POLITECNICO DI TORINO

Honors thesis

Master of Science in Sustainable Architecture

Abstract

THE SECULAR HOUSE
A manual for preservation and seismic improvement of vernacular stone dwellings in Bhutan

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by

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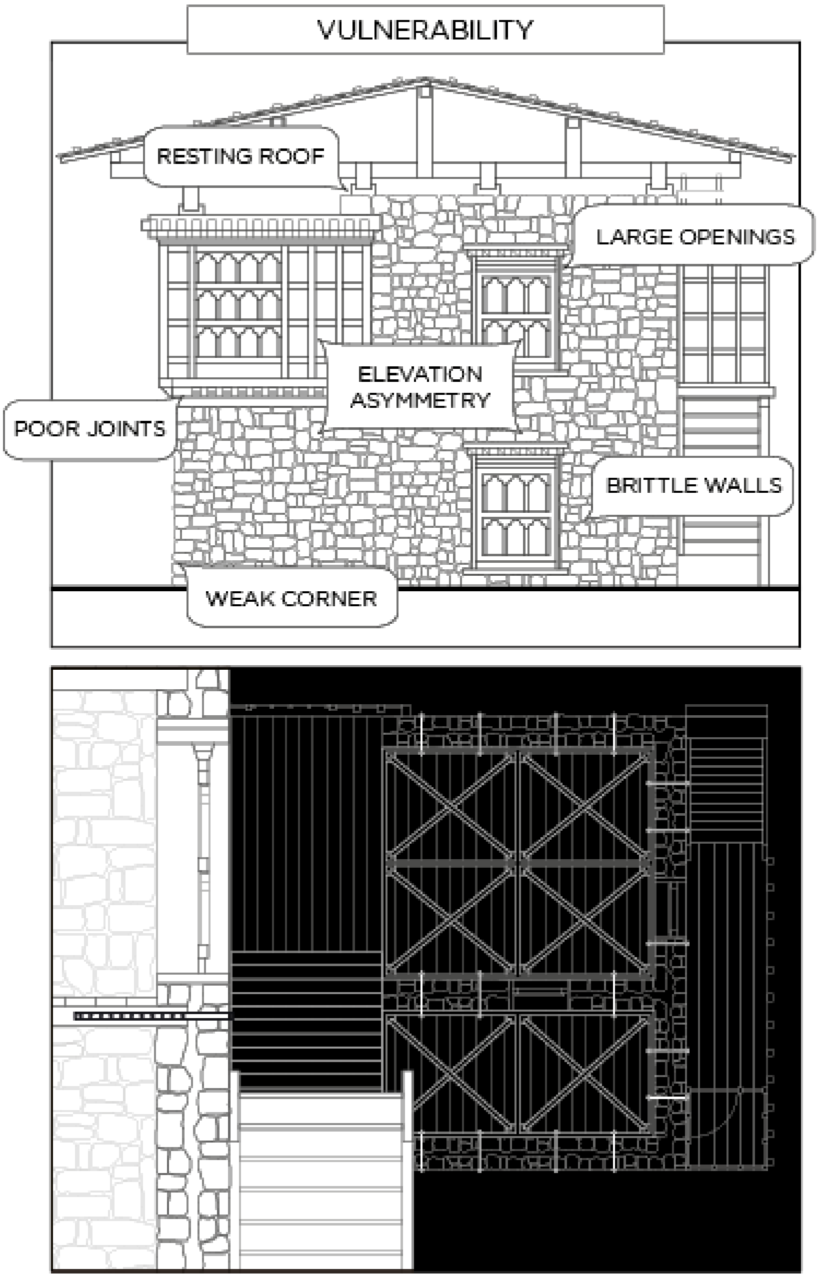
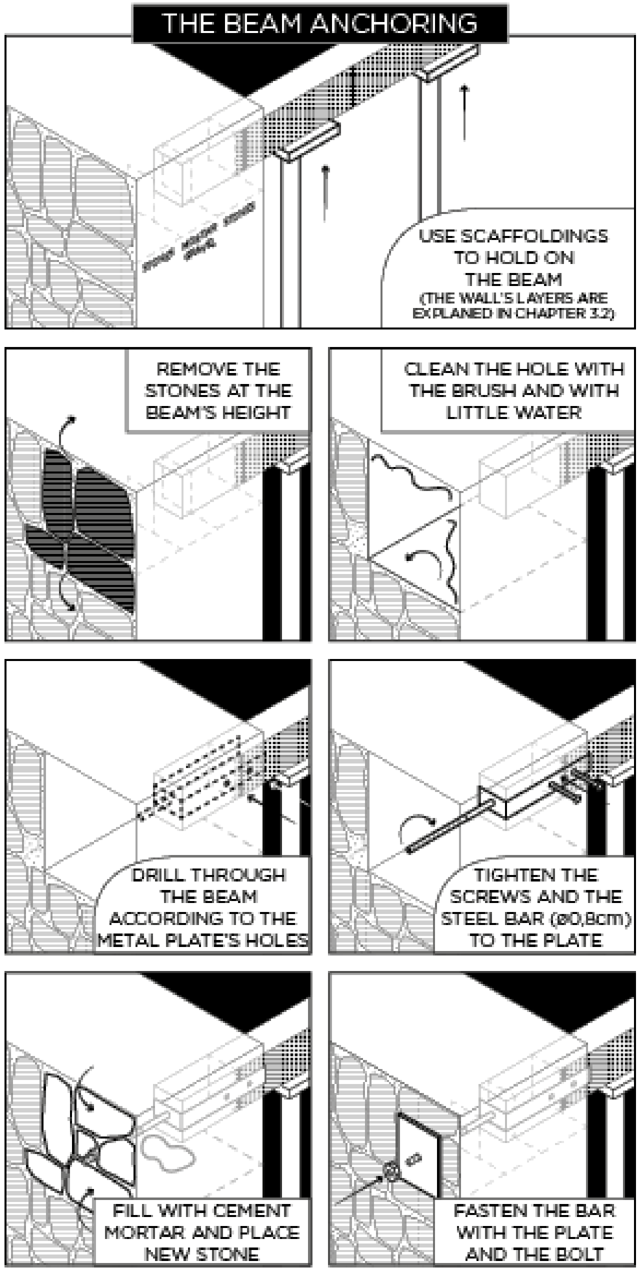
September 2020

The thesis aims to find technological solutions for the recovery of rural stone houses in Bhutan, with the purpose of ensuring the safety of their inhabitants against earthquakes, that shake the entire region.

Bhutan is a small country, located in the Himalayas, advancing in a globalized world, poised between the push of modernization that has invaded the territory and the traditionalist soul that keeps the uniqueness of this culture afloat. The great challenge of this research, therefore, lies in finding innovative technological solutions, while respecting the architectural and social vernacular culture of the Bhutanese rural context, so characteristic to connote a unique landscape on a global scale.

The thesis is part of an international research project SATREPS “for Evaluation and Mitigation of Seismic Risk for Composite Masonry Buildings in Bhutan”. This study is aimed, therefore, to all those who will face these issues, but above all it is addressed to local technicians and craftsmen, that are often called to intervene on the recovery and maintenance of the housing heritage. The graphic language chosen must be understandable even to those who have no particular technical knowledge, involving every single inhabitant of the country. The work is developed through the analysis of the seismic risk that threatens the territory and then through the study of the characteristic features of traditional architecture, construction technologies and traditional building materials available locally. After the study and re-elaboration of common techniques and the hypothesis of new approaches, we finally reach the realization of a manual of intervention, that help in achieving the safety of Bhutanese rural houses.





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