



Cyprus
University of
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Faculty of Engineering
and Technology

Master's Thesis

**SEISMIC VULNERABILITY ASSESSMENT OF
MASONRY BUILDINGS**

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Limassol, November 2017

CYPRUS UNIVERSITY OF TECHNOLOGY
FACULTY OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF CIVIL ENGINEERING AND GEOMATICS

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Approval Form

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ABSTRACT

The clear majority of masonry buildings in the Eastern Mediterranean region were designed and constructed with no seismic design considerations based on the standard design practice during the 50's-70's. These specific buildings pose significant seismic risk mainly due to the above, and requires complicated upgrading measures to increase its seismic capacity. Therefore, it is vital for communities to adopt the appropriate assessment tools in order to quantify their vulnerability and decide on the remedy measure to ensure their sustainability from future earthquake events. The scope of this work is to compare and illustrate the results from existing assessment methods for such buildings and emphasize their advantages in order to aid the selection of the most appropriate one.

Keywords: Traditional Architecture, Pathology, Traditional Unreinforced Masonry Building, Seismic Vulnerability, Seismic Risk Analysis, Methods, Vulnerability Cures, Fragility Curves, Damage Scale