

# **Preventive conservation strategies of vernacular heritage architecture affected by infrastructure interventions, applied in the “las Herrerias” street (Cuenca – Ecuador)**

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## **ABSTRACT**

In urban and rural settings of the Andean cities of Ecuador, earthen construction has been an architectural solution transcendental for the promotion of the “minga”, an ancestral custom, which favors the cohesion of the community. Based on this concept, the World Heritage City Project of the University of Cuenca (Ecuador) has been promoting since 2011, an activity inspired by the “minga” called “Maintenance Campaigns”, in which collective efforts of various stakeholders (the community, academia and organizations) are combined to intervene in highly vulnerable heritage buildings, promoting the preventive conservation, maintenance and monitoring of vernacular buildings.

The fourth campaign was carried out in 2018 in the “las Herrerias” street in the traditional neighborhood “El Vergel” in Cuenca, a World Heritage City. The methodology of the development of the previous campaigns was maintained and at the same time ever more experience has been gained. As a particular aspect, the las Herrerias Campaign was characterized by the existence of buildings with structures that were negatively affected by historical infrastructure interventions in its immediate surroundings, such as the opening and repaving of streets and sidewalks to build and maintain drinking water, sewage and electrical infrastructure.

This investigation proposes to establish conservation strategies of vernacular heritage buildings and the mitigation of bad practices of infrastructure interventions. As reference are taken the buildings intervened during the 2018 Maintenance Campaign, especially those whose damages were caused by inadequate infrastructure interventions. The investigation commences with a review of bibliographic sources to reveal historical data referring to the consolidation of the neighborhood and the infrastructure interventions that have taken place in the sector. It continues with a diagnosis of the buildings before the Campaign. Subsequently, the daily records of the work logbook and the participatory experience of the Campaign stakeholders are investigated, to identify and analyze the buildings affected by poorly carried out infrastructure interventions and their influence on the existing structural damages. Next, the state of the buildings after the Maintenance Campaign is evaluated, based on the records in the Damage Atlas, applied before and after the Maintenance Campaign.

Finally, strategies are proposed to intervene in vernacular heritage architecture, built with traditional construction systems: earth and wood. Furthermore, infrastructure intervention guidelines are defined in settings with a high presence of vernacular heritage architecture. Both to stimulate the preservation for future generations of material as well as immaterial heritage.

Key words: Las Herrerias, heritage, infrastructure interventions, maintenance campaign, Cuenca, preventive conservation, vernacular building, damage.