



UN-HABITAT-Pakistan is contributing to the reconstruction of 600,000 housing units in the earthquake-affected areas of Pakistan. Twelve Housing Reconstruction Centres provide construction training services and technical assistance to Partner Organizations (I/NGOs) and earthquake affected populations. UN-HABITAT manages six of these centres in Kashmir. Each centre provides training on earthquake resistant building techniques, carries out social mobilization activities to help organize communities for housing reconstruction. They also extend technical assistance to partner organizations and individual house owners who are engaged in reconstruction.

UN-HABITAT also provides support to the rural reconstruction process by producing and disseminating technical guidelines and information materials, carrying out field research to support policy review and implementation adjustments and by funding eight NGOs to provide training and technical assistance at village level.

## Achievements

### UN-HABITAT and its Partners

- Over 55,000 engineers, sub-engineers, masons, carpenters, steel fixers and home owners trained
- Over 4,000 village reconstruction committees created

### ERRA

- Damage assessment of 600,000 houses conducted in three months
- One year after the earthquake most beneficiaries have received financial assistance to begin rebuilding

### Beneficiaries

- One and a half years after the earthquake two thirds of the affected population is rebuilding their home



In collaboration with NSET and NESPAK, UN-HABITAT has played a key role in broadening the menu of compliant building techniques. One of these is Dhajji construction. Dhajji construction is a traditional wooden construction technique well known in Kashmir. The term "Dhajji Dewari" means "patchwork walls". A dhajji house is made of a combination of a lightweight frame and in fill. The small framed subdivisions in the frame are filled with local masonry. The walls are composed of regular or irregular bracing and confining timbers to give strength in both directions and to hold the infill. Using many small panels and small elements the building performs well in earthquakes, distributing earthquake energy evenly, and damping the energy through friction. This relies on using infill that is not too strong or rigid. In Kashmir this infill is generally mud and small stones. Elsewhere it may be brick or other materials. The good performance is also due to the overall light weight of the building. Dhajji framing provides the stiffness for wall, like in a shear wall system, the infill provides the compressive strength, this differs from conventional frames, where the force is taken at the connections and corners.

Allowing dhajji construction marks the first step on building on indigenous earthquake knowledge and it has accelerated reconstruction particularly in Kashmir and allowed an increased number of people access to the full financial assistance from the government.

For many affected communities dhajji construction, unlike the use of cement mortar, is easier to implement safely because it is not a new technology. People are familiar with using wood and local masonry and local expertise exist in the area. The fact that dhajji construction uses salvaged building materials, not only cuts the cost of building but allows for the more economical use of timber. This is particularly relevant for those communities in high altitude areas and where carriage is a serious constraint and where conservation of environmental resources is critical.

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## Training Activities



The training activities were conducted in highly participatory manners. The focus had been made on collective learning and sharing of experiences during the training. To bring all the participants at the same wavelength some basic concepts such as social mobilization, gender and participatory decision-making were included in the training sessions, besides the regular contents of the training. Extensive guidelines were provided for the trainers to undertake the training activities on their own. Use of participatory training techniques was encouraged through the training sessions to bring change in knowledge, skills and attitudes of the participants, who had played an important role to involve communities into rehabilitation and reconstruction of the divested areas.



## Housing Reconstruction Centers



UN-HABITAT has established and operates six of the twelve Housing Reconstruction Centers (HRC) in the following locations: Bagh, Rawalakot, Dhirkot, Hattian, Muzaffarabad and Patika. Housing Reconstruction Centers provide training on seismic resistant techniques, capacity building of local authorities, technical advice and public awareness, coordination of training implementation and training quality control of training delivered by master trainers.

The National Society for Earthquake Technology-Nepal (NSET) and Emergency Architects (EA) are providing technical expertise to support the program.



## Assisting Landless



UN-HABITAT is supporting ERRA in facilitating access to land for approximately 10,000 families who lost their land holdings due to the massive landslides and flooding that resulted from the earthquake. The Government will provide each family with US\$1,250 for the purchase of land. UN-HABITAT will work together with local government authorities to implement a project, funded by the Asian Development Bank that will ensure each landless family is provided with appropriate support to identify and purchase a new, suitable plot of land on which to reconstruct their home.

## Partners in Rural Construction

- ACTED\*
- Aga Khan Development Network
- Belgian Red Cross
- Basic Education and Employable Skill Training\*
- CARE International\*
- Emergency Architects (France)\*
- French Red Cross\*
- Habitat for Humanity
- International Blue Crescent - Turkey\*
- International Organization for Migration\*
- International Rescue Committee
- Islamic Relief
- Johanniter
- Mercy Corps\*
- Omar Asghar Khan Development Foundation
- National Rural Support Programme
- National Rural Support Programme - IRM\*
- National Society for Earthquake Technologies (Nepal)
- National Engineering Services Pakistan (NESPAK)
- Pakistan Army
- Pakistan Poverty Alleviation Fund
- Partner Aid International
- Premier Urgence\*
- Rural Support Programmes Network\*
- Sarhad Rural Support Programme
- Shelter for Life\*
- Strengthening Partner Organization\*
- SUNGI Development Fund
- Swiss Development Cooperation
- The Citizens Foundation
- Women's Welfare Organization Pakistan\*

\* Organizations receiving funding from UN-HABITAT