Geophysical Research Abstracts
Vol. 18, EGU2016-5807-1, 2016
EGU General Assembly 2016

The KnowRISK project - Know your city, Reduce seISmic risK through non-structural elements

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Historically, there is a tendency to focus on seismic structural performance of buildings, neglecting the potential for damage of non-structural elements. In particular, non-structural elements of buildings are their architectural parts (i.e. partitions, ceilings, cladding), electrical and mechanical components (i.e. distribution panels, piping, plumbing), and contents (e.g., furniture, bookcases, computers and desktop equipment). Damage of these elements often contributes significantly to earthquake impacts. In the 1999 Izmit Earthquake, Turkey, 50% of the injuries and 3% of human losses were caused by non-structural failures. In the 2010-2011 Christchurch Earthquakes (New Zealand), 40% of building damage was induced by non-structural malfunctions. Around 70%-85% of construction cost goes into these elements, and their damage can strongly influence the ability of communities to cope with and recover from earthquakes. The project Know your city, Reduce seISmic risK through non-structural elements (KnowRISK) aims at facilitating local communities' access to expert knowledge on non-structural seismic protection solutions.
The project will study seismic scenarios critical for non-structural damage, produce a portfolio of non-structural protection measures and investigate the level of awareness in specific communities. We will implement risk communication strategies that will take into account the social and cultural background and a participatory approach to raise awareness in local communities.
The paradox between the progress of scientific knowledge and the ongoing increase of losses from natural disasters worldwide is a well-identified gap in the UN Hyogo Framework for Action 2005-2015, in which one of the main priorities is the investment on "knowledge use, innovation and education to build a culture of safety and resilience". The KnowRISK is well aligned with these priorities and will contribute to participatory action aimed at: i) transferring expert knowledge on seismic risk and non-structural protective solutions into practical knowledge and ii) communication tools designed to engage communities in disaster risk reduction