

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

## **Risk Mitigation Through Local Building Knowledge: Turkish Van Region Case Study**

Chiara Braucher<sup>1</sup>, Mattia Giandomenici<sup>2</sup>

## Abstract

Turkey's urban expansion process, has been rapidly growing in the last two decades and, according to the global trend of profit-based strategies, the effects of these urban policies have been harshly criticized for what concerns social and cultural spillover, leading to internal displacement and pauperization of the settled population. Moreover, the same policies have deeply transformed the relationships between the communities and their environment, especially in high seismic-risk area. Resilience, a controversial term referred here to policies and strategies for risk mitigation, is often abused in order to justify large-scale urban transformation projects.

The research was developed in 2016 to support alternative perspectives on risk mitigation strategies in the built environments; the research focused on the traditional constructive technologies in adobe, investigating their sustainability and their enduring capability to respond to the inhabitants housing needs.

This chapter proposes a proactive and participative approach to the construction at large, including the direct intervention from settled communities -still persistent but in serious decrease all around the world- as an important strategy for risk mitigation, an alternative to the profit-based approach of political decisions.

Keywords: risk mitigation; adobe; Turkey; earthquake; vernacular architecture.

## Works cited

Bayrak, Y., Öztürk, S., Koravos, G. C., Leventakis, G. A., & Tsapanos, T. M., 2008, Seismicity assessment for the different regions in and around Turkey based on instrumental data: Gumbel first asymptotic distribution and Gutenberg-Richter cumulative frequency law. *Natural Hazards and Earth System Sciences*, *8*, 1, 109-122.

Baggio, C., Bernardini, A., Colozza, R., Corazza, L., Della Bella, M., Di Pasquale, G., & Papa, F., 2007, Field manual for post-earthquake damage and safety assessment and short term countermeasures (AeDES), *European Commission—Joint Research Centre—Institute for the Protection and Security of the Citizen, EUR*, 22868.

Bekmen, A., (2014), State and capital in Turkey during the neoliberal era, *Turkey reframed: Constituting neoliberal hegemony*, 47-74.

Braucher, C., Giandomenici, M., 2016, Lessons from Van territory: step 1. In International Conference Kerpiç'16, 99-111.

Brown, R., & Maudlin, D., 2012, Concepts of vernacular architecture, *The SAGE handbook of architecture theory*, 340-368.

<sup>&</sup>lt;sup>1</sup> University "La Sapienza" di Roma, via Eudossiana 16, Rome, Italy, e-mail: chiara.braucher@uniroma1.it.

<sup>&</sup>lt;sup>2</sup> University of Genoa, Italy, e-mail: mattiagiandomenici@gmail.com.



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

Edizioni

Choueiri, Y. M. (Ed.), 2008, A Companion to the History of the Middle East, John Wiley & Sons. Correia, M., Dipasquale, L., & Mecca, S. (Eds.), 2014, VERSUS: Heritage for Tomorrow, Firenze University Press.

Correia, M., R., Paulo B. Lourenço, and Humberto Varum, 2015, *Seismic Retrofitting: Learning from Vernacular Architecture*. CRC Press.

Dikeç, M., (2009), Space, politics and (in) justice, Justice spatiale-spatial justice, 1, httpwww.jssj.org.

Enlil, Z. M., (2011), The neoliberal agenda and the changing urban form of Istanbul, *International Planning Studies*, 16, 1, 5-25.

Güney, D., Kuruşcu, A. O., & Arun, G. (2013). Damage Evaluation of Adobe Houses after Van Earthquakes (23 October 2011 and 9 November 2011), *International Conference Kerpic*'13, 11-15.

Güney, D., (2012), Van earthquakes (23 October 2011 and 9 November 2011) and performance of masonry and adobe structures. *Natural Hazards and Earth System Sciences*, *12*(11), 3337.

Güney, D., Kuruşcu, A. O., & Arun, G. (2016). Damage Evaluation of Masonry Buildings after Van Earthquakes in 2011. *International Journal of Architectural Heritage*, *10*(2-3), 269-280.

Güney, D., Aydin, E., & Öztürk, B., (2015), The evaluation of damage mechanism of unreinforced masonry buildings after Van (2011) and Elazig (2010) Earthquakes, *Journal of Physics: Conference Series*, 628, 1, 12-66. IOP Publishing.

Harvey, D., (1989). From managerialism to entrepreneurialism: the transformation in urban governance in late capitalism. *Geografiska Annaler: Series B, Human Geography*, 71, 1, 3-17.

Kuruşcu, A. O., Deniz, G., and Gorum, A., Seismic Behaviour of Vernacular Masonry Buildings During 2010 and 2011 Earthquakes in Turkey, 2014, Guimarães.

Lelandais, G. E. (2015). Urbanisation under Neoliberal Conservatism in Turkey. *Research Turkey, Centre for Policy and Research on Turkey*,

Tunc, G., (2012), Seeking Resilience in the Future of Turkish Cities: What May the Upcoming 'Urban Transformation Wave' Bring?, Department of Public Administration Uludağ University, Bursa, Turkey, 4, 7, 54-67.

Varum, H., Rodrigues, H., Lourenço, P. B., & Vasconcelos, G. (2015). Seismic behaviour of vernacular architecture. *Seismic Retrofitting: Learning from Vernacular Architecture*, 151.

Yuksel, I., (2006), Southeastern Anatolia Project (GAP) for irrigation and hydroelectric power in Turkey, *Energy exploration & exploitation*, 24, 4, 361-370.