

Sustainable Concepts Applied in the Pre-Columbian Andean Architecture in Southern Ecuador

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Abstract : All architectural and land use processes are framed in a cultural, social and geographical context. The present study analyzes the Andean culture before the Spanish conquest in southern Ecuador, in the province of Azuay. This area has been habited for more than 10.000 years. The Canari and the Inca cultures occupied Azuay close to the arrival of the Spanish conquerors. The Inca culture was settled in the Andes Mountains. The Canari culture was established in the south of Ecuador, on the actual provinces of Azuay and Canar. In contrast with history and archeology, to the best of our knowledge, their architecture has not yet been studied in this area because of the lack of architectural structures. Consequently, the present research reviewed the land use and culture for architectonic interpretations. The two main architectural objects in these cultures were dwellings and public buildings. In the first case, housing was conceived as temporary. It had to stand as long as its inhabitants lived. Therefore, houses were built when a couple got married. The whole community started the construction through the so-called 'minga' or collective work. The construction materials were tree branches, reeds, agave, ground, and straw. So that when their owners aged and then died, this house was easily disarmed and overthrown. Their materials become part of the land for agriculture. Finally, this cycle was repeated indefinitely. In the second case, the buildings, which we can call public, have presented erroneous interpretations. They have been defined as temples. But according to our conclusions, they were places for temporary accommodation, storage of objects and products, and in some special cases, even astronomical observatories. These public buildings were settled along the important road system called 'Capac-Nam', currently declared by UNESCO as World Cultural Heritage. The buildings had different scales at regular distances. Also, they were established in special or strategic places, which constituted a system of observatories. These observatories allowed to determine the cycles or calendars (solar or lunar) necessary for the agricultural production, as well as other natural phenomena. Most of the current minimal existence of physical structures in quantity and state of conservation is at the level of foundations or pieces of walls. Therefore, this study was realized after the identification of the history and culture of the inhabitants of this Andean region.

Keywords : Andean, pre-Colombian architecture, Southern Ecuador, sustainable

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