



POLITECNICO
DI TORINO

Honors thesis

Master of Science in Architecture Construction City

Abstract

**RELOCATION Strategies that reduce risk exposure. The
case of the San Ramón Fault in Santiago, Chile**

Tutor

Correlator

Elena Vigliocco

Jorge Alejandro Inzulza Contardo

by

Marta Grimaldi

Marco Nicosia

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Following the study experience in **Santiago de Chile**, this thesis aims to highlight the characteristics of a metropolis that is unique in the world, focusing on a latent threat to the city: the **San Ramón fault**, which runs through its eastern part.

The case of Santiago is particularly emblematic.

The capital of a nation with extreme exposure to natural catastrophes of various types, such as earthquakes, volcanic eruptions, tsunamis, floods, avalanches and landslides, it has always been exposed to such threats due to its climate and geography.

This vulnerability has, over the centuries, destroyed its buildings and decimated its population, necessitating continuous reconstruction of the city's urban layout and resulting in a transformation of the country at both social and economic level.

The city's rapid urban expansion during the last century has led to a substantial increase in exposure to an entirely new threat: the San Ramón Fault, which can give rise to two different scenarios: high-intensity earthquakes and rupture of the earth's crust, generating a downward displacement of up to four metres.

Through a study on the definition of the concept of **risk**, a resilient prevention strategy was formulated, aimed at mitigating and reducing the exposure factor of property and people.

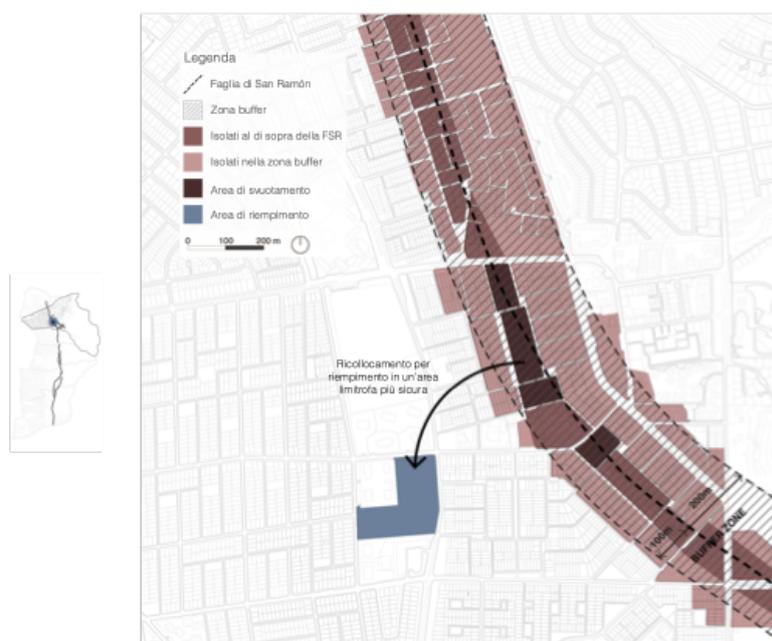
The result of this study, indeed, is a strategy for **relocating** highly vulnerable dwellings located above the fault to a safer position outside the buffer zone.

Relocation is a measure that acts on exposure, which is associated with vulnerability, consequently removing the risk by eliminating one of the core components of the risk equation so that there is no longer a spatial-temporal coincidence with the natural threat.

A focal point of the thesis is, in fact, the concept of **vulnerability**, which is not only linked to the geographical area but also closely related to people.

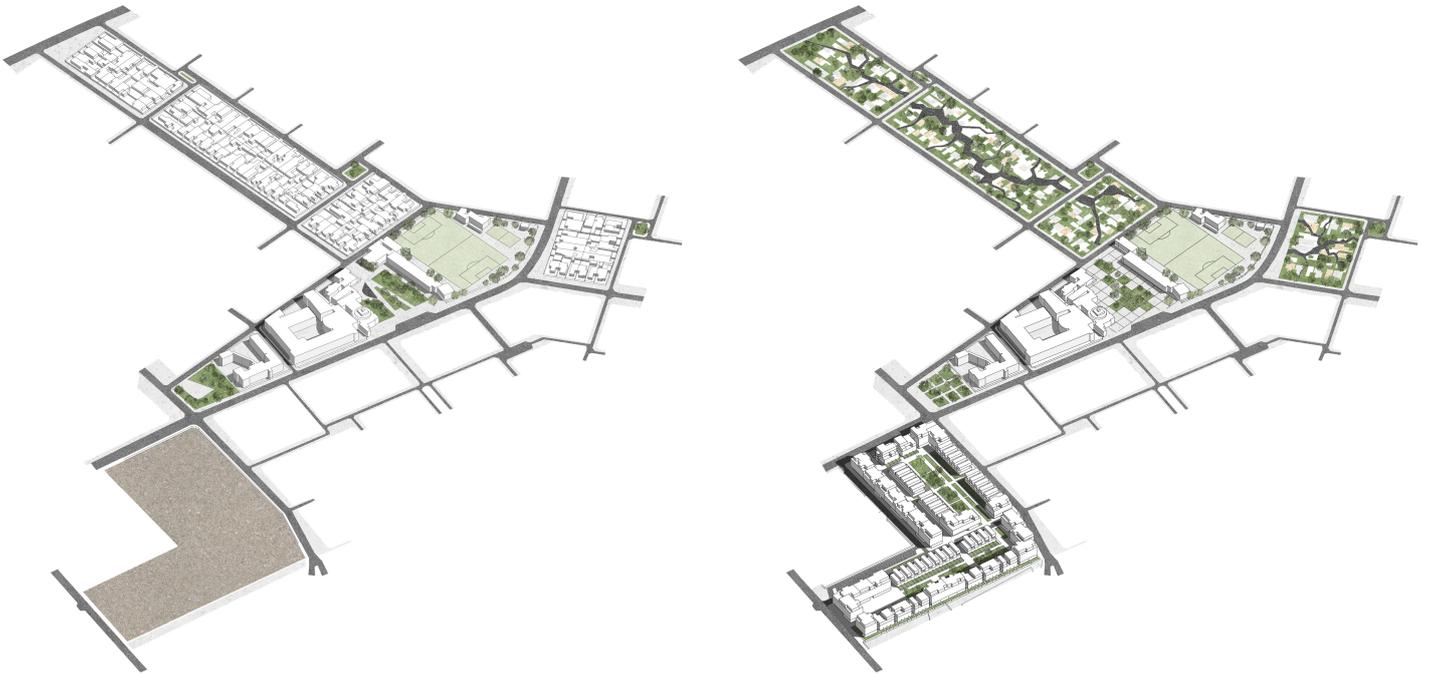
For this reason, following careful analysis of the urban fabric affected by the fault, strategic proposals were devised, focusing on parts of the city presenting critical issues, such as overcrowding and poor socio-economic conditions. The proposed relocation strategy is aimed not only at restoring security but also at redevelopment in order to raise the population's standards of living.

The case of **Colón Oriente**, a segregated area within the municipality of Las Condes, is the ideal site for developing the project proposal in full, based on **relocation**.



The case of **Colón Oriente**, a segregated area within the municipality of Las Condes.

The study of the users to be relocated highlighted their multiplicity and diversity. The typological variety of the new dwellings was central to the project in order to succeed in meeting the needs of the new inhabitants by nourishing the sense of belonging to the setting.



Overall axonometry of the actual state and project state

Indeed, the relocation process takes into account the daily living practices that the inhabitants have developed over time within the neighbourhood.

Lastly, an attempt has been made to strengthen the bond between the new location and the pre-existing one, by imagining an enhancement the place of origin, permitting the inhabitants to return to it and cherish their memories.

A redevelopment project is thus configured as a secondary strategy accompanying the relocation process.



Project view of the memory park

The strategy to consolidate the emptied space of the four blocks is to use the footprints of the houses that are demolished to build the design of a new urban park. The floors of the houses create an urban design, creating a sense of permanence, memory and belonging to the place.

The traces of the pre-existing structures serve to send thoughts back to the past and to anchor a memory. We can therefore say that the relocation gives, as an outcome, the security of the physical state of the population, generating, as a consequence, the improvement of the living conditions of the inhabitants, to whom has been returned a reality that meets their basic needs, without losing the link of the previous place.

For info:

S267094@studenti.polito.it, S261895@studenti.polito.it