

Natural Disasters and Economic Sustainability: Overview of Some Regions in Indonesia

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Abstract. Natural disasters have become a serious threat to the economic sustainability of various regions in Indonesia. At the time of writing this article, an overview has been carried out on the impact of natural disasters on economic sustainability in several regions in Indonesia, by identifying several areas that have experienced significant natural disasters and analyzing how these disasters have affected the local economic sector. This research was conducted using a review of relevant literature from various reliable sources. The results of the analysis show that natural disasters have a significant impact on the economic sector in these areas. Economic losses caused by natural disasters not only affect infrastructure, but can also cause a decrease in production, unemployment and a decrease in people's income. This research provides valuable insights for policy makers to understand the impact of natural disasters on economic sustainability in certain areas in Indonesia.

Keywords: Economy sustainability, Natural Disasters, Indonesia economy

I. Introduction

Indonesia is a diverse and geographically expansive archipelago known for its natural beauty and abundant resources. However, this vast nation is also highly susceptible to a wide range of natural disasters due to its location in the Pacific Ring of Fire and along major tectonic plate boundaries. Over the years, the country has experienced numerous devastating events, including earthquakes, volcanic eruptions, tsunamis, floods, and landslides, which have had profound impacts on its communities and economy. The occurrence of natural disasters in Indonesia has raised concerns about the long-term economic sustainability of various regions across the nation. The economic implications of these disasters extend far beyond immediate damage to infrastructure and property. They can disrupt livelihoods, affect production capacities, lead to job losses, strain social welfare systems, and challenge overall economic development efforts. This paper aims to provide an overview of the relationship between natural disasters and economic sustainability in selected regions of Indonesia. By analysing the impact of these disasters on local economies, we seek to gain valuable insights into the challenges faced by communities and explore strategies for enhancing resilience and mitigating future risks. The Objectives from this article to examine the types and frequency of natural disasters experienced in specific regions of Indonesia.

To achieve the objectives of this study, this article employed a combination of qualitative with literature review methods. A comprehensive literature review will be conducted to gather relevant data and insights from previous studies, academic papers, and reports on natural disasters and their economic impacts in Indonesia. Additionally, we will utilize statistical data, such as, employment figures, and trade patterns, to assess the extent of economic disruptions caused by specific disasters. By exploring the experiences of selected regions, we hope to shed light on the unique challenges faced by each area and contribute to a broader understanding of the link between natural disasters and economic sustainability in Indonesia. Ultimately, this research aims to support policymakers, government agencies, and local communities in formulating effective strategies to mitigate the adverse effects of natural disasters and foster sustainable economic development in the country.

II. Literature Review

Economic Sustainability

Economic sustainability is a concept that has various definitions depending on the approach and sustainability label used. In the inside approach, economic sustainability is interpreted either from the perspectives of very weak or weak sustainability. The former stresses how organizations stay in business looking at the issues of corporate turnover and brand reputation and considering these to be at the heart of economic sustainability (Spangenberg, 2005). Within a business context, this means using the assorted assets of the company efficiently to allow it to continue functioning profitability over time. In the outside approach, economic sustainability is understood as economic development without any loss of ecological or social sustainability. Economic capital cannot grow at the expense of natural or social capital. Economic sustainability means the allocation of resources over time and also intergenerational equity. It emphasizes a production system which offers the highest level of well-being for current and future generations without compromising future needs. Economic sustainability refers to the ability of an economy to maintain stable

and balanced growth over the long term while preserving the environment, social equity, and the well-being of future generations. It is a key aspect of sustainable development, which seeks to meet the needs of the present without compromising the ability of future generations to meet their own needs.

Environmental Considerations of economic activities should be conducted in a way that minimizes negative impacts on the environment. This includes reducing carbon emissions, conserving natural resources, promoting renewable energy sources, and adopting sustainable practices in industries like agriculture, manufacturing, and construction. Economic sustainability also involves ensuring that the benefits of economic growth are distributed fairly among different segments of society. It means reducing poverty, addressing income inequality, providing access to basic services like education and healthcare, and promoting inclusive economic growth that benefits all members of society (Doane & MacGillivray, 2001). Encouraging sustainable consumption patterns and responsible production processes is vital for economic sustainability, this involves promoting the use of eco-friendly products, reducing waste and pollution, and encouraging recycling and circular economy principles. Economic sustainability requires policymakers and businesses to adopt a long-term perspective in their decision-making (Foy, 1990).

This means considering the potential impacts of current actions on future generations and making choices that promote resilience and stability over time. Embracing innovative technologies can play a significant role in achieving economic sustainability. Advancements in clean energy, green infrastructure, and efficient production methods can contribute to a more sustainable economy. Economic sustainability is a global challenge that requires cooperation among nations. Addressing issues like climate change, resource depletion, and global inequality requires collaborative efforts at the international level. Promoting economic sustainability often requires a shift away from a purely growth-focused economic model toward one that prioritizes well-being, environmental protection, and social progress (Spangenberg, 2005). Governments, businesses, and individuals all play crucial roles in advancing economic sustainability by adopting responsible practices and policies that balance economic prosperity with social and environmental considerations.

Natural Disasters Impact to Economy Environment

Natural disasters such as earthquakes, floods, typhoons, and hurricanes can inflict serious damage on the economy. For firms, natural disasters destroy tangible assets such as buildings and equipment, as well as human capital, and thereby deteriorate their production capacity. These adverse impacts may sometimes be fatal to the firms and result in them being forced to close down. However, the academic evidence on the economic impact of natural disasters is mixed. Some studies report that natural disasters may even promote growth. One possible mechanism behind this positive impact is the enhancement of the productivity of the economy's corporate sector (Yuhanafia & Andreas, 2017). This can happen through two channels: creative destruction and firm selection.

Creative destruction refers to the improvement in the productivity of firms that survive the disasters due to the update of their capital stock and the adoption of new technologies. Firm selection refers to the exit of inefficient firms due to the disasters. If natural selection is at work, then the average corporate productivity will increase. On the other hand, direct economic damage from extreme weather events has been growing faster than GDP for decades, and projections indicate that this trend will continue. The impacts of natural disasters clearly extend beyond the physical damage they cause (Saptutyningasih, 2011). They can have both short- and long-term effects on income, health, family formation, and many other aspects of victims' lives. In the aggregate, natural disasters could affect fiscal outcomes and the functioning of important services such as the health-care system.

In summary, natural disasters can have both positive and negative impacts on the economy and environment. The net economic effects of natural disasters appear to depend on the strength of the economy in affected localities. Natural disasters can have significant impacts on the economy, affecting various sectors and leading to both short-term and long-term consequences. These events, such as hurricanes, earthquakes, floods, wildfires, and tsunamis, can cause widespread destruction, disrupt economic activities, and result in financial losses. Natural disasters can cause severe damage to critical infrastructure, such as roads, bridges, airports, power plants, communication networks, and public facilities. Rebuilding and repairing these structures require substantial financial resources and time, leading to disruptions in transportation, utilities, and essential services. Damage to facilities, inventory loss, and disruption of supply chains can result in reduced production, decreased sales, and loss of jobs. Small businesses, in particular, may struggle to recover, impacting local economies. Disasters like floods, droughts, or storms can devastate agricultural crops, affecting food production and causing food shortages. This leads to increased food prices and reduced income for farmers, potentially leading to economic instability in rural communities.

Displacement of Population: Natural disasters can force people to evacuate their homes and communities temporarily or permanently (Wulandari, 2015). This can result in a loss of productivity and economic activity in the affected region, as well as increased demand for resources in relocation areas. Insurance costs losses from natural disasters can be substantial, leading to increased insurance premiums for businesses and individuals. Insurance companies may also face financial strain, impacting their ability to provide coverage in the future.

Effect to the government expenditure often plays a significant role in disaster response and recovery efforts. Emergency response, relief operations, and infrastructure rebuilding require substantial financial resources, potentially leading to increased public debt or budgetary challenges. Impact on financial markets can lead to volatility in financial markets, affecting stock prices, currency exchange rates, and investor confidence. Insurance and reinsurance companies may face significant financial liabilities, impacting the overall stability of the financial sector (Yuhanafia & Andreas, 2017). Tourism sector reliant on tourism may experience a decline in visitors after a natural disaster due to safety concerns or damaged infrastructure. This can have a considerable impact on local economies, businesses, and employment in the tourism sector. Economic Disparities as vulnerable populations, including low-income individuals and marginalized communities, are disproportionately affected. They may have limited access to resources and face greater challenges in recovering from the disaster's impacts. Long-term economic effects: Depending on the severity of the disaster and the effectiveness of recovery efforts, the economy may experience long-term effects. This includes reduced investment, lowered economic growth, and potential shifts in regional economic dynamics.

It is essential to note that the economic impacts of natural disasters can be reduced through effective disaster preparedness, early warning systems, and resilient infrastructure planning. Additionally, investing in risk reduction measures, disaster recovery plans, and insurance coverage can help mitigate the financial toll of future natural disasters on the economy. Collaborative efforts between governments, businesses, and communities are crucial in building resilience and minimizing the socio-economic impacts of natural disasters.

Government Policy

The Government policy have role to respond the unbalanced economy situation. This policy made to prevent the worst probability that can affect the civilian life. The Indonesian government has implemented several policies to respond to the economic unbalanced situation after natural disasters in the country. One of these policies is strengthening Indonesia's fiscal resilience to natural disasters and health-related shocks. On January 21, 2021, the World Bank's Board of Executive Directors approved a \$500 million loan to strengthen Indonesia's financial and fiscal resilience. The loan will help the country build and strengthen its financial response to natural disasters, climate risks, and health-related shocks.

The new project will support the Government's National Disaster Risk Finance and Insurance Strategy by strengthening Indonesia's fiscal and financial resilience through a Pooling Fund for Disasters. This fund will become the central mechanism through which post-disaster financing can flow from different sources. The fund will look to leverage domestic and international insurance markets to provide financial capacity to backstop the fund. The Indonesian government also recognizes that there are serious issues with post-disaster funding and aid. The central government has "on call" funds in its budget for emergency response that are meant to disburse in the case that a National Disaster is declared, otherwise emergency response falls on local government under Law (Muttalib & Mashur, 2019). The Indonesian Government has taken some action to recover the economy condition after being chaotic because of Natural Disasters, such as provides immediate emergency relief and assistance to affected communities. This includes food, water, medical supplies, and temporary shelter to address urgent needs and prevent further suffering. Rebuilding and Infrastructure Rehabilitation: Governments allocate funds for rebuilding damaged infrastructure, such as roads, bridges, schools, hospitals, and utilities. This not only helps in recovery but also stimulates economic activity and job creation in the region. From Financial Aid and grants, the government may provide financial aid, grants, or low-interest loans to affected businesses to support their recovery and encourage them to continue operations. The Insurance and risk management aspect can encourage individuals and businesses to obtain insurance coverage against natural disasters can help reduce the financial burden on both the affected parties and the government. Governments may also establish risk management and disaster preparedness programs to minimize the impact of future disasters.

The Investment in resilience and preparedness, the governments may invest in resilience-building measures to make communities more prepared and resilient to future disasters. This includes improving early warning systems, reinforcing critical infrastructure, and implementing land-use planning regulations

to avoid building in high-risk areas. According that situation, support for agriculture and livelihoods aspects can be heavily dependent on agriculture, the government may provide assistance to farmers, such as seeds, tools, and credit, to help restore agricultural production and maintain livelihoods. Employment Programs: Governments may implement employment programs and public works initiatives to create jobs for those who have lost their livelihoods due to the disaster (Samad et al., 2020). This can help stimulate economic activity in the affected region. In response to significant disasters, governments may implement stimulus packages aimed at reviving economic activity in the affected region. These packages may include tax incentives, grants, or subsidies to encourage investment and consumption. The government may strengthen social safety nets to support vulnerable populations who are disproportionately affected by the disaster. This can include targeted assistance programs for the poor, elderly, and disabled. International Aid and Cooperation, in cases of severe disasters, international aid and cooperation may be sought to complement the government's efforts. This can include financial aid, technical assistance, and humanitarian support from other countries and international organizations.

It is important to note that effective disaster response and recovery require a coordinated effort between the government, private sector, civil society, and affected communities. Timely and transparent communication with all stakeholders is critical for successful implementation and accountability.

III. Research Method

Literature study methods are the approaches and procedures used to identify, record, understand, and transmit information pertinent to a topic of interest. The literature review process can be viewed as a data collection tool, as it involves activities such as identifying, recording, understanding, meaning-making, and transmitting information (Sumartiningsih & Prasetyo, 2019). In this article, around fifteen articles and studies have been reviewed, which have been mapped previously to support the relevant data in this article.

The literature review represents a method because the literature reviewer chooses from an array of strategies and procedures for identifying, recording, understanding, meaning-making, and transmitting information pertinent to a topic of interest. Moreover, conducting a literature review is equivalent to conducting a research study, with the information that the literature reviewer collects representing the data. Literature reviews can take two major forms. The first is the "literature review" or "background" section within a journal paper or a chapter in a graduate thesis. This section synthesizes the extant literature and usually identifies the gaps in knowledge that the empirical study addresses. It may also provide a theoretical foundation for the proposed study.

The second form of literature review constitutes an original and valuable work of research in and of itself. Rather than providing a base for a researcher's own work, it creates a solid starting point for all members of the community interested in a particular area or topic. The so-called "review article" is a journal-length paper which has an overarching purpose to synthesize the literature in a field, without collecting or analyzing any primary data.

IV. Result and Discussion

Natural disasters are unavoidable events, especially disasters that occur not due to human intervention, such as volcanic eruptions, tsunamis, earthquakes and others. From this incident it is very clear that there will be an impact that can be detrimental to the local community in the area where the disaster occurred. Indonesia is a country that is located right on the equator, and is surrounded by many mountains. The possibility of a natural disaster is very high and this has prompted the government to immediately analyze the situation and take several preventive measures to minimize the impact of the disaster. Indonesia is a country with a tropical climate which makes the existing soil it is very fertile inside, Indonesia is also known as one of the countries that has the most volcanoes in the world, both those that are still active and those that are not active, that is what makes the soil in Indonesia totally fertile. But besides bringing good things, volcanoes can also cause extraordinary disasters when they erupt. Widespread news about the affected countries and areas, natural disasters cannot be considered as mediocre disasters, every natural disaster that occurs always has an impact. Natural disasters can have a devastating impact on the economic, social and environmental fields.

Disasters are grouped into three categories, namely (1) natural disasters are disasters caused by events or series of events caused by nature, including earthquakes, tsunamis, volcanic eruptions, floods, droughts, hurricanes, and landslides, (2) non-natural disasters are disasters caused by events or series of events non-natural disasters which include technological failures, modernization failures, epidemics and disease

outbreaks, and (3) social disasters are disasters caused by events or a series of events caused by humans which include social conflicts between groups or between communities, and terror (Asy'ari, 2018).

Post-disaster management is an important step for survivors of the disaster to determine whether they can return to normal life (build back), get better (build back better), or even collapse. So far, post-disaster recovery planning has focused more on aspects of physical infrastructure. In fact, the social aspect cannot be abandoned considering that disaster survivors are a group that is directly affected and must try to recover after a disaster (Devinta et al., 2021).

It is known that natural disasters cause a lot of damage, such as the damage that occurs to infrastructure that has been built which aims to help support the needs of people's lives, and directly has an impact that can hinder people's economic mobility which will also have an impact on the country's economy. The decline in people's income figures that occurred in several regions of Indonesia has a direct impact on state revenues. The decline in state revenues will affect investment interest by foreign companies in Indonesia because it will be considered a country with an unproductive economic environment so it will be difficult to provide reciprocal benefits (Hasnda et al., 2023). The impact of the disaster nature can cause people to experience symptoms of stress, and disrupt people's daily activities which include physical and non-physical aspects. Judging from the social phenomenon in the field was found that social change occurred not only due to modernization factors, but social change occurred due to natural factors such as natural disasters such as earthquakes, liquefaction, tsunamis, floods and other natural disasters. The following will be presented in more detail through table 1 regarding the impact of natural disasters on the economy in Indonesia which has been studied through relevant articles and research:

Table 1. Literature Study About Natural Disasters Impact to Economy Sustainability

Aspect	Problems	Solutions
Social Economy	The social and economic impacts were a total decline in production, distribution and consumption, reduced sources of livelihood. Some of recommended strategies for recovering the socio-economic conditions of the North Lombok Regency community after the earthquake	providing post-disaster assistance, developing human resources (HR), developing capacity in capital, and developing people's economic institutions (Muttalib & Mashur, 2019)
Local Tourism Economy Sector	Reduced tourist arrival due to travel warnings, as well as the closure of Ngurah Rai airport for several days due to volcanic ash bursts had caused the industry in the tourism sector to experience downturn	To reduce the impact of natural disasters, especially on the tourism sector, various efforts and cooperation from all stakeholders are needed to jointly find solutions to solve the problems arising from this disaster, knowing the natural warn and prepare more substitutional resource that can provide and also help the recovery after the disasters (Sutrisnawati, 2018).
Social Economy (People Income)	There was disruption to people's income, loss of production volume and working days. The biggest disturbance occurred in the income sector society	Governments can launch temporary work programs or incentives for residents who have lost their livelihoods as a result of the disaster. This program can include projects to repair infrastructure or realignment of earthquake-affected areas, which at the same time provide employment opportunities for local people (Oktaviani, 2020).
Agribusiness Sector	The disaster that occurred has caused enormous damage to the agribusiness sector, eliminating taxes obtained by the government, the housing sector, industry.	Preventive actions taken by the government both before and after a disaster are to monitor various aspects of the main industries in the area and carry out disaster preventive actions in accordance with applicable laws (Rahayu & Purwoko, 2020).
Real Estate Sector And Social Economy	Disruption of people's incomes, which hit many heads of families and decreased selling prices of buildings located around the area affected by the volcanic eruption of Mount Merapi.	Necessary to make efforts to restore agricultural land by jointly addressing these risks in collaboration with the local government and the private sector so that the livelihoods of the population, most of whom are farmers, can recover. In addition, increasing the productivity of agricultural land is needed. Therefore, assistance with skills training to increase agricultural

		productivity, as well as assistance with fertilizers and productive plants that can survive in the environment of Merapi, is expected to be a stimulus for the economic revival of the people around Merapi in sustaining their lives (Saptutyingsih, 2011).
District and Government Economic Management	There are additional economic losses caused by floods with the effect of land subsidence, large losses to the community and an increase in the budget for flood modeling.	Further research is needed to calculate the estimated additional economic losses by using the land use map of the same year as the flood depth map used in the study. This will greatly affect the results because the flood area will be known to be located in a particular land use class that may experience it change use in different years. There needs to be a definite standard for the value of flood depth, which will also affect the value of the resulting damage fraction for calculating economic losses (Anwar et al., 2022)
Natural Resources, District Development, Human Mobility	Disasters that occur affect the resources of the local community which can add to the burden on the country's economy. The disaster also had a negative impact on development, especially in the Tanah Datar area, West Sumatra	In order to improve conditions post-disaster, government support is needed through the distribution of aid. The aid was distributed immediately after the emergency phase ended, the Tanah Datar district government through BPBH and collaboration with related agencies made efforts to directly provide assistance to victims in the form of food, clothing and cash assistance. The impact of the provision of assistance can be utilized by the community to live life after the disaster. Although basically this assistance has not been felt optimally by the community (Dwi Utomo et al., 2022).
Agribusiness Sector, District Income	The eruption of Merapi caused the area of land and salak plants to be damaged so that the production of salak moss decreased. The average income of salak moss farmers before the eruption of Merapi amounting to IDR 27,720,000 and the average income of salak moss farmers after the Merapi Eruption of IDR 19,200,000.	Farmers must harvest products that are ready to harvest earlier if Mount Merapi has been declared on "alert" status so that salak production doesn't suffer losses because the fruit is covered in volcanic ash. After the Merapi eruption, in order to be able to become an independent socio-economic institution and have great power like before the Merapi eruption. The Department of Trade should make a place or market to sell salak moss that can accommodate large quantities (Wulandari, 2015) .
Agribusiness Sector, District Income, Social Economy	The impact of the eruption of Mount Sinabung was felt for the people who live around the foot of Mount Sinabung. There are negative impacts that can be directly felt by residents, for example when Mount Sinabung erupts, releasing hot clouds or considerable energy. The negative impact that cannot be felt directly by residents is when it concerns the physical condition of the people of Karo Regency.	The assistance provided by BNPB given to the casualties received Rp. 1.8 million per 6 months. Then 2 million to rent land for a year. The government will immediately speed up the process of granting land to farming residents so that they can provide a decent living for their family's life, and the initial capital provided by the government for clearing land will immediately be given completely (Febrianty, 2013).
Micro Business, Social Economy,	This decrease in investment causes reduced employment. Moreover, many people lost their jobs and became unemployed. Thus people's purchasing power will decrease	Economic strengthening, especially for business actors affected by the earthquake. Nusa Putra University not only provides support for the post-earthquake rehabilitation process, but also provides assistance MSMEs who are assisted by the Cianjur MSME Cooperative Integrated Business Service Center. This assistance is in line with the Community Service Program The community, with a small number of Nusa Putra University students, can help the recovery process for residents and the economy in the earthquake-affected areas, in accordance with the

		implementation of Nusa Putra Real Work Lecture (KKN) (Hasnda et al., 2023)
Social Economy, Food Industry, Home Based Business	The community in Kekait Village suffered a lot of losses, starting from the production of palm sugar or known, in addition to that, sweet wine tapped from palm trees was one of the productions of farmers from Kekait Village, Gunung Sari District, which was stopped due to the earthquake and lots of other home-based businesses such as belinjo chips, jackfruit lunthead and others. Apart from that, there are almost none left of community houses and production houses that are suitable for use.	Providing assistance after the earthquake disaster, developing human resources (HR), developing capacity in capital, and developing people's economic institutions. In addition, one of the post-earthquake recovery strategies that occurred in Lombok which is considered the most careful is through Micro and Medium Enterprises (MSMEs) and Small and Medium Industries (IKM). The recovery of MSMEs and IKM in NTB is the strategy that is felt to be the most capable of providing synergy with other economic sectors. In addition, by providing entrepreneurship training to the community (Al-Fath, 2021)
Social Economy, Human Mobility	The impact of flooding on the community's economy is that it causes people's homes to be damaged, farmers suffer losses, namely plants and animals to be damaged and lost, losses to entrepreneurs in selling, congestion on the highway, public facilities such as roads to be damaged, and disrupting other community activities	There is government intervention by providing assistance to North Samarinda District as well as providing intensive and gradual economic development followed by recovery steps (Anwar et al., 2022)
Social Economy, Real Estate	The earthquake and tsunami natural disasters that occurred in Donggala, Palu, caused many residents in the vicinity to lose their homes and changed the situation of economic activities because most of the population moved to refugee camps, with a total loss of Rp. 13.82 trillion.	Provision of temporary housing which is then converted into permanent housing is one of the efforts of the Palu City government in mitigating natural disasters. The provision of residential houses is specifically for people who are categorized as severely damaged due to the impact of the earthquake, tsunami and liquefaction (Hasan et al., 2022)
Social Economy, Human Mobility, Foreign Investment	The flood disaster caused many economic activities to be hampered. The inhibition of economic activity causes a decrease in GDP. The decline in GDP will have a direct impact on the interest of foreign companies to invest in Indonesia	Designing policies, especially policies on spatial planning, the Government should consider development locations where areas with a high level of vulnerability to the effects of natural disasters so that they are not used as the main place in developing economic centers or determine which areas are areas where development should not be carried out (Muammar, 2016).
Social Economy, Human Mobility, Investment	As a result of the earthquake and liquefaction in Sibalaya Utara Village where residents' houses were lost due to liquefaction and claimed lives and were damaged, both in conditions of light damage, moderate damage and severe damage (grouping of house conditions based on damage criteria by BNPB)	The government should be able to give special attention to communities in disaster-prone areas, related to the provision of community facilities and infrastructure and increasing the understanding and readiness of citizens in dealing with the risks of natural disasters that come any time. Strengthening business capital can be provided in the form of grants or loans from various sources, for example, the Office of Cooperatives and UMKM which annually provides grants in the form of light lending activities such as People's Business Credit (KUR), and the development of this capital assistance can be expanded again and further. equally. It is hoped that these funds will be able to be managed by community groups to be used jointly with the aim of creating business land so that it becomes a support for the household economy affected by earthquakes and liquefaction (Devinta et al., 2021).

V. Conclusion

This research has provided an overview of the relationship between natural disasters and economic sustainability in several regions in Indonesia. Based on data analysis and research findings, it can be interpreted that natural disasters have a significant impact on the Indonesian economy, both in terms of infrastructure losses and productivity. Some areas in Indonesia are proven to be more vulnerable to natural disasters than other areas, such as areas prone to earthquakes, floods, tsunamis or volcanic eruptions.

Natural disaster events have caused huge economic losses and can delay long-term economic growth. However, there are efforts that have been made by the government and related organizations to reduce disaster risk and increase economic resilience. Implementation of disaster risk withdrawal policies, investments in disaster-resilient infrastructure, and adaptation and response strategies have been important steps in increasing economic resilience to natural disasters in vulnerable areas. This research emphasizes the importance of mitigation and socialization efforts to achieve long-term economic sustainability in Indonesia. The development of an effective early warning system, wise land use planning, and the integration of disaster policies into local development planning are crucial steps to deal with natural disasters in the future.

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