

UNISDR Scientific and Technical Advisory Group Case Studies - 2015 Academic Hubs: Using applied research to build capacity in Palestine for earthquake risk reduction

The problem

Palestine is highly vulnerable to natural hazardsⁱ, including earthquakes, floods, landslides, droughts and desertification. The whole region frequently faces small to mid-scale disasters and bears a high potential for large-scale (urban) disasters. Like many countries, Palestine faces the challenges of rapid urbanization. Most Palestinian cities are located in earthquake prone areasⁱⁱ. Variance in building materials, design and construction quality have compounded the risks posed by natural disasters to the local population. Given these increased risks, combined with the political situation in Palestine which limits response, risk reduction becomes the priority.

The science

Seismicity in Palestine is largely affected and controlled by the geodynamic processes acting along the Dead Sea (Transform- DST). The DST is a left-lateral fault between the Arabian and the Sinai tectonic plates which converge to form the Taurus-Zagros collision zone. Seismic informationⁱⁱⁱ, including historic and prehistoric data, indicates that major destructive earthquakes have periodically occurred in this region.

Based on expected earthquake intensities and the vulnerability of buildings, recent studies show that between 5-15% of buildings would suffer total destruction, and 20% are predicted to have partial damage^{iv}. The high likelihood of natural disasters combined with a high vulnerability and low response rate indicate the possibility of severe devastation and many hundreds, and maybe thousands, of fatalities. With no regulations in places and a largely unprepared and at-risk population^v it has been crucial to take a combined approach:

- i) addressing construction practices and policy;
- ii) redressing the asymmetry of information and understanding of the public; and
- iii) preparing civil society for post-disaster action.

An-Najah National University's Urban Planning and Disaster Risk Reduction Centre (UPDRRC) brought together the key players, using the scientific knowledge to drive through change both towards policy, preparedness and public awareness.

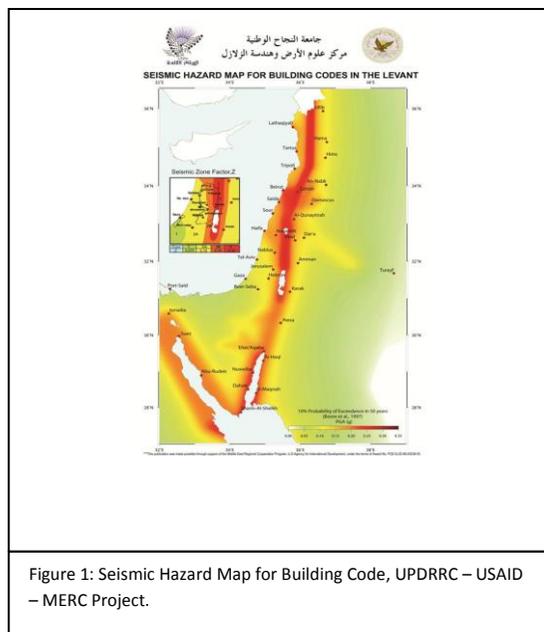


Figure 1: Seismic Hazard Map for Building Code, UPDRRC – USAID – MERC Project.

The application to policy and practice

As an academic hub, the UPDRRC at An Najah National University has an important role in enhancing the resilience of Palestinian communities to disasters, through adopting a holistic approach to disaster risk reduction activities. The Centre uses a scientific strategy to draw together decision makers, practitioners and the public to drive forward sustainable risk reduction, exceeding the parameters of a traditional academic centre.

As a result this approach had a wide remit and objectives including:

- Assisting Government and Engineers with assessments of infrastructure vulnerability and creating solutions;
- Drafting new Building Code regulations, using applied research as the evidence base;
- Developing training courses and materials to address the asymmetry of information within the sector;
- Building capacity within civil society and the wider general public to cope with natural disasters.

Did it make a difference?

In January 2014 Palestine's first seismic building code was adopted, based on the Jordanian code^{vi}. Since then, and since its inception in 1997, the Centre has continued to drive forward risk reduction by:

- Embedding Disaster Risk Reduction (DRR) culturally;
- Building civil societies' capacity to respond to disaster in a targeted and DRR manner;
- Becoming a hub of information locally, nationally and internationally for DRR.^{vii}

References

- ⁱ Al Dabbeek, J, 2010, An Assessment on Disaster Risk Reduction in the Occupied Palestinian Territory, An - Najah Univ. J. Res. (N. Sc.) Vol. 24.
- ⁱⁱ Ibid.
- ⁱⁱⁱ Al Dabbeek, J, 2007, Earthquake and our readiness, Book (in Arabic), An - Najah Univ.
- ^{iv} Al Dabbeek, J, 2007, Vulnerability, and Expected Seismic Performance of Buildings in West Bank, Palestine, The Islamic University Journal (Series of Natural Studies and Engineering), ISSN 1726-68-7,VOL.15, NO.1.PP 193-217
- ^v Al Dabbeek, J, Ahmad,H, 23(2009):12, The Extent of Awareness of Seismic Risks Among Palestinian Citizens, An-Najah University Journal for Research.
- ^{vi} Buildings Earthquake-Resistant Code, (2008), Ministry of Public Works, Jordan, NO 2587/11/2008, Amman, second edition.
- ^{vii} SASPARM web portal, Final Conference Recommendations, http://www.sasparm.ps/en/Uploads/file/Final%20Conference%20Recommendations%20_2_.pdf



Photo / Figure 2: Seismic Risk Mitigation Public lecture, Haja Rushda School, Nablus, UPDRRC . SASPARM – FP7 Project.