

**USE OF ADOBE ON THE HIGH ANDEAN PLAINS OF CUNDINAMARCA AND BOYACÁ,
COLOMBIA**
CLARA EUGENIA SÁNCHEZ GAMA

The high plains situated in the departments of Cundinamarca and Boyacá (*Altiplano Cundiboyacense*) are part of the Andean region, one of five natural regions in Colombia¹. This region is currently the most densely populated and economically developed area of the country and was inhabited by the *Muisca* peoples during the formative period beginning 500 AC. The material culture of the Muisca people was made of perishable materials, therefore little archaeological evidence exists for this period apart from some stone foundations. According to descriptions by early explorers, housing consisted of huts with a thatch roof and wattle and daub walls, arranged in small groups.

During the Colonial period (16th to 18th century), and with the arrival of the Spanish, indigenous construction techniques were adapted to introduced technology and innovations, *rammed earth* became a popular construction material and *adobe* was used together with bricks and stone.

This region has traditionally been associated with vernacular adobe housing and conserves important civilian and religious buildings made of rammed earth and adobe as heritage of the Colonial era and the 20th century. Furthermore, domestic adobe architecture is conserved in historic centres and other areas in urban and rural sectors. Generally, soil composition in these areas is also suitable for adobe production.

Recent studies² on the high Andean plains of Cundinamarca and Boyacá confirm that favourable conditions exist to stimulate the development of sustainable productive systems associated with adobe. In other words, that one pivotal aspect of a local development model could include a joint plan for productive zones and housing, taking into account municipal economic and environmental policies.

These characteristics are:

- Conservation and development of a historical tradition, local knowledge and material such as earth.
- Development of an important baked-clay production consisting mainly of baked bricks and tiles, as well as adobe production by medium- and small-scale traditional family brickworks, known as *chircales*.
- The existence of a close relationship between production areas and housing with regard to location, function and economy as well as socio-cultural aspects. Small-scale brickworks or *chircales* producing baked clay and adobe derived products, areas of diffuse vernacular housing and estate houses - nuclei of agricultural production, with a rural adobe building at its centre.
- Value given to adobe buildings in relation to low economic cost, the sustainability of the technology in this context, raw materials present in the area and the association between traditional production and commerce.
- Traditional adobe architecture reaches levels of seismic resistance which guarantees suitable individual and collective behaviour of the construction units (eg adobe bricks) with respect to vertical and horizontal loads due to the establishment of a series of structural and rigid walls, roofing systems which require the joint action of the structural walls and a foundation system which transmits forces to the ground.

¹ Colombia is situated in northern South America and has a population of 42,090,502 inhabitants (2005 census).

² Sánchez, C.E. (Project director) 2005. *Características físicas y habitabilidad del adobe en el altiplano Cundiboyacense*.