



Earthquake risk perception, communication and mitigation strategies across Europe
Piero Farabollini, Francesca Romana Lugerì, Silvia Mugnano (Eds.)

Urban Seismic Risk Reduction and Mitigation Strategies in Turkey

Ahmet Anıl Dindar¹, Cüneyt Tüzün², Aybige Akinci³

Abstract

Since the early ages of humankind, safety and security has been a critical issue against the forces of nature. However, history has always proven the power of nature over humankind in certain regions on Earth for centuries. Indeed, this is a never-ending war between Earth and its inhabitants, namely us, human beings. Humankind's organization (cities, roads, lifelines etc.) in the nature has never been perfect within the view of environmental pollution and excessive consumption of the resources. Particularly, the quality of civil engineering design and practice is strongly affected from the social and economic background of the country. The societies in rapid development claim excessive demands in terms of housing and transportation. Such demands may create vulnerable urban areas if the economic and social conditions are not in balance or harmony. Thus, nature should not be blamed as the scapegoat in the regions where disasters claim human and economic losses. In fact, the reason for the losses is nothing else than humankind itself. A rational question arises then about how to overcome human and economic loss due to natural disasters. The idea of determining the most vulnerable items in urban areas and reconstructing with the most reliable equivalents may seem very challenging. Even though the macroeconomic implications are very complex, reconstructing the items in densely populated areas is the most effective mitigation action against disasters in the short term. Having learnt lessons from the major earthquake disasters in the heart of the industry and mostly dense urban areas, Turkish government has drawn a long strategic road map in the risk perception and the disaster mitigation strategy for almost all the community services and the infrastructure. The development of awareness against disasters has become part of formal education at all ages. The National Disaster Management system was reorganized from scratch and the capabilities improved by providing additional financial and human resources. All school and hospital buildings in İstanbul were assessed in terms of seismic safety. Those found inadequate were demolished and then reconstructed. In addition, a law on urban renewal of the seismic risk areas was enacted in 2012 allowing the licensed engineering offices to assess the seismic risk of residential buildings at the request of the house owners. If the assessment report is approved by the local municipality, the building is set to demolish within 60 days following the legal notice to the property owners. Disagreeing owners have the right to get the assessment re-evaluated by the independent peer reviewers. In the case of demolition, the house owners are eligible to receive 12 months of rental support from the government. During the time period 2012 to 2019, more than 120 000 buildings were assessed and 74% of them were demolished, the majority of the latter were in İstanbul area where a major earthquake is expected within the following decades. This chapter is intended to explain one of the most comprehensive and challenging disaster mitigation strategies being applied in Turkey based on experience since the 1999 earthquakes.

¹ *Corresponding Author*; Gebze Technical University, Department of Civil Engineering, Turkey, e-mail: adindar@gtu.edu.tr.

² Gebze Technical University Department of Earthquake Engineering, Turkey. e-mail: cuneyttuzun@gtu.edu.tr.

³ Istituto Nazionale di Geofisica e Vulcanologia, Rome, Italy, e-mail: aybige.akinci@ingv.it.



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