

Policy Brief

Protecting Indonesia Against Earthquake Risks, Policy Recommendations to Support Earthquake Insurance

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Issue

Indonesia faces significant earthquake risks, leading to substantial economic losses. Recent data shows frequent and damaging earthquakes with minimal utilisation of non-public finances (such as insurance). Despite government efforts to finance recovery, the gap between annual disaster-related expenditure and actual losses remains large. Property insurance utilisation for earthquake risks, especially for residential buildings, remains low due to factors such as limited awareness, affordability issues, and non-optimal regulatory support. However, opportunities are present within the unveiling of Law No. 4 of 2023 (which includes mandates for disaster insurance), Indonesia's DRFI Strategy, current mortgage loan models, and developments within InsurTech.

Key Recommendation

- **Increase Public Awareness and Education:** Implement comprehensive public awareness campaigns to educate people about earthquake insurance benefits and risk mitigation measures.
- **Enhance Regulatory Framework and Incentives:** Develop and enforce regulations that mandate earthquake insurance for residential properties, incentivise purchase through subsidies, and adjust premium rates for affordability.
- **Include Phasing of Mandatory Disaster Insurance in the New DRFI Strategy:** Gradually implement mandatory disaster insurance for residents, taking into account varying regional capacities and readiness.
- **Financial Sector Incentives to Bundle Mortgage Loans and Earthquake Insurance:** Encourage financial institutions to bundle earthquake insurance with mortgage loans, offering incentives such as lower interest rates; connecting this initiative with the mandate for residential disaster insurance is also recommended.
- **Leverage Technology and InsurTech:** Promote digital innovation to simplify access to earthquake insurance, especially in remote areas.

The Issue

Indonesia's Substantial Earthquake Losses

The recent Cianjur Earthquake adds to Indonesia's long list of deadly earthquakes. In mid-December 2022, the Head of Cianjur Regency stated that the 5.6 magnitude earthquake recorded a death toll of 602 casualties (Nasution, 2022). He added that the earthquake had roughly caused IDR 4 trillion in damages (approximately USD 261 million, with an IDR 15,200 exchange rate) (Fikri, 2022). In this disaster, losses incurred are manageable, as the government is able to provide IDR 6 trillion to finance recovery efforts.

Despite this, Indonesia has incurred larger losses before, exceeding the country's annual budget capacity and causing a funding gap, as seen in the 2018 disasters. The World Bank noted that Indonesia annually spends up to USD 750 million in disaster-related expenditure, of which USD 300-500 million is spent on post-disaster efforts (World Bank, 2019, 2020). However, such spending is only half of the total average annual losses of USD 1.54 billion, as stated in the Ministry of Finance's 2018 Disaster Risk Financing Strategy (Ministry of Finance, 2018). Moreover, recent estimates by UNESCAP show a higher average annual loss of USD 31.2 billion, most (74%) incurred from drought-related losses (UN-ESCAP, 2021).

In relation to average losses, earthquakes have been the most devastating disaster according to cost metrics. Approximately one-third of the USD 1.54 billion annual average losses were incurred from earthquakes. High-impact earthquakes in Indonesia are frequent. In 2022 alone, the Meteorology, Climatology, and Geophysical Agency noted that there were 10,792 earthquakes in Indonesia; of those, 807 were felt, and 22 were damaging (Bramasta, 2023). Such earthquakes are particularly damaging, considering Indonesia's 42% rural population and the suspected low compliance with seismic building codes in Indonesian houses. Moreover, only 60% of Indonesians currently live in houses constructed with standard materials (BPS, 2022)—consequently, underlying vulnerabilities cause Indonesia's earthquake-related damages to incur substantial costs.

Indonesia Disaster Risk Financing and Insurance (DRFI) Strategy

In response to this, the Government of Indonesia (GoI) has issued and implemented the 2018 Disaster Risk Financing Strategy, which, in part, focuses on risk transfer solutions through insurance. Earthquakes tend to inevitably incur losses, so insurance for earthquakes may shift from a complementary strategy to a primary one, especially considering the high cost of risk reduction through retrofitting or building seismic-resilient homes.

Property insurance is the main product used to transfer earthquake risks, but its utilisation has historically been low. This is a result of various issues, including low awareness, limited affordability, non-optimal regulatory support, and little to no incentives. Government interventions, for example, creating an enabling environment or mandating certain policies, could partially amend such issues.

Indonesia's Low Property Insurance Utilisation For Earthquake Risks

Most of the insured assets in property insurance are not residential buildings. MAIPARK Reinsurance, a reinsurance company that does risk modelling and earthquake-related research, provided useful data to understand the current property insurance utilisation. Their data showed that residential exposure (a derivative and close indicator of insured value) is low, only 22.04%, well below industrial (54.72%) and slightly below commercial value (22.82%). Indicating that the demand is mostly coming from businesses (Maipark, 2022).

As a country with high earthquake risks, Indonesia has historically underutilised insurance. Historical data on the amount insured versus exposure (potential losses). Previously, The 2004 Indian Ocean Earthquake and Tsunami, as well as the 2006 Yogyakarta Earthquake, incurred IDR 51.4 trillion and IDR 26.1 trillion, while the total insurance claims were IDR 803 billion and IDR 302 billion respectively (Maipark, 2022; Ministry of Finance, 2018). The 2018 Lombok earthquake incurred IDR 12 trillion in losses,

Earthquake Events	Date of Occurrence	Economic Loss (IDR Billions)	Claims (IDR Billions)	Claims (%)
Aceh (2004)	26-Dec-04	51,400.0 ¹	803.5	1.6%
Yogyakarta (2006)	27-May-06	26,100.0 ²	302.3	1.2%
Bengkulu (2007)	12-Sep-07	3,500.0 ³	48.9	1.4%
Tasikmalaya (2009)	2-Sep-09	1,000.0 ⁴	24.3	2.4%
Pariaman (2009)	30-Sep-09	4,800.0 ⁵	1,084.6	22.6%
Lombok (2018)	5-Aug-18	8,800.0 ⁶	371.0	4.2%
Donggala (2018)	28-Sep-18	18,840.0 ⁷	992.5	5.4%
Ambon (2019)	26-Sep-19	1,000.0 ⁸	13.8	1.4%
Majene (2021)	15-Jan-21	829.1 ⁹	201.9	24.4%

Source: Processed (Maipark, 2022)

while insurance claims were IDR 371 billion (Gumelar, 2018; Maipark, 2022). Only IDR 15.3 billion was recently claimed out of Cianjur's IDR 4 trillion losses (Respati, 2022). Furthermore, most of these claims were from business properties such as hotels, apartments, restaurants, and industries, less from households and MSMEs.

Challenges and Opportunities in Promoting Earthquake Insurance

Several challenges and opportunities pertain to Indonesia's low insurance utilisation. Some of these issues relate to systemic issues, such as low literacy and awareness and affordability issues. Meanwhile, others relate to issues in the enabling environment, such as policies and program implementation.

Challenge 1: Issues in low literacy, inclusion, awareness, and trust

The Indonesian Financial Services Authority found that insurance literacy is 31.72%, while inclusion is 16.63% (OJK, 2022). This indicates that a limited percentage of Indonesians understand the use of insurance, and most Indonesians have limited access to insurance products. Low literacy and inclusion, in turn, results in low awareness (OJK, 2023), which is further exacerbated by several cases of large insurance companies (PT ASABRI, Asuransi Jiwasraya, and AJB Bumiputera) failing to pay their policyholders.

Challenge 2: Affordability of Property Insurance Products

The common middle- to lower-income Indonesians tend only to utilise property insurance when bundled alongside mortgages or other loans requiring a property asset to be protected. Further, based on interviews with relevant stakeholders from previous studies, the common Indonesian household and MSMEs will purchase the cheapest property insurance product, which does not protect against hazards such as earthquakes and floods (only protects for fire, lightning, explosion, impact of falling aircraft, and smoke). This was due to the difference in prices between the two products. The basic protection (fire) is half the price of the "All Risk" protection package and a quarter of the price of the "Earthquake" protection package

Currently, MSMEs and low-income populations have the option to purchase an earthquake microinsurance (Asuransi Stop Usaha), which provides IDR 2.5 million payout for IDR 40,000 in annual premium payments. However, this product may not provide the necessary financial compensation to rebuild a disaster-affected business. As per Government Regulation in Lieu of Law (Perpu) Number 2 of 2022 on Job Creation, businesses categorised as micro businesses have a maximum asset value of IDR 50 million, and per the Ministry of Cooperatives and SMEs, micro businesses have an average revenue of IDR 76 million per year. Therefore, the current product may not cover risks as needed by the majority of micro-businesses, let alone cover small (IDR 1.6 billion per year in

revenue) and medium (IDR 29.7 billion per year in revenue) businesses. This product has been difficult to sell, as exacerbated by poor awareness of the insurance product.

Challenge 3: Lack of Mandating and Incentivizing Policies

The Indonesian Financial Services Authority (OJK) regulation SEOJK No. 6/SEOJK.05/2017 sets premium rates for property and motor vehicle insurance but does not prioritise offering incentives for disaster insurance, especially earthquake insurance packages. Premium discounts are only available for large businesses, as more property and assets insured would be eligible for discounts proportional to the value and number of assets insured. Meanwhile, MSMEs or common households with only one or two assets have no incentive targeted to them. However, Law (UU) No. 4 of 2023 on the Development and Strengthening of the Financial Sector (UU 4 tahun 2023 tentang Pengembangan dan Penguatan Sektor Keuangan) provides some promise in mandatory earthquake insurance.

Opportunities in Leveraging Earthquake Insurance

a. Support for Mandatory Disaster Insurance

Law (UU) No. 4 of 2023, Article 39A paragraph (1) states that the mandatory insurance program includes third-party liability insurance related to traffic accidents, fire insurance, and residential insurance against disaster risks. This mandates that residential buildings be provided with appropriate insurance in accordance with the disaster risks. However, it is still unclear how this mandate should technically be implemented. Therefore, technical regulations on the implementation of mandatory disaster insurance for residents are still needed.

b. The DRFI Strategy and State-Owned Assets Insurance

The PARB (Disaster Risk Financing and Insurance) strategy aims to reduce state financial risks due to disasters through the utilisation of various instruments, including State-Owned Asset Insurance. State-owned

asset insurance provides protection to state assets such as office buildings, education and health facilities, and infrastructure, ensuring the availability of funds for post-disaster recovery.

This strategy encourages the utilisation of earthquake insurance in Indonesia by raising awareness of its benefits in protecting assets. This helps strengthen the confidence of the public and private sectors in using earthquake insurance, expanding the scope of disaster protection across various sectors.

The DRFI strategy will be updated in 2025-2029, providing an opportunity to include earthquake insurance in it. This provides an opportunity for the government to continue to improve protection against disaster risks, including earthquakes, and strengthen the country's financial resilience to disasters.

c. Potential for Bundling from The Financial Sector for Mortgage

Banks and other financial institutions play a crucial role in providing financial products that can be bundled with insurance to increase protection. In Indonesia, mortgage loans must be bundled with property insurance, protecting homeowners against potential disasters. However (similar to challenge 2), most homeowners usually opt for the cheapest coverage of fire risks. This is due to the fact that the earthquake insurance package can go anywhere from 3 to 5 times more costlier than the basic fire protection package. However, this provides a good basis to move forward with earthquake insurance bundling from the financial sector. Incentives and mandatory policies are able to support shifting the utilisation of earthquake insurance in mortgage loans.

d. InsurTech and Mobile Connectivity

The booming presence of fintech in Indonesia has given rise to a term known as Insurance Technology (InsurTech). InsurTech radically and positively transforms the insurance

industry through digital technology innovation. InsurTech providers consist of financial institutions and/or other parties engaging in activities in the financial services sector, organised as legal entities in the form of limited liability companies or cooperatives.

In Indonesia, the Financial Services Authority (OJK) has issued Regulation No. 13/POJK.02/2018 concerning Digital Financial Innovation in the Financial Services Sector as a provision overseeing and regulating the digital financial industry. However, the potential of InsurTech usage has not been fully explored. With the presence of InsurTech, it is hoped to drive increased adoption of insurance products by providing simple microinsurance products integrated with e-commerce platforms, thus facilitating consumers in accessing insurance products (Otoritas Jasa Keuangan).

Policy Recommendations

Increase Public Awareness and Education: Implement comprehensive public awareness campaigns to improve understanding of the benefits of earthquake insurance. Collaborate with educational institutions, community organisations, and media outlets to disseminate information about risk mitigation and insurance benefits, especially targeting areas prone to earthquakes.

Enhance Regulatory Framework and Incentives: Supported by Law No. 4 of 2023, develop and enforce regulations mandating disaster (especially earthquake) insurance for residential properties. Create technical regulations to implement mandatory disaster insurance for residents, ensuring compliance and enforcement. Provide incentives such as premium subsidies or tax benefits for households and MSMEs that purchase earthquake insurance. Review and adjust premium rates to ensure affordability for all income levels.

Include Phasing of Mandatory Disaster Insurance in the New DRFI Strategy: Ensure the new DRFI strategy includes a phased approach to implementing mandatory disaster insurance for residents. This phased approach should consider the varying capacities and readiness of different regions, gradually increasing compliance requirements and support mechanisms.

Financial Sector Incentives to Bundle Mortgage Loans and Earthquake Insurance: Financial institutions can offer incentives such as lower interest rates or extended loan tenures for customers who opt for comprehensive insurance packages. This not only provides financial protection for the borrowers but also reduces risk for financial institutions, as insured properties are less likely to default due to disaster-related damages. Additionally, financial institutions can leverage their extensive customer base and distribution networks to raise awareness and promote the benefits of earthquake insurance. Further, as Law No. 4 of 2023 provides support for residential disaster insurance, incentives from the financial service sector must also be in line with future plans regarding the government's residential disaster insurance initiatives.

Leverage Technology and InsurTech: Promote the use of InsurTech to simplify the process of purchasing and managing insurance policies. Encourage partnerships between insurance companies and technology firms to develop user-friendly digital platforms, offering microinsurance products that are accessible via mobile devices. This can increase insurance penetration, especially in remote and rural areas.

By implementing these policy recommendations, Indonesia can better manage the financial risks associated with earthquakes, enhance disaster resilience, and ensure more comprehensive protection for its citizens and their assets.

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