

NICARAGUA Earthquakes and Hurricanes RISK PROFILE

What is a country disaster risk profile?

An estimation of the potential economic losses to property caused by adverse natural hazards.

Country Disaster Risk Profile

Applications

- ▷ **Develop** key baseline data
- ▷ **Evaluate** impact of disasters
- ▷ **Promote and inform** risk reduction
- ▷ **Inform** disaster risk financing

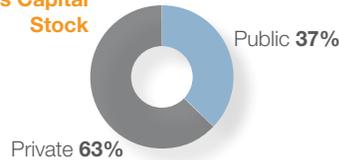
Country At-A-Glance

GDP US\$ **11.8 billion** | Population **6.2 million** | Total Building Exposure US\$ (Replacement Value) **22.1 billion**

Population



Gross Capital Stock

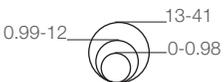


Two representations of earthquake risk

Provinces by ratio (AAL/Province Exposure)

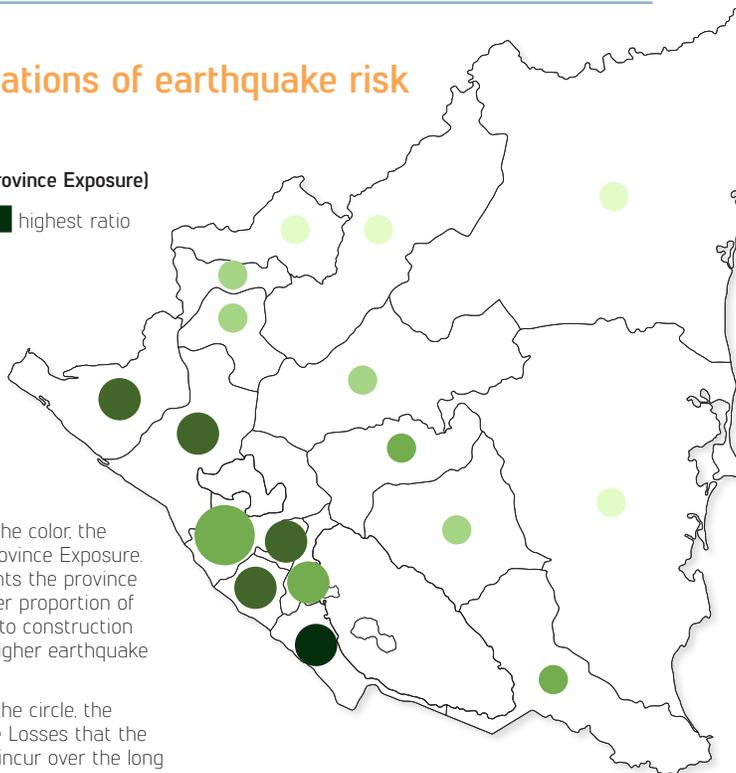
lowest ratio highest ratio

AAL (in millions US\$)



Relative Risk: The darker the color the higher the ratio of AAL/Province Exposure. The darkest color represents the province of Rivas which has a higher proportion of vulnerable structures due to construction types and/or potentially higher earthquake intensity.

Absolute Risk: The larger the circle the higher the Annual Average Losses that the province could potentially incur over the long term.



Snapshot

▷ The earthquake risk in Nicaragua is more significant than the hurricane risk.

▷ Annual Average Loss (AAL) from earthquakes is **US\$ 89M (0.75% of GDP)** and from hurricanes is **US\$ 26.35M (0.22% of GDP)**.

▷ The Probable Maximum Loss for earthquakes (250 year return period) is **US\$ 1.4B (12% of GDP)** and for hurricanes (250 year return period) is **US\$ 748M (6% of GDP)**.

▷ Single-family, residential houses constructed with reinforced masonry bearing walls are the buildings most vulnerable to earthquakes, **accounting for over 34% of AAL**.

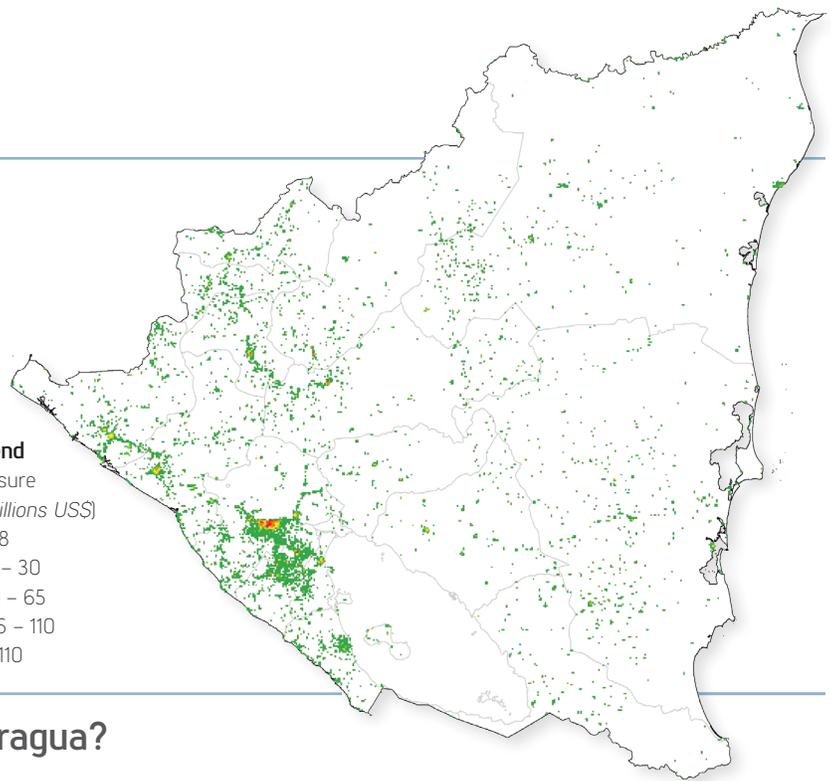
COUNTRYDISASTER RISK PROFILES

NICARAGUA

What is at risk in Nicaragua?

Economic assets such as residential and non-residential buildings are at risk. These assets that are exposed to natural disasters are referred to as a country's **Building Exposure**.

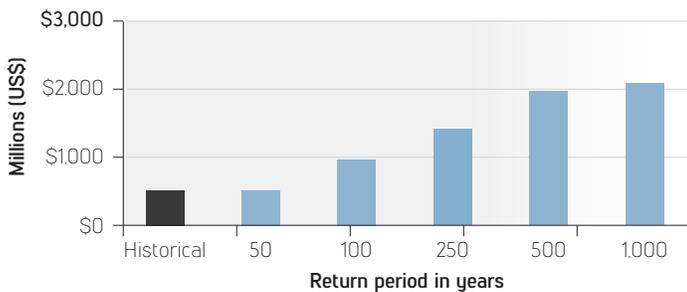
The map illustrates the value and distribution of residential and non-residential buildings in Nicaragua at risk from earthquakes and hurricanes.



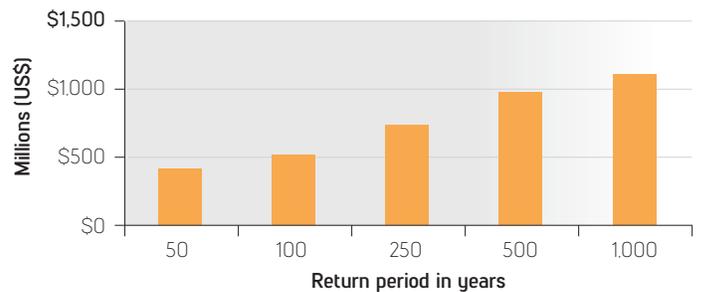
What are the potential losses in Nicaragua?

These charts show the estimated potential future losses to Nicaragua that could be caused by earthquakes and hurricanes that could occur within a given return period. In 1972, a magnitude 6.2 earthquake struck Nicaragua. If this historical event were to happen in 2015, it would cause losses of US\$ 550M amounting to 5% of GDP.

Estimated Losses Due to **EARTHQUAKES**

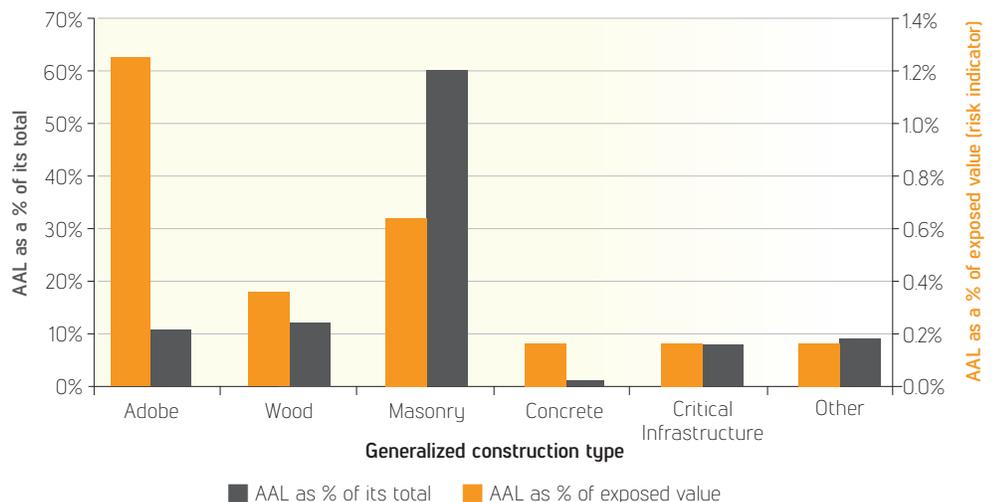


Estimated Losses Due to **HURRICANES**



How can earthquake risk be reduced?

Risk reduction measures could be prioritized in the highest risk ranked province of Rivas (see map on previous page). At an estimated additional cost of US\$ 21M, most single family mud walled buildings in Rivas could be retrofitted up to the standards of reinforced concrete buildings which would reduce the earthquake risk of those mud walled buildings by over 80%. This would also reduce the country's AAL by 5%.



To learn more, visit: collaboration.worldbank.org/groups/cdrp or email cdrp@worldbank.org

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1818 H Street NW
Washington DC 20433
Telephone: 202-473-1000
Internet: www.worldbank.org

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