

Revitalization of the Traditional Construction in Earth and Bamboo in Rural and Urban Communities in Oaxaca, Mexico



Joao G. Boto M. Caeiro

Master in Lisbon Technical University, Faculty of Architecture,
Portugal, PhD student in Architecture, National Autonomous,
University of Mexico.
caeirojoao@gmail.com

ABSTRACT

The state of Oaxaca, located in southern Mexico, has an ancestral earth traditional construction and self-construction, derived from the fusion of Pre-Hispanic civilizations with the Spanish tradition. A large part of that traditional construction has remained due to vernacular application, where the earth has been used to create spaces that are totally adapted to the bioclimatic conditions of the region, using techniques like adobe, *bahareque*, red brick, rammed earth and “blá” or “muro a la negra” (Zapoteca’s pre-hispanic technique). Today, as a consequence of the rural migration to the cities and predominantly to the United States, the economy, values and knowledge of rural communities have been altered. This phenomenon results in a radical impact on the local labors, self-construction and self-procution of components (this fact has a very significant influence on the rural world because everything is bought already made and nothing is self-built). The rural population shows to be iluded with the industrial materials that causes constant expenses. Building a house for a family is the biggest investment of their life. So the money generated in the town goes to the large cities, impoverishing ruralities and enriching urbanites. This situation increases the necessity of exodus and a lack of future prospects for the rural world. The problematic is imminent and, for that reason, in the last decade it have been made an effort with several initiatives to recover the traditional earth construction, applying local technology improvements with an ecological vision. Focus to create new social engineerings, encouraging the prestige of the material and changing the wrong concept that the earth is a “material for the poors”, unhealthy and unsafe. In the process it has been done a significant advance in the repositioning of the earth construction into two aspects: 1) the restoration and construction of emblematic building; 2) the training for production of self-components to the self-built house in rural communities with low resources. It is proposed to present the research of rural techniques and constructions, developed in assisted and non assisted way, and also the adaption to today's reality. It has been drawn several projects, including urban projects (from 300 to 5000 m2) that have been showing the influence on the change of ideals and paradigms as they tend to be an example for the rural communities, fighting the already referred sense that earth is a “material for the poors”. The project “Adobe for Women” combines the transfer of rural technology and consists in the construction of houses in indigenous communities for 28 women. The earth, with 9 different colors, creates adobes with 250kg/cm2 of compressive resistance, without the use of stabilizers. The reinforcements staples in the corners permits the reduction of the thickness in the walls. The share of knowledge is one of the most important issues, looking for a present and a future perspective rather than investing on a romantic paternalism of the past. For that reason, it is proportionated a meeting between the city and the village, where students, professionals and academics goes to the communities to build with the rural indigenous communities. As a result of this experience the sharing, the learning, the architectural paradigms and ways of life, makes the participants reconsider human values and earning humility. These community workshops have allowed the rehabilitation and construction of houses, chapels, community centers, schools. It has been concluded a Sports center with 33 000 adobes, 140 000 bricks, 20 000 tiles, 750m2 of paired stone, lime and sand and everything without the use of concrete reinforcements – only the local materials and primary sources prepared by local craftsmen. A project that achieved an international dimension.

Keywords: Traditional construction, community-indigenous self-construction, sustainable architecture, rural and urban earth buildings, heritage learning.