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Original Article

Examining the Relationship Between Disaster Mitigation Spending, Unemployment, and Poverty: The Mediating Role of Economic Growth in Aceh Province, Indonesia

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Abstract: This study investigates the impact of disaster mitigation spending on poverty reduction through economic growth in Aceh Province. The study employs panel data regression analysis using EViews software, with data collected from 23 districts/cities in Aceh Province from 2011–2023. The analysis applies three-panel data approaches: the Common Effects Model, Fixed Effects Model, and Random Effects Model (REM), with model selection conducted using the Chow test, Hausman test, and Lagrange Multiplier test. The results identify the Random Effects Model (REM) as the most suitable for this analysis. The findings reveal that natural disasters significantly disrupt economic activities, leading to property damage and higher poverty levels. Disaster mitigation spending is critical in reducing unemployment and poverty while fostering economic recovery. Additionally, the study confirms that economic growth serves as a mediator between disaster mitigation spending and poverty reduction, demonstrating its importance in addressing socio-economic challenges. These results emphasize the need for effective and well-targeted budget allocation for disaster mitigation programs to minimize economic disruption, enhance recovery efforts, and improve community welfare. The study's policy recommendations encourage local and national governments to prioritize disaster mitigation initiatives and economic growth strategies that strengthen community resilience. By doing so, Aceh Province can better respond to future disaster threats, ensuring sustainable economic stability and poverty reduction.

Keywords: Disaster mitigation spending; Unemployment; Poverty; Economic growth

1. Introduction

Poverty is a major issue faced by nearly every country in the world. Poverty is understood as lacking goods and services necessary to achieve an adequate standard of living (Levitan, 1996). It is also associated with limited employment opportunities; typically, those categorized as poor are unemployed and have inadequate levels of education and health (Hafizd, 2018). Poverty is a complex phenomenon that involves many aspects of human life, particularly related to the inability to meet basic needs such as food, adequate housing, education, and healthcare.

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Generally, poverty can be understood as a condition where an individual or group does not have sufficient access or resources to meet the minimum standard of living. In many countries, poverty is often closely related to structural issues in wealth and opportunity distribution and social injustices that exacerbate the economic conditions of vulnerable communities ('Izazi & Boedirochminarni, 2023). The approach to understanding poverty can vary depending on the context and perspective. Traditionally, poverty is measured based on economic dimensions, namely the income and assets owned by individuals or households. However, this view often fails to capture the true complexity of poverty, including the social, psychological, and cultural aspects of the poverty experience (Arham & Firmansyah, 2019).

Beyond the economic dimension, poverty is often linked to social and political exclusion. This exclusion includes feeling marginalized from the broader society, difficulties accessing resources and public services, and a lack of opportunities to participate in social and political processes (Sriwahyuni, 2021). This can exacerbate the stigma and isolation experienced by impoverished individuals or groups. Globally, efforts to tackle poverty often involve various approaches, ranging from economic interventions to improve access to jobs and income to social programs to enhance access to education, healthcare, and other social services. These measures are directed towards reducing social and economic disparities and strengthening the capacity of individuals and communities to overcome poverty. The government strengthens disaster mitigation, response, and management systems to address these impacts and challenges. These efforts involve various parties, including the government, international organizations, civil society, and the private sector, to enhance capacity in facing increasingly complex and intense natural disasters (Fatimatuzzahra et al., 2020).

2. Literature Review

2.1. Poverty

A major barrier to poverty reduction and the development of economic facilities is vulnerability to natural disasters. Implementing social protection programs is crucial to shielding people experiencing poverty from the severe long-term consequences of disasters. Community welfare can be permanently improved through the contribution of disaster mitigation measures (Desinta & Sitorus, 2021). Other factors contributing to poverty include high population growth rates and low education levels. Individuals with low education levels are less competitive, leading to increased unemployment and poverty rates. Uneven income distribution can also cause disparities in resource ownership patterns, with communities possessing limited and low resources typically falling below the poverty line (Wulandari et al., 2022). Changes due to disaster exposure create abnormal conditions and increase the vulnerability of poor communities (Sholichah & Paidjala, 2017). Poverty alleviation efforts continue to be undertaken by both central and local governments through various programs, including the Indonesia Smart Program, Smart Indonesia Card, orphanage support, and assistance for orphans. In the socio-economic field, social welfare (KKS) benefits are provided to underprivileged families throughout Indonesia (Herlina & Komariah, 2017).

Mitigation measures can include spatial planning of disaster-prone areas. At the same time, non-physical preparations can involve disaster education, placing victims in safe locations, forming disaster management teams, gradually relocating victims, and allocating national and regional budget funds (APBN and APBD) to anticipate problems caused by natural disasters (Herlina & Komariah, 2017). Addressing poverty caused by natural disasters must be a top priority in economic development in the short and long term (Wulandari et al., 2022). An equally important aspect of disaster management is financing, from the emergency response phase to rehabilitation and reconstruction. In the 2016 national budget draft (RAPBN), the government planned to allocate IDR 1.18 trillion in standby funds for BNPB. However, BNPB officials stated that this budget is significantly lower than the total annual disaster management needs across Indonesia, which amounts to IDR 15 trillion annually, representing only 0.02 to 0.03 percent of the annual national budget (APBN). Ideally, it should be 1 percent of the national or regional budgets. Learning from past disasters, the government and parliament have not yet fully recognized the importance of prioritizing the budget for disaster management in Indonesia (Rivani, 2017).

2.2. Disaster Mitigation Spending

Funds allocated for natural disaster mitigation sourced from the national budget (APBN) are relatively small compared to the losses incurred. The same is found in the allocation of disaster mitigation funds in the regional budgets (APBD). According to the National Disaster Management Plan, the average allocation of ready-to-use funds in the APBD only reaches about 0.1 percent. Annually, the government provides an average disaster reserve fund of IDR 3.1 trillion (https://fiskal.kemenkeu.go.id). Despite often facing budget constraints, the government plays a crucial role in disaster mitigation. The government's primary responsibility is to handle every natural disaster effectively and efficiently. This includes careful monitoring and evaluation of the losses and casualties caused by disasters and ensuring adequate budget readiness for a quick response. With these steps, the government can minimize further losses that may arise from disasters while rehabilitating the affected areas to their original condition (Madjid, 2018).

Economic losses caused by natural disasters often reach substantial amounts. For example, several earthquakes and tsunamis in Aceh and parts of Sumatra in 2014 resulted in significant economic losses, amounting to USD 4.5 billion (BAPPENAS et al., 2006). The earthquake that struck the Yogyakarta region and its surroundings in 2016 destroyed 156,662 houses in 11 districts/cities, with total economic losses estimated to reach USD 3.1 billion (BAPPENAS, 2006). The earthquake that shook West Sumatra Province in 2009 caused economic losses estimated at USD 2.3 billion (World Bank, 2009). Disaster damage positively correlates with poverty and unemployment (Syahrial, 2020). Disasters can impact welfare by automatically increasing the number of people who lose their jobs, thereby creating widespread unemployment. The losses caused by disasters significantly affect the poor and marginalized communities, as they have fewer assets to rely on, their savings, health, and education are at greater risk, and recovery takes longer (Wulandari et al., 2022).

Economic development aims to improve the standard of living, increase employment opportunities for the unemployed, and focus on equitable income distribution. Employment and unemployment issues are challenging to avoid in many countries or regions and can trigger social issues such as criminal behavior and economic problems. This situation can reduce welfare levels and the community's capabilities (Bandiyono, 2017). The lower the unemployment rate, the more prosperous a country becomes, and vice versa. Currently, Indonesia faces severe employment issues. Since the economic and political crisis in the mid-1990s, the employment sector has been significantly impacted. The economic crisis caused many small to medium-sized businesses to struggle to operate, with many having to shut down (Loka et al., 2024).

Natural disasters generally harm the economy, with worse effects felt by those living in poverty and unemployment. Studies show that households affected by a single type of disaster are more likely to struggle to find employment, particularly those who work for wages on agricultural land and those who work for others, thereby affecting their income (Pranandari et al., 2022). In addition to central government efforts to address unemployment and poverty, local governments are also proactive in these efforts. Local government policies in the form of fiscal policies through local government expenditures, such as direct and indirect spending, are expected to reduce poverty and unemployment rates. Regional spending or local government expenditures in the regional revenue and expenditure budget (APBD) is one of the drivers of regional economic growth (Huda et al., 2021).

2.3. Government Efforts in Reducing Unemployment

Large financial losses from disasters can significantly reduce production capacity, impacting the economic welfare of affected communities. The rehabilitation and reconstruction process becomes crucial to restoring economic life to normal conditions but often requires costs far exceeding the local economy's capabilities. This situation often forces the country to take additional financing steps, potentially increasing national debt in already limited financial situations. Additionally, the temporary impact of disasters can halt local economic momentum, compelling the government to allocate national and regional budgets (APBN and APBD) for disaster management and recovery (Decky Dwi Utomo et al., 2022). These disruptions can affect the prices of goods and services widely. Such disturbances can halt economic activities, leading to hunger, disease outbreaks, and even deaths within the community. The worsening conditions prompt the public to urge the government to take immediate action. To mitigate these disasters, the government typically allocates significant funds for disaster management efforts to improve the situation (Adiwarman, 2010).

Furthermore, Government Regulation Number 22 of 2008 on disaster funding and management states that disaster mitigation funding sources come from the national budget (APBN), regional budgets (APBD), and/or the community. In disaster mitigation, the government provides contingency funds or reserves for preparedness activities in the pre-disaster stage, on-call funds in the National Disaster Management Agency's (BNPB) budget for emergency response activities, social assistance funds in the post-disaster phase, and unexpected expenditure funds (BTT) in the regional budget (APBD) for when disasters occur in municipalities or districts, with local efforts to mitigate disasters according to the regional budget (Arham & Firmansyah, 2019). However, according to Rivani (2017), disaster mitigation funds sourced from the APBN are relatively small compared to the incurred losses. The same is found in allocating disaster mitigation funds in the APBD. According to the national disaster management plan for 2015-2019, the average ready-to-use fund allocation in the APBD only reaches about 0.1 percent. Annually, the government provides an average disaster reserve fund of IDR 3.1 trillion (https://fiskal.kemenkeu.go.id).

Large-scale disasters cause significant damage. When a country's economic growth slows, the poverty rate will increase (Mubarok Salman & Cahyono, 2023). Damage to capital, physical, and human assets due to natural disasters leads to lower economic growth, causing deviations from previous growth rates (Isa, 2016). Disasters require recovery, rehabilitation, and reconstruction to return economic life to normal, often demanding funds beyond the disaster-affected area's economic capacity, leading financially constrained countries to potentially increase national debt (Utomo & Marta, 2022). The government continues to strive to boost economic growth, and the central government grants regional autonomy to increase efficiency, effectiveness, and public sector accountability in Indonesia (Aryaputra et al., 2022).

3. Materials and Methods

This research falls within the realm of quantitative research. The scope of this study involves analyzing the impact of disaster mitigation spending on poverty, the influence of disaster mitigation spending on economic growth, and subsequently analyzing the impact of unemployment on poverty. Additionally, it explores the mediating role of economic growth in the relationship between disaster mitigation spending, unemployment, and poverty. The study spans 11 years, from 2013 to 2023, encompassing 23 regencies/cities in Aceh Province. The type of data used in this study is panel data, which combines time series data from 2013 to 2023 and cross-sectional data covering 23 districts/cities in Aceh Province, resulting in 253 observations. Data were collected from reports containing information on the variables under study, such as disaster data from the Aceh Disaster Management Agency (BPBA) and economic growth and poverty data from the Central Statistics Agency (BPS). The analysis method used in this research is quantitative. Data analysis methods aim to interpret and draw conclusions from a set of collected data. The data analysis model employed in this study is the econometric path analysis model, with data processing conducted using EViews.

Data in this study are collected through several methods: The research employs a panel data regression model, drawing from Basuki et al. (2015), which outlines three estimation methods for panel data regression: Common Effect Model: This approach assumes that all entities (in this case, districts/cities in Aceh Province) share the same coefficients for the explanatory variables but may have different intercepts. Fixed Effect Model: This model accounts for unobserved time-invariant characteristics specific to each entity (district/city in Aceh), effectively controlling for individual heterogeneity. It estimates coefficients for explanatory variables that vary across entities but are fixed over time. Random Effect Model: Unlike the fixed effect model, this method assumes unobserved time-invariant characteristics are uncorrelated with the explanatory variables. It estimates both time-invariant and time-varying coefficients. These models are chosen based on their suitability to analyze the relationships between disaster mitigation spending, economic growth, unemployment, and poverty levels across Aceh Province from 2013 to 2023. The appropriate model selection will depend on the nature of the data and the assumptions regarding the relationship between the explanatory variables and the outcomes of interest.

4. Results

The selection of an appropriate model in panel data regression plays a pivotal role in ensuring the accuracy and reliability of research outcomes. Researchers must carefully consider the choice among the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). This decision is contingent upon various factors, including the dataset's characteristics and the study's specific objectives. The chosen model significantly influences the interpretation of results and the validity of conclusions drawn from the analysis. Therefore, thoroughly understanding each model's assumptions and limitations is essential for making an informed selection that aligns with the research context and goals.

4.1. Model Selection

The Chow Test results yielded a Cross-section F probability value of 0.0000, below the 0.05 significance threshold, indicating a significant difference between two or more data groups. This initially suggested the appropriateness of the Fixed Effect Model (FEM). However, to confirm this selection, a Hausman Test was conducted. The Hausman Test produced a Cross-section F probability value of 0.4400, exceeding the 0.05 significance level. Consequently, the Random Effect Model (REM) was deemed more suitable. Also, the Hausman Test revealed a Breusch-Pagan value of 211.4086 at Cross-section F, with a probability of 0.0000 at the 0.05 significance level. These findings collectively support the selection of the Random Effect Model (REM) as the most appropriate regression model for this analysis. The results are summarized in Table 1.

Table 1. Result of Model Selection

	Effects Test	Statistic	d.f	Prob	Decision
Chow test	Cross-section F	272.406253	(22,90)	0.0000	FEM
	Cross-section Chi-square	484.544834	22	0.0000	
Hausman test	Cross-section random	1.641814	2	0.4400	REM
Lagrange Multiplier test	Breusch-Pagan	211.4086 (0.0000)	1.295834 (0.2550)	212.7045 (0.0000)	REM

The Chow test, Hausman test, and Lagrange Multiplier test results, as presented in Table 1, indicate that the Random Effect Model (REM) is the most appropriate panel data regression model for this study. The REM is characterized by its assumption that the disturbance variables, or error terms, exhibit correlation both across individual

units and over periods. This model selection provides a robust framework for analyzing the panel data structure in the current research context.

4.2. Disaster Mitigation Spending and Unemployment on Poverty

The regression analysis findings assess the influence of disaster mitigation expenditure (BPB) and unemployment on poverty levels. Table 2 presents the results of this statistical analysis.

Table 2. Result of the Relationship between Disaster Mitigation Spending and Unemployment on Poverty

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	50.74488	4.453752	11.39374	0.0000
DMT	-3.607197	0.435814	-8.276921	0.0000
UR	0.302624	0.054596	5.542988	0.0000
R-squared	0.317753	Mean dependent var		2.834119
Adjusted R-squared	0.313143	S.D. dependent var		2.395497
F-statistic	68.93020	Durbin-Watson stat		0.646627
Prob(F-statistic)	0.000000			

The regression analysis results presented in Table 2 demonstrate the impact of disaster mitigation spending (DMT) and unemployment rate (UR) on poverty level (PL). The constant variable (C) exhibits a coefficient of 50.74488 with a highly significant probability level ($p < 0.0000$), suggesting a substantial influence on poverty levels. Disaster mitigation spending demonstrates a significant negative correlation with poverty levels, as evidenced by a coefficient of -3.607197 (standard error = 0.435814, t-Statistic = -8.276921). This implies that increased disaster mitigation spending is associated with reduced poverty levels. Conversely, the unemployment rate shows a significant positive relationship with poverty levels, with a coefficient of 0.302624 (standard error = 0.054596, t-Statistic = 5.542988). This indicates that higher unemployment rates are linked to increased poverty levels. The model's explanatory power is reflected in the R-squared value of 0.317753, suggesting that the included variables can account for approximately 31.78% of the variability in poverty levels. The adjusted R-squared value (0.313143) provides a more conservative estimate, accounting for model complexity. The high F-statistic (68.93020) and its associated probability ($p < 0.000000$) indicate strong overall statistical significance of the regression model. These findings collectively suggest that disaster mitigation spending and unemployment rates significantly influence poverty levels, albeit in opposite directions.

4.3. Disaster Management Expenditure and Unemployment on Economic Growth

The regression analysis results presented in Table 3 elucidate the impact of disaster management expenditure (LOGBPB) on the Economic Growth Rate, underscoring the critical role of disaster management in regional development, particularly in disaster-prone regions such as Aceh Province. This analysis highlights the significance of allocating resources toward disaster preparedness and mitigation strategies as integral components of sustainable economic growth in vulnerable areas.

Table 3. Result of the Relationship between Disaster Mitigation Spending and Unemployment on Economic Growth

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.516909	4.995341	1.504784	0.1334
DMT	-0.302167	0.498177	-0.606545	0.5446
UR	-0.178250	0.057080	-3.122785	0.0020
R-squared	0.031816	Mean dependent var		1.966002
Adjusted R-squared	0.025275	S.D. dependent var		2.398704
F-statistic	4.863565	Durbin-Watson stat		1.312630
Prob(F-statistic)	0.008351			

The regression analysis results presented in Table 3 evaluate the impact of disaster management expenditure (DMT) and unemployment rate (UR) on economic growth (EG). The constant variable (C) exhibits a coefficient of 7.516909 with a significance level of 0.1334, suggesting that it does not significantly influence economic growth. The coefficient for disaster management expenditure (-0.302167) with a t-statistic of -0.606545 and a probability of 0.5446 indicates that this expenditure does not significantly affect economic growth. In contrast, the unemployment rate

demonstrates a significant negative impact on economic growth, with a coefficient of -0.178250, a t-statistic of -3.122785, and a probability of 0.0020. The model's explanatory power is limited, as evidenced by the R-squared value of 0.031816, which suggests that only approximately 3.18% of the variation in economic growth can be explained by the included variables. The Adjusted R-squared value of 0.025275 accounts for the model's complexity. Despite the low explanatory power, the regression model is statistically significant overall, as indicated by the F-statistic value of 4.863565 and its corresponding probability of 0.008351. In conclusion, the analysis reveals that within the studied context, the unemployment rate significantly negatively influences economic growth. In contrast, disaster management expenditure does not demonstrate a statistically significant impact.

4.4. Economic Growth, Disaster Mitigation Spending and Unemployment on Poverty

The correlation between fluctuations in regional economic activity and corresponding changes in unemployment rates characterizes the relationship between economic growth and unemployment. Generally, substantial economic expansion is associated with a tendency towards decreased unemployment levels. Table 4 presents the findings of the regression analysis conducted to assess the influence of economic growth on poverty rates.

Table 4. Result of the Relationship between Economic Growth, Disaster Mitigation Spending, and Unemployment on Poverty

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	50.01042	4.451845	11.23364	0.0000
EG	0.096502	0.049694	1.941940	0.0531
DMT	-3.575065	0.434208	-8.233531	0.0000
UR	0.316864	0.054779	5.784391	0.0000
R-squared	0.327691	Mean dependent var		2.750108
Adjusted R-squared	0.320854	S.D. dependent var		2.391239
S.E. of regression	1.970628	Sum squared resid		1145.596
F-statistic	47.92869	Durbin-Watson stat		0.644488
Prob(F-statistic)	0.000000			

The regression analysis presented in Table 4 examines the effects of economic growth (EG), disaster mitigation spending (DMT), and unemployment rate (UR) on poverty levels in Aceh. The results reveal that disaster mitigation spending has a statistically significant negative impact on poverty (coefficient = -3.575065, t-statistic = -8.233531), indicating that increased spending in this area effectively reduces poverty. Conversely, the unemployment rate demonstrates a statistically significant positive relationship with poverty (coefficient = 0.316864, t-statistic = 5.784391), suggesting that higher unemployment rates are associated with elevated poverty levels. Economic growth, however, exhibits a positive but statistically non-significant effect on poverty reduction, with a probability value of 0.0531 (> 0.05). The R-squared value of 0.3277 indicates that the independent variables included in this analysis can explain approximately 32.77% of the variation in poverty. The Adjusted R-squared value of 0.320854 reflects the model's goodness of fit in explaining data variation. These findings suggest that policy interventions focused on increasing disaster mitigation spending and reducing unemployment rates have the potential to alleviate poverty in the region significantly.

4.5. Mediating Effect using Sobel Test

The Sobel test analysis in Table 5 delineates the input values denoted alongside various statistical assessments, including the Sobel, Aroian, and Goodman tests. The tabulated results encompass the input parameters, specific test methodologies, t-statistics, standard errors, and corresponding p-values associated with the Sobel test. This comprehensive presentation facilitates a nuanced interpretation of the mediation effects under examination.

Table 5. Results of Mediation Effect using Sobel Test for Disaster Mitigation Spending on Poverty

	Statistic Test	Standard Error	P-Value
Sobel Test	-1.89006584	0.18253381	0.05874916
Aroian Test	-1.87699688	0.18380474	0.06051852
Goodman Test	-1.90341165	0.18125397	0.05698685

The results of the Sobel test examining the mediating effect of economic growth (EG) on the relationship between disaster mitigation spending (DMT) and poverty are presented in Table 5. The Sobel test yielded a statistical value of -1.89006584 (S.E. = 0.18253381, p = 0.05874916). Additionally, the Aroian test produced a statistical test value of -1.87699688 (S.E. = 0.18380474, p = 0.06051852), while the Goodman test resulted in a statistical test value of -1.90341165 (S.E. = 0.18125397, p = 0.05698685). Although these tests suggest a potential mediating role of economic growth in the relationship between disaster mitigation spending and poverty, the p-values marginally exceed the conventional significance threshold of 0.05. It indicates that the mediating effect does not achieve robust statistical significance. While economic growth may influence this relationship, the evidence does not establish statistical mediation conclusively. Consequently, additional Sobel tests were conducted on other factors, as depicted in Table 6.

Table 6. Results of Mediation Effect using Sobel Test for Unemployment Rate and Poverty

	Statistic Test	Standard Error	P-Value
Sobel Test	1.84095062	0.0166099	0.0656288
Aroian Test	1.81671405	0.01683149	0.06926091
Goodman Test	1.86618383	0.01638531	0.06201565

Table 6 presents the results of the Sobel test, which evaluates the mediating effect of economic growth on the relationship between unemployment rate and poverty. Three variations of the test were employed: Sobel, Aroian, and Goodman. The Sobel test yielded a statistic value of 1.84095062, with a standard error of 0.0166099 and a p-value of 0.0656288. Although this result suggests a potential mediating effect, it does not reach statistical significance as the p-value exceeds 0.05. Similarly, the Aroian test produced a statistic value of 1.81671405, with a standard error of 0.01683149 and a p-value of 0.06926091, indicating comparable results but lacking statistical significance. The Goodman test revealed a slightly higher statistic value of 1.86618383, with a standard error of 0.01638531 and a p-value of 0.06201565, yet still falling short of statistical significance. Despite these indications of economic growth mediating the relationship between the unemployment rate and poverty, the results from all three tests fail to provide conclusive evidence of statistically significant mediation, as their p-values exceed the conventional threshold of 0.05.

5. Conclusion

This study has identified significant correlations between disaster mitigation spending, unemployment rates, economic growth, and poverty levels in Aceh Province. The analysis reveals that increased disaster mitigation spending significantly reduces poverty rates, highlighting the effectiveness of government interventions in emergencies to maintain community welfare. Conversely, higher unemployment rates are positively associated with increased poverty levels, underscoring the importance of job creation in poverty alleviation efforts. The research also explored the potential mediating role of economic growth in the relationship between disaster mitigation spending, unemployment, and poverty. While there were indications of mediation, the p-values slightly exceeded the 0.05 significance threshold, preventing a statistically significant confirmation of these effects. It suggests that although economic growth may contribute to poverty reduction through disaster mitigation spending, the evidence is insufficient to establish a definitive statistical linkage. Despite the lack of strong statistical evidence for economic growth as a mediating factor, the study emphasizes the importance of policies focused on increasing disaster mitigation spending and reducing unemployment rates as crucial strategies for poverty alleviation. While economic growth demonstrated a positive tendency to reduce poverty, its impact did not reach the expected significance level in this study. Nevertheless, it remains essential to prioritize economic growth as a potential contributor to poverty reduction and overall community well-being.

Based on these findings, it is recommended that the government of Aceh Province prioritize increased disaster mitigation spending and implement strategies to reduce unemployment as key measures for poverty alleviation. Specifically, appropriate and proportional budget allocations for disaster mitigation programs are essential to minimize the adverse effects of disasters on the local economy and accelerate recovery efforts. Furthermore, continuous monitoring and evaluation of disaster mitigation and economic growth programs are necessary to ensure their effectiveness and refine future initiatives. Given the limited scope of this study, further research incorporating additional variables is warranted to provide deeper insights into the complex relationships between disaster mitigation spending, poverty reduction, and economic growth in Aceh Province. Such comprehensive analyses will contribute to developing more effective and targeted policies for sustainable economic development and poverty alleviation in the region.

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