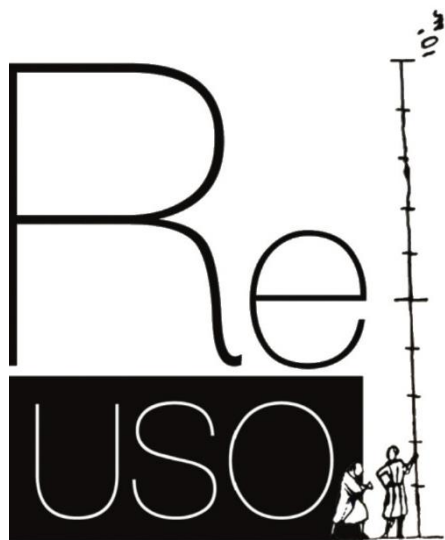


Documentation, Restoration and Reuse of Heritage

2-4 November 2022
Porto, Portugal

BOOK OF EXTENDED ABSTRACTS





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Sostenibilidad en centros históricos. Análisis de diferentes variables del entorno construido.

Sustainability in historic centres. Analysis of different variables of the built environment.

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1. Abstract

Historical centres are cultural environments with unique particularities and characteristics depending on their management and protection. The values projected by these cultural assets focus on traditional and monumental architecture and social and economic matters. In addition, recent studies speak of the environmental value of historic centres as containers of biodiversity. In the current context of climate emergency, preserving this biodiversity, green areas and the elements that make historic centres more resilient to change is fundamental.

In this context, it is essential to know the main characteristics of the building stock and thus be able to relate building morphology to the environmental values projected by the cities. To carry out this analysis, a mixed methodology has been used based on previous studies in cities in central Spain, work in depopulated historic centres, fieldwork based on the inventory and cataloguing of assets and the use of cartographic tools. The main objective is to understand the urban context to be able to apply biodiversity indicators to it and conclude with the current environmental status of a specific city.

To carry out this analysis, the city of Castellón de la Plana has been chosen, dividing it into two areas of action: the historic centre and the maritime district. In addition to the fieldwork and the inventory of buildings and constructive elements, cartographic data from open sources (Cadastral, Google Maps, National Institute of Statistics) and a QGIS 1.16 software plugin for downloading cadastral data are used to generate thematic plans that serve to carry out the analysis of building typologies, green areas and zoning.

The previous analysis of the historic centres of central Spain allowed the development of a methodology using QGIS as a working tool that led to the discovery of socio-economic patterns that could not be seen with an analysis in tables or lists. In addition, this type of analysis allows the preparation of thematic cartography where indicators could be reflected.

The analysis shows how the multiple spaces generated in housing construction (balconies, eaves, roofs) are spaces where a great variety of biodiversity can be found. In the same way,

green areas are the lungs of the city and, at the same time, a refuge for multiple species. According to the cartography obtained, in the case of the historic centre of Castellón de la Plana, the building analysis showed that the buildings vary in height from 1 to 18 storeys, the most repeated size being two levels. The most repetitive elements are balconies and overhangs in the historic centre and maritime district. It should also be noted that eaves are rare in both areas.

On the other hand, the type of buildings that predominate near the sea is more recent in the historic centre. Slopes are also frequent in the residential part because their modern design incorporates slopes in the façade and roof. A reduced number of eaves can be seen, which are concentrated in the old quarter of the maritime area. There are fewer balconies because most of the buildings have flush balconies.

Finally, it should be added that the inventory of buildings and the analysis carried out can serve as a tool to detect constructive characteristics that encourage biodiversity to promote their implementation in urban development or urban regeneration processes. It can also identify obstacles or deficiencies as an experience that should not be transferred to other cities. The last noteworthy fact that can be seen both in the historic centres analysed above and in Castellón de la Plana is that there are few green spaces. The areas identified as green zones have bushes far from being consolidated to promote biodiversity.