PT Reasuransi MAIPARK

PT Reasuransi MAIPARK Indonesia is a special risk insurance company owned by all licensed general insurance and reinsurance companies in Indonesia. MAIPARK Indonesia currently provides reinsurance cover for earthquake, volcanic eruption and tsunami risk, and is a member of the General Insurance Association of Indonesia (AAUI).

MAIPARK and IFC have together been developing EQII since 2014. Extensive data collection and analysis of the impact of earthquakes on loan portfolios was conducted for financial institutions in Yogyakarta and West Sumatra in Indonesia.







The analysis and index insurance design process included:

- Using historical earthquake data and models from MAIPARK;
- Collecting 10 year, month-wise historical loan portfolio data from the financial institutions:
- Then modeling the impact of earthquakes on bank loan default rates to price and structure the new product.

EQII was submitted to the regulator (OJK) by the AAUI on behalf of the industry, approved to be sold by all general insurance companies in Indonesia.

Banks/financial institutions interested in buying this new insurance product will need to provide their **aggregate loan portfolio data per district** to the insurer.

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Global Index Insurance Facility



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EARTHQUAKE INDEX INSURANCE



EARTHQUAKE INDEX INSURANCE (EQII) is a new insurance product that triggers an automatic payout based on pre-determined earthquake parameters – it is designed to protect the lending portfolios of banks and microfinance institutions (MFIs) from liquidity crises in the aftermath of an earthquake. The intended insured party of this product is a bank/MFI.

Rationale

Around 133 million people in Indonesia live in or near high risk earthquake zones, with economic exposures reaching an estimated \$79 billion.

These risks are especially high in areas such as Yogyakarta and Padang, where the worst-hit banks lost between 15 and 35 percent of income following recent earthquakes. These losses erode the banks' capital reserves and compromise their ability to lend.

EQII is particularly relevant for MFIs/rural banks to be able to continue lending to communities when funds are needed most.

Benefits of EQII

EQII offers immediate pay outs to financial institutions after an earthquake, which is crucial to manage their liquidity risk. It provides cash payouts to banks/MFIs that can experience higher than normal non-performing loans (NPLs) as a result of earthquakes, within agreed policy terms and conditions.



Apr 2012 **8.5**

Oct 2010 **7.7**

Jan, Sep, Oct, Nov 2009 7.2, 7.6, 6.6, 6.7

Nov 2008 **7.7**

Mar, Sep & Nov 2007 **6.4, 7.7 & 6.7**

100 years, 25 earthquakes were greater than magnitude 5.0 (1915–2015).

May, Jul, Aug 2006

5.9, 7.7 & 6.0

96; **100**th

96 earthquakes within

8.2

Mar 2005

Nov & Dec 2004 7.3 & 9.3

May & Jun 2000 6.5 & 7.3

More than half of the Indonesian population (133 million out of a total 255 million) live in earthquake-prone areas.



Jun 1994 7.2

> Dec 1992 **7.5**

> > Aug 1977 **8.0**

Jun 1976

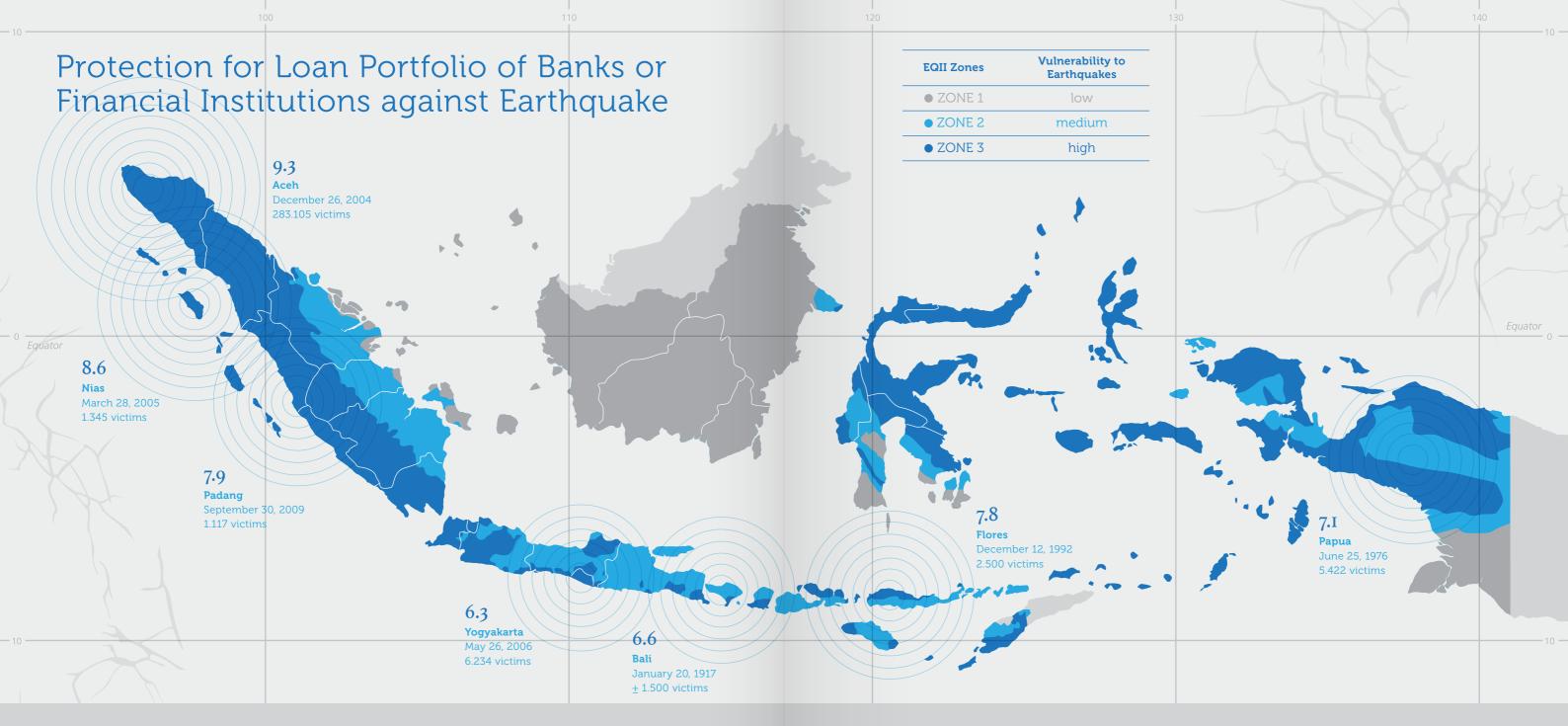
Nearly 300.000 people were killed.



Aug 19

Feb 1938 **8.5**

*List of major earthquakes in Indonesia



1. An Earthquake Hits

The BMKG (Indonesia Meteorological Department) or USGS announces 2 Earthquake Parameters:

Magnitude and Intensity.

EQII Payout Triggers

Magnitude	Intensity	
Moment Magnitude Scale (Mw)	Mercalli Scale (MMI)	
Measures amplitude of earthquake	Measures the magnitude of effects and damages caused by earthquake	
Scale: 2 to 10+	Scale: I = Barely felt XII = Extreme damage	

2. Parameters Triggered

When the earthquake parameters exceed the pre-determined insurance triggers, insurers pay out to the insured parties (banks or microfinance institutions).

EQII Rates*

	Option A	Option B
Zone 1	0.48	0.09
Zone 2	3.48	0.56
Zone 3	8.11	1.88
		Rates in ‰ per mill

Rate = pure premium + loading factor 25%

3. Insurance Payout

The payout depends on the Option (A or B) purchased by the Insured Party. The amount varies depending on the level of earthquake parameters triggered, and option chosen.

Index Table

Trigger parameters		Indemnity insurance index	
Magnitude	Intensity (MMI)	Option A	Option B
≥ 6.0 Mw	VI	5%	0%
	VII	10%	5%
	VIII	25%	15%
	IX	45%	30%
	X	75%	50%
	XI	85%	75%
	XII	100%	100%

Payout Amount = (Percentage of compensation Index) x (amount of insurance)

4. Result

The financial institution receives the payout:

- This prevents a liquidity crisis; and
- Allows them to continue lending to their community.

^{*}These are indicative rates and will vary depending on the bank's risk profile.