Pakistani Army and finally ERRA itself.

The initially-proposed modern construction methods were not adapted to the needs of people living in isolated mountain areas: the transport of cement, steel and bricks would have been excessively expensive as well as culturally and environmentally inappropriate. At the same time, the people lost an age-old know-how for building earthquake resistant houses with local materials. The method is called “Bhatar” and consists of timber-reinforced stone masonry where parallel horizontal timber beams are inserted into the stone masonry at regular intervals to ensure the coherence of the structure.

The project description by author

In the aftermath of the devastating earthquake of October 2005 in Pakistan and India, the Pakistan Earthquake Reconstruction and Rehabilitation Authority (ERRA) has decided to create training centers for the reconstruction of private housing. The Swiss Agency for Development and Cooperation (SDC) and UN Habitat are in charge of running these centers and of training local artisans and owner-builders in the art of earthquake resistant building.

Our work consisted in identifying the retained as well as already-lost know-how, developing the missing parts and creating a simple manual for the construction of earthquake resistant dwellings with local materials and skills. Even more important was to establish the self-confidence and the motivation among the local population through pilot projects and training. The jury has commended this project because it's an encouraging example of self-reliance in exceptional situations and the potential of using advanced engineering knowledge to dramatically improve the efficiency and reliability of traditional techniques based on local resources.

Quantum change and transferability

Modern seismic construction techniques are not always the best response to local needs and capacities. In the context of remote mountain areas, they would not only have been inappropriate from a financial, cultural and ecological point of view but, given the lack of familiarity with such modern techniques, would have brought about a culture of unsafe building. By identifying and reinvigorating traditional know-how, a safer building culture in tune with local capacities and resources could be ensured. Furthermore, by getting a local seismic culture officially recognized by national authorities, an example has been set which hopefully will be replicated in other countries and which may have a serious impact on aid policy of major donors.

Ethical standards and social equity

To be able to make use of government subsidies to rebuild their houses instead of waiting these funds on transport, the people of remote mountain areas needed somebody to advocate for their needs and bring their concerns to the higher circles of national decision makers. That was our role. By presenting the local situation and the locally-available solutions and know-how to an urban elite we not only managed to give a face to a frequently ignored population but, by getting their culture recognized and respected, we might have had the rare privilege of contributing a little bit in the difficult task of nation-building.

Ecological quality and energy conservation

By making use of locally-available and renewable resources and avoiding unnecessary transport, ecological quality and energy conservation are greatly improved. In addition, traditional “Bhatar” buildings offer better thermal insulation than simple modern houses ensuring further energy savings.

Economic performance and compatibility

Transport costs for externally-sourced building materials would be exorbitant for remote mountain areas. By making use of locally-available resources the economic performance is greatly increased. This is also true for the long term, as future maintenance work can be done whenever needed and not only when cash is available, thus avoiding excessive and costly degradation of the building.

Contextual and aesthetic impact

Through the use of traditional building materials the aesthetic coherence of the built environment is secured. Concessions to modernity are limited (e.g. tin roofs), allowing for a slow evolution of local architecture in tune with the absorption capacity of the local culture.