PP) Number 23 of 2008 concerning Participation of International Institutions and Foreign Non-Governmental Organizations [12].

The Law Number 24 of 2007 concerning Disaster Management mandates articles 35 and 36 that every region in disaster management efforts has a disaster management plan. In more detail, it is stated in Government Regulation Number 21

of 2008 concerning the Implementation of Disaster Management [13]. Based on the value of losses and the frequency of landslides, it can be seen that there is a significant increase [14]. The occurrence of landslides is strongly influenced by natural factors in the form of above normal rainfall and the presence of high tides [15]. Besides that, human factors play an important role such as inappropriate land use (settlement in riverbank areas, in catchment areas, deforestation), waste disposal into rivers, construction of settlements in floodplain areas so that the Regional Disaster Management Agency (BPBD) is formed [16]. The Regional Disaster Management Agency (BPBD) is designed for comprehensive disaster management which is a change from the conventional approach of emergency response to a new perspective [17]. Where this perspective places an equal emphasis on all aspects of disaster management and focuses on risk reduction [18]. It can be said that the establishment of BPBD has become the authority of the regional government and in accordance with this, the regional government must issue a regional regulation regarding disaster management as well as the Sinjai Regency government has also established a Regional Disaster Management Agency which is in line with the Sinjai Regency Regional Regulation Number 32 of 2012 concerning Disaster Management of Regional Disaster. Disaster management is an integral part of national development, namely a series of disaster management activities before, during and after a disaster occurs [19]. The government is responsible for the implementation of disaster management including the focus on reconstruction and rehabilitation from the post-disaster. Guarantees for the fulfillment of the rights of the community and refugees affected by disasters in a fair manner and in accordance with service standards must be pursued immediately, this is to anticipate more victims [20]. Recovery of conditions from the impact of disasters and the allocation of disaster management budgets in adequate and ready-to-use state budgets and expenditures for reconstruction and rehabilitation should be a guarantee for disaster victims [21].

Rehabilitation is the improvement and restoration of all aspects of public or community services to an adequate level in post-disaster areas with the main objective of normalizing or running normally all aspects of government and community life in post-disaster areas [22]. While reconstruction is the rebuilding of all infrastructure and facilities, institutions in post-disaster areas, both at the government and community levels with the main objectives of growing and developing economic, social and cultural activities, upholding law and order, and increasing community participation in all aspects of social life [2].

In post-disaster areas, Rehabilitation and Reconstruction is carried out through environmental improvement activities in disaster areas, repair of public infrastructure and facilities, provision of assistance for community housing repairs, socio-psychological recovery, health services, reconciliation and conflict resolution, socio-economic and cultural restoration, restoration of security and order, recovery government functions, and restoration of public service functions.

In essence, attempts are made to establish a financial transition for disaster management that prioritizes market-based non-public funding sources in response to these distinct sorts of disasters. Make sure the method is not just the same as money from the state budget. Therefore, the role of all other stakeholders, including NGOs, private companies, businesses and communities, needs to be encouraged as optimally as possible. And this is actually a reflection of the enactment of

the era of civil society. The urgency of the need for cooperation with all stakeholders is based on the magnitude of the costs incurred by each disaster.

In the period of 2019, referring to the results of the release of the Meteorology, Climatology and Geophysics Agency (BMKG), the incidence of disasters has decreased compared to previous years. Disaster events experienced a peak period in 2017 as many as 2,869 events, followed by 2018 as many as 2,573 events. Although the intensity decreased, the costs incurred actually increased significantly. From the detailed impact projections, the cost of replacing damage to irrigation canals is the most dominating up to Rp 860 billion, followed by relocation costs reaching Rp 416 billion, housing damage Rp 109 billion, agricultural damage Rp 78 billion, road damage Rp 62 billion and bridges Rp 23 billion [23].

On a more massive scale, the earthquake and tsunami disaster in Aceh Province and on Nias Island in the year of 2005, caused a loss of not less than IDR 42 trillion. Almost the same loss occurred during the 2006 Yogyakarta Province earthquake with an estimate of up to Rp 35 trillion. Furthermore, a series of disasters occurred next to the last NTB earthquake and tsunami in Palu, Sigi and Donggala. Meanwhile, the flood disaster that hit Jabodetabek on January 1, 2020, caused no less serious damage. According to the calculation of the Indonesian Retail Entrepreneurs Association (Aprindo), the value of the loss reached Rp 960 billion, only from the escalation of the calculation of the number of retail shops that were closed due to the flood, not counting the subsequent impact.

Unfortunately, the same losses almost always seem to be repeated in every major flood event in the capital city. The initial flood cycle in 2002, for example, brought losses of up to IDR 5.4 trillion, while the same flood in 2007 cost IDR 5.2 trillion. More significant damage of up to Rp7.5 trillion occurred in the 2013 flood period, bringing the total loss generated in the three flood periods to Rp 18.1 trillion.

By considering the above background and data, the paper focuses on the following research questions:

• What is the urgency of establishing a natural disaster management agency in Indonesia?

## 2. METHOD

The method used is a case study method with a qualitative approach, which has the following characteristics:

- a) examines the interaction of events and processes,
- b) fully involves researchers,
- c) has a natural background,
- d) uses purposive samples,
- e) prioritizing the meaning behind reality,
- f) involving complex variables, and g) applying inductive analysis. Qualitative research according to Lincoln in Neuman is research that emphasizes the process and meaning of social reality that is not tested or measured strictly in terms of quantity or frequency. The focus of qualitative research is to explain how social phenomena are formed and given meaning [24].

With a qualitative descriptive naturalistic approach, this research is expected to be able to describe the actual situation in the field. Quantitative data is used as a support. Descriptive research according to Sugiono [25] is research conducted on independent variables, namely without making comparisons, or connecting with other variables. A study seeks to answer a

question [26].

Creswell [27] defines qualitative research that relies less on sources of information, but carries the same ideas. Creswell emphasizes a "complex and holistic" picture, a reference to a complex narrative that invites the reader into the multiple dimensions of a problem or issue and presents it in its complexity [28].

While the phenomenological approach aims to understand the phenomena that occur in the research subject, where the researcher will describe the research results in the form of words obtained during observations and interviews with a number of informants [25]. With a phenomenological approach, according to Moleong it is an attempt to understand the meaning of events and their relation to ordinary people in certain situations. This will help the researcher tap into the other person's point of view, and seek to understand why they are [26].

Meanwhile, case studies aim to understand meaning, investigate processes and gain deep understanding and understanding of individuals, groups and situations, case studies can be distinguished from other forms of qualitative research by the fact that they focus on a "single unit" or "a finite system" [29].

## 3. RESULT AND DISCUSSION

#### 3.1 Result

## 3.1.1 Disaster management

The Law no. 24 of 2007 concerning Disaster Management Article 1 defines disaster as an event or series of events that threatens and disrupts people's lives and livelihoods caused, both by natural factors and/or non-natural factors as well as human factors, resulting in human casualties, environmental damage, losses, property, and psychological impact. The pattern of disaster management gets a new dimension with the enactment of Law no. 24 of 2007 concerning Disaster Management [30]. To support this development, it is necessary

to formulate policies, strategies, and operations nationally by involving the central and regional governments. This is in accordance which states that disaster management efforts need to be planned within the corridor of a certain vision and mission involving three sectors: government, private, and community [14]. The focus of the implementation of disaster management today is no longer reactive or waiting for disasters to occur, nor is it on the introduction and application of technology to identify disaster-prone areas, but rather on being "friendly" to disasters [31]. This means that the Indonesian people are required to be fully aware that they live in disaster-prone areas, and therefore, they are expected to be able to use local wisdom and traditional knowledge inherited from their ancestors to synergize with nature [32].

#### 3.1.2 Role of government in disaster management

The government must have a large enough capacity to control the situation of disaster-prone areas. These capabilities include planning and preparing for disaster response, coordination assistance, reconstruction-policies and overcoming population problems. The government with a disaster management program development can carry out good coordination [33].

Regional and disaster areas are an attempt to examine the collection of policies, practices and professionalism of emergency response management from a local government perspective. These efforts are focused on local government as the first level of the disaster phase. Response is important to minimize casualties and optimize the community's ability to respond [34]. Regional disaster response efforts depend on local governments. The focus of local government, the problem of disaster management is focused on the local government, there are several reasons, namely:

- 1) Disaster management is implemented by the local government.
- Local government has an active role in disaster management.
- 3) The granting of great authority from the central government to local governments.

**Table 1.** The scope in disaster funding and activities

No.	The Dimension	The Scope of Tasks		
1.	Steps	Pre-disaster		During disaster
2.	Objectives	Disaster risk reduction		Emergency management
3.	Management	Disaster risk management		Emergency management
4.	Implementation	A disaster situation is not happened	There is a disaster situation	Emergency response
5.	Activity	Planning Disaster reduction Prevention Assist in the development plan Requirements risk analysis Spatial planning Education and training Technical standard requirements Research	· Mitigation · Early warning system · Preparedness	· Rapid and appropriate assessment · Determination of emergency status · Rescue and evacuation of people affected by disaster · Fulfillment of basic needs · Protection of vulnerable groups · Emergency recovery
6.	Planning	· Empowerment/capacity building Plan mitigation	Plan contingency Plan disaster ma	C
7.	Funding	DIPA	Disaster manager CONTINGENCY FUNDS Funds from co	DIPA & ready-to-use funds
8.	Peran BNPD & BPBD	Coordination & implementing		Coordination, command, and implementers

In Table 1, the scope in disaster funding and activities can know the disaster funding and activities in Indonesia.

Disaster response policies need to be localized. These reasons underlie disaster management in the local area is the key in the implementation of disaster management [35].

## 3.1.3 Disaster management effort

The environmental damage is becoming more and more obvious. We need to think about the efforts that will be made to improve our environment in order to create order, cleanliness and beauty. The first step to make improvements can be done by paying attention to the state of our new environment in the national environment. According to Nurjanah et al. [35], (2010: 56), disaster management efforts, namely:

#### 1) Mitigation

Mitigation can also be interpreted as taming natural disasters and in principle mitigation are efforts both physical and non-physical preparation in dealing with natural disasters. Physical preparation can be in the form of spatial planning for disaster areas and building codes, while non-physical preparation can be in the form of education about natural disasters.

2) Placing the victim in a safe place

Placing the victim in a safe place is absolutely necessary. In accordance with the Hyogo Declaration adopted at the World Conference on Disaster Reduction, in Kobe, Japan, in mid-January 2005, it stated that "States have the primary responsibility to protect people and property within their jurisdiction from threats by providing a high priority for disaster risk reduction in national policies, according to their capabilities and the resources available to them", such as:

- a) Forming a disaster management team.
- b) Provide counseling.
- c) Relocating victims gradually [36].

Efforts to prevent threats from natural disasters are as follows:

1) Creating a Disaster Warning Post

One of the efforts that can then be pursued is to establish a disaster warning post, this post will determine whether the community can return to their homes either in residence or not.

- 2) Familiarize with Orderly and Disciplined Life
  - It is necessary to have an orderly lifestyle, namely by enforcing regulations related to environmental conservation. As long as the community obeys it, it means that at least we have participated in preserving the environment and the community must also be disciplined.
- 3) Providing Education on the Environment

This factor was emphasized in the World Conference on Measures for Reducing Natural Disasters, which was held more than a decade ago, May 23-27, 1994 in Yokohama, Japan. This forum, at that time, was the largest forum on natural disasters ever held in history. More than 5,000 participants came from 148 countries.

According to Nurjanah er al. [35] (2012:47), in general, disaster management activities can be divided into three main activities, namely:

- 1) Pre-disaster activities which include prevention, mitigation, preparedness, and early warning activities;
- 2) Activities when a disaster occurs which includes emergency response activities. to relieve temporary suffering, such as search and rescue (SAR), emergency

- assistance and evacuation;
- 3) Post-disaster activities that include recovery, rehabilitation, and reconstruction activities.

Each of the main management activities will be described as follows.

- Activities at the pre-disaster stage are very important because what has been prepared at this stage is the capital in dealing with disasters and post-disasters. The government together with the community and the private sector think very little about what steps or activities need to be taken in dealing with disasters or how to minimize the impact of disasters.
- 2) Activities in the event of a disaster that are carried out immediately at the time of a disaster. To overcome the impact, especially in the form of saving victims and property, evacuation and evacuation, will get full attention from both the government and the private sector and the community. When a disaster occurs, there are usually many parties who pay attention and lend a hand to provide energy, moral and material assistance. The amount of aid that comes is actually an advantage that must be managed properly, so that any incoming assistance can be effective, targeted, beneficial, and efficient.
- 3) Activities in the event of a disaster that are carried out immediately at the time of a disaster. To overcome the impact, especially in the form of saving victims and property, evacuation and evacuation, will get full attention from both the government and the private sector and the community. When a disaster occurs, there are usually many parties who pay attention and lend a hand to provide energy, moral and material assistance. The amount of aid that comes is actually an advantage that must be managed properly, so that any incoming assistance can be effective, targeted, beneficial, and efficient [36].

## 3.2 Discussion

Increasingly how frequently approached plus diverse types of disasters that plague pandemic outbreak is considered to be following the COVID-19 today, if it were already a valid proof of climate destruction. Especially when some time ago, the Economist Intelligence Unit (EIU) released the global Climate Change Resilience Index.

The estimation results show that climate change around the world can directly cost the economy up to US\$7.9 trillion by 2050. This is due to the connectivity of various disasters resulting from droughts, floods, crop failures and other types.

It is this dimension of disaster that is feared to have a significant impact on economic growth and the sustainability of infrastructure around the world. The index also states that based on current trends, the potential for global warming could reduce the Gross Domestic Product (GDP) in each country by up to 3% in the 2050 period.

However, the impact will be even greater in developing countries where the African continent will experience the largest decline in GDP reaching 4.7%. Angola is estimated to be the most vulnerable around 6.1% of GDP will be eroded, followed by Nigeria at 5.9% of GDP, Egypt reaching 5.5% of GDP, Bangladesh around 5.4% of GDP and Venezuela reaching 5.1% of GDP.

Therefore, real action is needed now and also in the future as a form of effort to reduce the potential impacts generated. Real activities will not suffice if they are carried out with a business as usual (BAU) pattern. An extra effort is needed that

will bring about an accelerated rate of achieving the target for reducing greenhouse gas (GHG) emissions.

Previously, more than 11,000 scientists in 156 countries from various scientific disciplines also agreed to state that the world was in a climate emergency. They also observed various potential adverse effects if humans did not change their behavior patterns.

If sorted, this is not the first time because previously in 2017, around 16,000 scientists from 184 countries participated in a publication that believed that humans and nature were on the wrong track.

A recent report by BioScience, a peer-reviewed scientific journal, corroborates that statement. In their recommendations, scientists from more than 150 countries say the climate crisis is "closely linked to the overconsumption of the lifestyle of the rich"

The fact that there is a huge need for disaster funding by the APBN/APBD becomes even more concerning when it is found that the hand-catching operation (OTT) of several public officials related to the management of the funds was found. Therefore, it is very important to start thinking about options for disaster insurance schemes in the country to support the optimization of disaster management [37].

In the 2019 APBN document itself, the government has also opened a discourse to further optimize potential sources of non-APBN disaster funding. Several initial steps have been taken, such as piloting a state property insurance scheme (BMN), while in parallel developing a disaster risk funding framework, a risk transfer scheme as well as the establishment of a special funding mechanism for natural disaster management in the APBN.

The insurance coverage of several BMNs varies greatly depending on the results of the valuation and the level of location risk. For example, the Cibitung Tax Service Office (KPP) has an insurance value of around Rp. 8.4 billion, while the Cibinong KPP is Rp. 6.3 billion. For North Bekasi KPP reached IDR 1.5 billion and South Bekasi KPP amounted to IDR 24.9 billion. The Type A Customs and Excise Laboratory in Jakarta has a figure of Rp. 9.5 billion [38].

In 2021, several other BMN assets are planned to follow the disaster insurance engagement scheme. In general, the plan covers assets in nine Ministries/Institutions (K/L) such as the Office of the Corruption Eradication Commission (KPK), the National Terrorism Eradication Agency (BNPT), the Agency for the Assessment and Application of Technology (BPPT), the Information and Geospatial Agency (BIG), the Government Goods/Services Procurement Policy Institute (LKPP), the Coordinating Ministry for Human Development and Culture (Kemenko PMK), the Supreme Audit Agency (BPK), the Financial and Development Supervisory Agency (BPKP) and the National Disaster Management Agency (BNPB). The expansion of membership will increase to 20 K/L in 2021, 40 K/L in 2022 until finally all K/L will be covered by the disaster insurance scheme in 2023 [39].

In addition to insurance, the form of management of special funds for natural disaster management in the APBN can theoretically be realized in many schemes. There is an on call fund scheme, there is also the establishment of a contingency fund. Of all the proposals, the author is actually interested in establishing the Disaster Fund Management Agency (BPDK). As another form of Public Service Agency (BLU) that can be created by the government, this BPDK will later be able to collect disaster management funds both from the APBN/APBD, private sector and international funds of any

kind

The funds collected must then be nurtured and managed for all activities related to disaster management, from upstream to downstream, whether mitigation or post-disaster activities, plus the procurement of various disaster early warning tools that are often negligent at the stage of procurement of goods and services.

In terms of human resources (HR), this BPDK will later be able to include elements of professional employees with competitive and satisfactory salary standards, in addition to still including government representation in it. Thus, the aspect of work professionalism and performance-oriented output becomes the main thing.

Achieving this target is not easy. The involvement of the local government (Pemda) is needed. In accordance with the division of central-regional authority in the implementation of development (Law No. 23/2014), local governments are responsible for carrying out responsibilities and authorities related to environmental and disaster risk management. Moreover, each region faces different climate and disaster risks, both in terms of type or magnitude of impact. However, not all local governments are able to cope with this risk well.

Local governments face various challenges in implementing climate change control programs. For example, the understanding of climate change risks among local stakeholders is not equal, there is no careful planning for climate change adaptation and mitigation programs in the RPJMD, funding for environmental programs is seen as a "cost" and not an investment, budget dependence on transfers from the center, and the minimal proportion of budget allocation for the environment.

The challenges are even greater in the midst of the COVID-19 pandemic. The balance of regional budgets shifts. The LPEM FEB UI study (2021) on the resilience of regional budgets during the COVID-19 pandemic found that budget reallocation for short-term interests in the context of handling and preventing the spread of the virus and mitigating the economic crisis has sacrificed long-term budgets, including the budget to support climate change funding.

In order for climate change and disaster management programs to run, financing innovation as well as budget planning and management are very important. Several strategies for mobilizing climate finance budgets in the regions include: First, prioritizing climate change programs on the regional development agenda. Second, reducing inefficient spending and diverting are spending posts for climate change and disaster management.

Third, optimizing the quality of spending on technology-based central transfer funds (Ecological Fiscal Transfers) such as the Environmental DAK, DBH Reforestation Funds, DID, and Village Funds. Fourth, adopting climate budget tagging in the regions or Climate Budget Tagging to identify and evaluate the effectiveness of climate change and disaster budgets [40].

In addition, local governments need to increase regional revenues, such as from natural resource and environmental management, for example from waste retribution in accordance with externalities, Payment for Ecosystem Services, and result-based payments. Private sector participation through Environmental Social Responsibility schemes, loans or grants from the Central Government through the Environmental Fund Management Agency, funding from donors and abroad, as well as strengthening collaboration with non-government parties such as universities, the private sector and SMEs, financial services, and NGOs, both in terms of

planning and funding climate change and disaster programs, can be considered. Finally, the implementation of the Ecology-based Provincial Budget Transfer and Ecology-based Regency Budget Transfer scheme needs to be carried out to encourage the achievement of environmental indicators at the regional level, at the lower administrative level.

#### 4. LIMITATIONS

Disaster management is limited by the availability of appropriate resources, either human or material, because a disaster overwhelms the capacity of the affected area to respond to the needs it generates.

In the case of natural disasters, it may be impossible to bring resources to bear on the situation because the natural environment is too dangerous for responders to function inside of it until the force of the event subsides enough to allow them access. During severe weather events, responders are as much at risk as the general population and are as limited in their movement as everyone else is limited.

Supply chain issues also limit responses. If the situation demands a certain number of items and there are not enough of them and more will not be forthcoming for some critical amount of time, the allocation of those resources will be limited to those in greatest need and who can benefit from having them.

#### 5. CONCLUSION

The government's commitment on the significant and regional levels to involve insurance must be appreciated as a step forward because the Law on Disaster Management (UUPB) presents possibilities for insurance to be concerned in disaster management. The primary obstacle to the disaster insurance program in Indonesia is the absence of a legal umbrella that offers confirmation of payment of insurance premiums by the central and regional governments using APBN and APBD funds. Until now, the law continues to be under discussion on the Ministry of Finance, so it could be accelerated so that it could become the basis for implementing disaster insurance for each the central government and local governments. Regional governments holding autonomy mandates can take a look at intensively the advantages of providing disaster insurance premium subsidies compared to having to perform post disaster rehabilitation without the contribution of the insurance industry, so that if a disaster occurs, the government can share with insurance in dealing with diverse agreed matters. Regional Original (PAD) for Disaster Insurance Premiums for groups in disaster prone regions so that it will perform the mandate of local autonomy.

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## REFERENCES

[1] Abdullah, A. (2006). Sharia insurance. Existence and

- Advantages in the Middle of Conventional Insurance, Jakarta: PT Elex Media Komputindo.
- [2] Badan Meteorologi dan Geofisika (BMKG). (2020). Data Iklim dan Curah Hujan Pangkep. Stasiun Klimatologi Kelas I Maros. Maros.
- [3] Hadi, P., Sugiantoro, R. (2010). Disaster Management: Response And. Action Against Disaster. Yogyakarta: Media Pressindo.
- [4] Hasan, A.A.M., Nadratuzzaman Hosen, M.A.D.M. (2007). Questions and Answers on Islamic Economics. Jakarta: PKES.
- [5] Hasan, A.AM. (2005). Insurance in the Perspective of Islamic Law; An Analysis, Historical, Theoretical & Practical Review. Jakarta: Prenada Media.
- [6] Ismiyati, A., Lestari, F. (2020). Analysis on emergency and disaster preparedness level of hospitality industry in Palu and Gorontalo cities. International Journal of Safety and Security Engineering, 10(5): 671-677. https://doi.org/10.18280/ijsse.100512
- [7] Benardi, A.I., Sumarmi, Budijanto, Bachri, S., Rahman, A.U., Wulandari, F. (2023). Disaster preparedness in proximity of Merapi Volcano, Indonesia: Is there any relationship in knowledge and attitude of senior high school students? International Journal of Safety and Security Engineering, 13(2): 245-254. https://doi.org/10.18280/ijsse.130207
- [8] BMKG, "BMKG Database," Badan Meteorologi, Klimatologi, dan Geofisika. http://repogempa.bmkg.go.id, accessed on Mar. 12, 2022.
- [9] Winardi, A. (2006). Earthquake Jogja, Indonesia and the World. Jakarta: PT Gramedia Majalah, sebagai by Product Majalah Angkasa.
- [10] Sudarsono. (2007). Islamic Banks and Financial Institutions, Yogyakarta: Ekonisia.
- [11] Sula, M.S. (2004). Sharia Insurance (Life and General): Concept and Operational System, cet. I. Jakarta: GemaInsani Press.
- [12] Sunarsip dan Iqbal, Muhaimin. Insurance in Disaster Management, Jakarta: Republika, Kamis, 19 April 2007 tanggal akses 10 September 2021.
- [13] Salim, A. (2005). Insurance and Risk Management. Jakarta: PT Raja Raja Grafindo Persada, Ed ke-2.
- [14] Husaian, H.S. (2006). Insurance in a Sharia Perspective. Jakarta: Amzah.
- [15] Muhaimin, I. (2005). Sharia General Insurance in Practice (Efforts to Eliminate Gharar, Maisir and Riba), Cet-1. Jakarta: Gema Insani Press.
- [16] Ikatan Akuntan Indonesia, PSAK 108 tentang Transaksi Asuransi Syariah.
- [17] Wijaya, A.F. (2007). Disaster anticipation problems: in the perspective of good governance and public service management. Paper of the National Seminar on Oil and Gas Potential and Disaster Anticipation in East Java, Malang: Brawijaya University.
- [18] Yanggo, H.T. (2003). Legal Insurance and the Problems. Jurnal AAMAI, Tahun VII No 12.
- [19] Reza, Y. Komisi VIII & BNPB Propose Disaster Insurance, Jakarta.
- [20] Agus, M. (2008). Reaping Disaster (Modern Tasawwuf Discussion Series). Surabaya: Padma Press.
- [21] Muhammad, M. (2005). Insurance in Islam. Jakarta: BumiAksara.
- [22] Poero, A.I. (1998). Insurance in Indonesia. Jakarta: Raja Grafindo.

- [23] Soehatman, R. (2010). Practical Guide to Fire Management (Fire. Management). Jakarta: Dian Rakyat.
- [24] Emzir. (2012). Research methodology. Qualitative: Data Analysis. Jakarta: PT Raja Grafindo Persada.
- [25] Sugiono. (1999). Administration Research Methodology. Edisi Kedua. Bandung: CV Alfa. Beta.
- [26] Moleong, Lexy J. (2007) Qualitative Research Methodology, Penerbit PT Remaja Rosdakarya. Offset, Bandung.
- [27] Creswell, J.W. (1998). Qualitative Inquiry and Research Design: Choosing among. Five Tradition. London: Sage Publications.
- [28] Neuman, W.L. (2003). Social Research Methods: Qualitative and Quantitative Approaches. Boston: Allyn and Bacon.
- [29] Sevila, C.G. (1993). Introduction to Research Methods. Jakarta: UI-Press.
- [30] Peraturan Menteri Keuangan Nomor 18/PMK.010/2010, Tentang Dasar Penyelenggaraan Usaha Asuransi dan Usaha Reasuransi denganPrinsip Syariah.

- [31] Dewan Syariah Nasional MUI. (2006). MUI National Sharia Council Fatwa Association. Ed. 2006 Revision. Jakarta: CV. Gaung Persada.
- [32] Santosa, S.E. (2009). Media Asuransi, Desember.
- [33] Fatwa DSN-MUINo. 53/DSN-MUI/III/2006 tentang Tabarru' Pada Asuransi Syariah.
- [34] Fatwa DSN-MUI No. 52/DSN-MUI/III/2006 tentang Wakalahbil Ujrah Pada Asuransi Syariah.
- [35] Nurjanah, R.S., Siswanto, D.K., Adikoesoemo. (2010). Disaster Management. Jakarta (ID): Alvabeta.
- [36] Sastrawidjaja, M.S. (1997). Legal Aspects of Insurance and Securities. Bandung: Penerbit Alumni.
- [37] Sastrawidjaja, MS.D.E. (2004). Law of Insurance Protection of the Insured Deposit Insurance Insurance Business. Bandung: PT Alumni.
- [38] Djojosoedarso, S. (1999). Principles of Risk Management and Insurance. Jakarta: Salemba Empat.
- [39] Law Number 2 of 1992, Concerning Insurance.
- [40] Wirdyaningsih. (2005). Bank and Islamic Insurance in Indonesia. Jakarta: Kencana.