

POLYTECHNIC OF TORINO  
FACULTY OF ARCHITECTURE 2  
Degree in Architecture  
**Honors theses**

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Earthen architecture and sustainable development: traditional housing in Sardinia between the past and the future among  
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From the point of view of the sustainable development, nowadays building earthen culture appears to be a resource.

Through the study and the restoration of the traditional buildings still present in our Country, it is possible to re-take possession of this building technique, which formerly in the past was the appropriate answer to the dwelling needs.

In Italy, Sardinia owns the greatest earthen heritage, and it is also the last European Mediterranean region that stopped building with adobe, here in the island called "ladiri".

The efforts of the local associations and the University are supported by the greatest international organizations, and important results are achieved. For its experiences, Sardinia must be considered the main reference for the other Italian regions.



Production of the local brick, which is called "ladiri", during the workshop organised with the UNESCO chair in Cagliari

The presence of earth dwellings in the island is connected with the particular climate and resources, but also with the local rural system.

From the post-war period, the social- economical changes and the new building industry caused the abandon of the traditional dwellings; therefore, many towns built up with adobe are in danger.

Connected to the breaking off the traditional way of build are the damages due to a wrong restoration practice: worsening in the built up quality, worsening in the living quality, detachment from the local resources, ..



Heritage at risk: damaged dwelling in the historical centre of a town. Damages are as a result of the lack of traditional techniques and the poor image associated with the earthen houses

The knowledge of the good practices used in the past is essential in order to operate correctly on traditional buildings, but also to plan new solutions that are coherent with the traditional systems.

The research is also explored through the presentation of three application cases, that can be considered model restorations.



One of the three studies presented in the thesis which integrated materials and techniques of bio architecture in the restoration of a traditional building in Sardinia

At the end, there are described two experiences that connect earthen buildings with the sustainable development.

The first one was lead in Sardinia and recognises the local heritage as a value for a cultural and economic development based on the specificities of the territory.

The second study processes recovery design in a scientific way, making strategic choices through the life cycle analysis of the materials, with the aim of a sustainable restoration.

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