PAKISTAN

Educational Facilities in Remote Settlements

HUMANITARIAN RESPONSE CASE STUDY 04

CRS
CATHOLIC RELIEF SERVICES

PROJECT DESCRIPTION

Country: Pakistan

Project location: Northern Pakistan—Khyber Pakhtoon Khwa and Azad Jammu and Kashmir districts

Disaster: Earthquake

Disaster date: October 8, 2005

Project timescale: 2005-2012
Houses damaged: Over 500,000 houses damaged, 5,000 schools destroyed
Affected population: 3.5 million people affected countrywide, 73,000 fatalities including 18,000 children
Target population: 5,200 children, 50 schools
Material cost per shelter: US$ 9,000 per school
Project cost per shelter: US$ 12,000 per school including material and labor
Project budget: US$2 million
Donors: Caritas Austria, Caritas Italy, Cordaid, Caritas Germany and a number of private donors

> "Education is a very important project here, especially for the Kohistan and Shangla districts, because the people here are poor and live in very remote areas. They are very vulnerable, and their communities are much worse off compared to many other communities in Pakistan. So it is important that education is available for these people."
>
> – Program recipient

Educational Facilities in Remote Settlements

Disasters have a devastating impact on peoples' homes, livelihoods and their communities. Educational facilities can often be neglected in the immediate reconstruction process, and this can have a lasting impact on children's education and a community's ability to reconstruct its normal life. School buildings also function as meeting rooms, prayer halls or safe community shelters during emergencies. Thus, these key buildings need to be built back safer so they can protect the children and adults of a community. In response to extensive damage to schools, CRS' Pakistan Earthquake Emergency Response (PEER) project placed the rebuilding of schools as a priority. Due to the remote and mountainous terrain of many of the school locations, CRS took an innovative approach to school reconstruction, designing light, steel-based structures that are pre-fabricated in a warehouse, delivered in easy-to-handle pieces and assembled on site. Communities helped to transport materials over narrow mountain paths and carried out most of the construction.

What did CRS do?

- Constructed 104 one-room schools across the affected districts.
- Constructed 208 latrines.
- Reactivated Parent Teacher Committees (PTCs) and strengthened other working partnerships.

Background

On October 8, 2005, a violent earthquake of 7.6 magnitude on the Richter scale jolted northern Pakistan (epicenter 95km northeast of Islamabad), causing entire villages to disappear under a pile of rubble and earth. The mountainous regions of the Khyber Pakhtoon Khwa (formerly known as the Northwest Frontier Province) and Pakistan Administered Kashmir were some of the worst-affected districts, while tremors were felt across the whole South Asian region. Many of the affected villages were remote, at elevations of up to 5,000 feet, and were difficult to reach by vehicle and especially vulnerable to harsh winter conditions. Education infrastructure was particularly hard hit, with over 5,000 school structures either partially or fully destroyed. Already-existing weaknesses in the school system—teacher absenteeism and lack of parental support for education, especially for girls—were exacerbated by the emergency.

Problem Statement

The aim of CRS' PEER program was to provide immediate relief, including water and sanitation, livelihoods restoration and a heavy emphasis on school reconstruction. CRS implemented its education program with an integrated approach, incorporating provision of the school structure, reactivation of PTCs, and developing and strengthening working relations with the local partners, parents, education officials and religious leaders. The aim was not purely to restore schools to a functioning level but to improve comprehensive education for children of the community and make schools robust, valued pieces of community infrastructure.

Students, teachers and PTC members outside newly completed primary school in Bar Gabar Village.
Photo: Joe Lapp / CRS

Project Delivery

- CRS constructed 104 schools across affected regions of Pakistan.
- Sites were selected in consultation with PTC members and school teachers.
- Buildings were constructed by local craftsmen.
- Communities assisted with the delivery of construction materials to remote sites, by foot or using donkeys.
- Four skilled workers (mason, electrician, carpenter and steel fixer) and four unskilled were needed for each school.
- CRS and partners provided technical guidance and supervision.
- Materials were sourced locally through a bidding process.
- The schools took one and a half months to construct and had an anticipated lifespan of 20 years.

Design

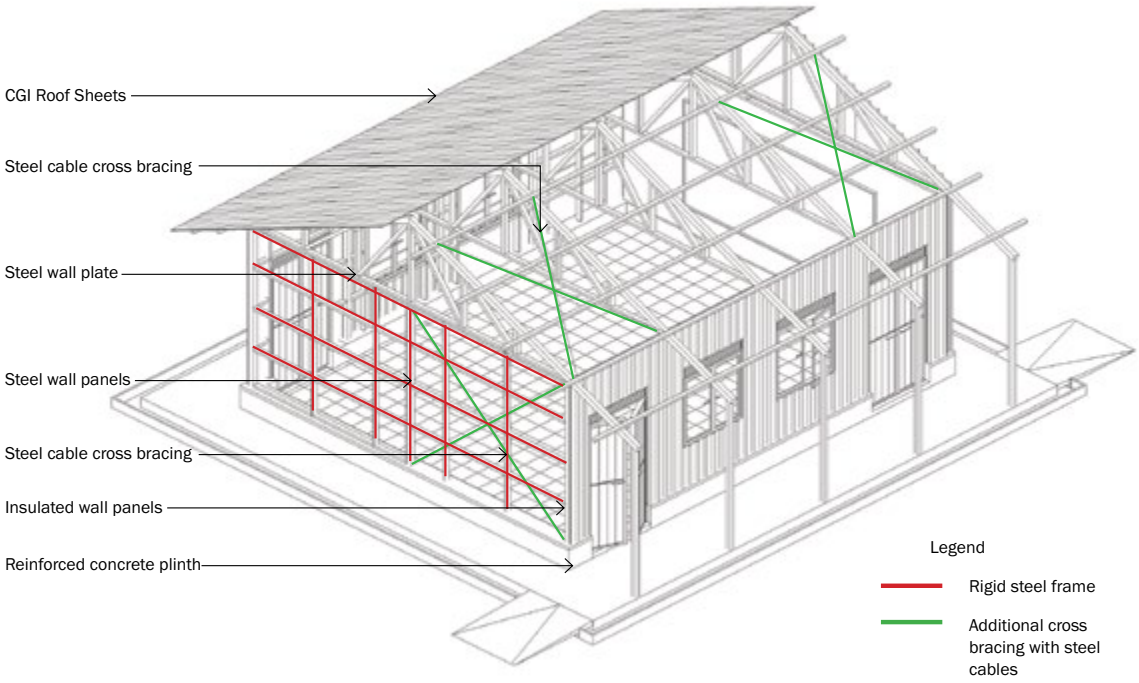
The classrooms were all single-room structures of 6.1m x 7.3m for a capacity of 50 children. The school included a water supply system and sanitation facilities with two washrooms. The washrooms were to be separately used by boys and girls in time of mixed classes. In addition, boundary walls, retaining walls and fences were also constructed when required.

Choice of Site

CRS constructed schools with consideration given to its three standards of Safe, Adequate and Durable (SAD), as well as compliance with the Sphere and International Network for Education in Emergencies (INEE) standards of construction, avoiding building on stream sides, sloping area and steep mounds, under the heavy electric supply lines. The sites are further protected by gaining legal documents from the owners to hand over to the line department. All the schools were built in rural areas, as they were more affected and are less accessed by other organizations.

DRR Features - Physical

Disaster risk reduction (DRR) was practiced at each site. Each building was coated in three coats of red oxide, and then three coats of synthetic paint was applied to the steel material to prevent corrosion. Proper sanitation work is done to keep the environment hygienic, with an underground system for the liquid and solid waste of the latrine (soakage pit, main holes) and proper drainage of the surface water. The structure is protected from flood through a raised plinth, and earthquake hazards are reduced through seismic bracing fixed on alternate walls, the ceiling and the roof. This bracing is fixed in such a way that if there is an earthquake, the structure may bend but not collapse. The buildings are also protected with fences and sometimes with the boundary walls. They are also well insulated to protect from the cold winters in Pakistan. The predominant structural material is steel, which avoids the use of wood, thus reducing deforestation concerns.



The construction deployed prefabricated steel panel elements that could be transported piece by piece fixed to an in-situ reinforced concrete foundation. This enabled easier quality control of important structual elements and made best use of local resources.

Credit: A. Rashid / CRS

DRR Features - Operational

The program featured several DRR elements, including training program participants to look after the school and assess its safety features. CRS has designed an Operation and Maintenance (O&M) training for PTCs, through which they are trained how to maintain and renovate the structures. During the training, PTCs develop their own maintenance plan for the school with responsibilities and dates and durations. This plan is incorporated into the school development plan, which delineates the overall responsibilities of the PTC. CRS also provided training to school teachers in classroom management techniques and participatory learning practices, improving the classroom environment and helping students learn more quickly. CRS' pioneering mentoring program, where peer mentors regularly visit schools and evaluate teachers, has dramatically increased teachers' utilization of new skills.

Challenges

- Water was not available for the contractors to mix concrete at the outset of the building work, which lead to delays.
- The design should have an internal partition to allow the separation of older and younger children.
- The addition of a veranda would have been a useful intermediate space.
- The disaster struck just before the onset of winter, so it was important to get construction complete before freezing temperatures set in.
- It was almost impossible to access some locations. Overcoming these logistical difficulties required staff to come up with creative solutions and to collaborate with local people.
- There were difficulties in engaging the female population in the construction and delivery of the school within a socially conservative society.

CRS engineers worked with local residents to put together the steel skeleton of a CRS-built community school in an earthquake-affected village

Photo: Joe Lapp / CRS

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