Risk analysis beyond insurance. Where the disaster risk technologies are taking us?

By Luis Ceferino
Risk data → Risk tools → Post-EQ financial losses ↔ Insurance sector
The new generation of risk tools. How do they fit into the risk workflow?
Risk data → Risk tools → Community empowerment through risk visualization → Post-EQ decision making → Post-EQ financial losses → Insurance sector

Home owners and tenants → Hospital systems
Risk data → Risk tools → Post-EQ financial losses → Post-EQ decision making → Community empowerment through risk visualization → Home owners and tenants, Hospital systems, Insurance sector
Post-earthquake decision making for hospital systems: Patient redistribution
Post-earthquake decision making for hospital systems: Patient redistribution
Existing risk data

Buildings’ risk (Zavala et al., 2012)
Contributors: CISMID/UNI

Hospitals (Santa Cruz et al., 2013)
Contributors: PUCP, World Bank.
Patient redistribution after earthquakes

• Minimize:
  • Patient waiting time
  • Ambulance trips

• Report:

Example:
- **Rebagliati Hospital**: Be prepared to send 400 patients to **VES Emergency Hospital**
- **VES Emergency Hospital**: Be prepared to receive 600 patients
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Empowering home owners and tenants through the risk visualization

Buildings’ risk (Zavala et al., 2012)
Contributors: CISMID/UNI
Existing risk data

Soil condition (CISMD, 2010)

Building inventory
(Yepes-Estrada et al., 2017)
Existing risk data: Tsunami in Pisco, 2007
Earthquake scenario visualization
Risk data

Risk tools

Post-EQ financial losses

Post-EQ decision making

Community empowerment through risk visualization

Home owners and tenants

Insurance sector

Hospital systems
Vision to the future

2010 Chile Earthquake
Source: https://www.youtube.com/watch?v=RHqLGAwbXfk

Earthquake Visualization (Prof. Lu, 2016)
Source: https://www.youtube.com/watch?v=9EboXfxle-M