Acknowledgement prize 2008 Latin America

Post-earthquake reconstruction, San Lorenzo of Tarapacá, Chile

Project data

Type of project: Architecture (housing)
Estimated start of construction: August 2007

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Comment of the Holcim Awards jury Latin America

This project is about the reconstruction of an earthquake-devastated community in the Tarapacá area of Chile. The traditional adobe homes had to be replaced by inexpensive houses, meeting the requirements of the harsh climate and satisfying the social needs of the inhabitants whose homes had been destroyed. In addition they had to be fast and easy to build for the local population with local materials.

The result is a simple metal frame construction with cement block walls, giving support to the quincha façades made of wood and clay (see fig). The roofs analyse the overall dimensions and the number and size of the rooms according to their specific needs. The carefully-chosen design answers to different situations, fills the gap between old and new and recovers the image of the traditional home of this area by using the traditional typology. The project has been commended due to this sensitive approach in a very painful post-earthquake situation.

Relevance to target issues by author

1. Situation and source of inspiration:
   Earthquake: 7.9 on the Richter scale destroyed the village of adobe (sun-dried brick houses) people are homeless. Chilean Government approves 81-home reconstruction project that must be easy, fast and inexpensive to construct, and also satisfy social needs.

2. Project description by author
   Materials: adobe is not approved as an earthquake-proof material. Construction system: four elements are used to meet earthquake-resistance regulations: earthquake-resistant metal frames; construction of quincha façades (framework of wood covered in clay); clay covered roofs; cement block walls. System flexibility: two modules are used (one of 25.2m and another of 10.2m)distanced 3m, able to enlarge the 35.2m to another of 10.2m) distanced 3m, able to enlarge the 35.2m to 50.2m, elongated by the roof. Each site is different, each home responds to the occupant’s requirements for space and preferences for door/window placement.

   Environmental aspects: a) 5m high roof provides comfortable indoor conditions with extreme variation in exterior temperatures; b) lattice used at apex for ventilation; c) clay roof meets low night temperatures and high day temperatures. Community involvement: community has participated in the planning and construction processes - the results of the socio-spatial and culturally-conscious project are assured of creating a long-term positive impact on the sociospatial structure of the community. Each prototype has been inserted in different sites and each family, and the natural and urban-rural surroundings. The project recovers the urban-rural image of the village, particularly the sensitivity in each site to the activities of each family, and the natural and urban-rural surroundings. Each prototype is built with earthen materials, as a renewable resource and is environmentally friendly to the area. For each unit the use of soil in the different external walls has been evaluated to achieve optimum climatic conditions. The project does not have any negative impact to the environment.

   Economic performance and compatibility: The project is funded by a special government allowance following the earthquake. Construction contacts, management, and supervision are funded by a system of government loans and technical support. The project is designed to duplicate the initial phase of construction at 50% of the cost for the first stage.

3. Architectural patrimony
   The project combines different individualized solutions, visually restores traditional homes of the Tarapacá area, and unifies the urban-rural homes in terms of material use, height and space.