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Assessment of social vulnerability to seismic hazard in Nablus, Palestine

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Abstract

Social vulnerability helps to explain why communities experience the consequences of an extreme event, such as an earthquake, differently, even when they are subjected to similar levels of intensity (ground shaking). The differential impacts of an earthquake can indeed be a consequence of social vulnerability, hence, it is a critical element for fostering mitigation plans and developing policies to reduce seismic risk. This study addresses the assessment of the social vulnerability and resilience level of the city of Nablus, Palestine, a region affected by seismic events and political conflicts. The method employed is the Scorecard Approach, a self-assessment and participatory tool that measures resilience with qualitatively derived information at two different urban levels: population and local administration. The results enable the resilience assessment of different districts of Nablus concerning several themes relevant to disaster risk reduction. The latter facilitate the better understanding of how different variables – such as gender, age, educational level, monthly income and membership neighbourhood – influence the social vulnerability level. Furthermore, by applying a spatial analysis method to the case study region, it is observed that resilient indicators are not spatially random, but rather geographically correlated.

Keywords

Palestine, resilience, Scorecard Approach, spatial autocorrelation, vulnerability

1 Introduction

In the assessment of seismic risk a great deal of effort is usually dedicated to the analysis and evaluation of both the hazard and the physical vulnerability components, given the deep knowledge and research in the engineering seismology and earthquake engineering

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