

Reconstruction Realities

Kashmir EQ 2005

Ghazala Naeem, Pakistan

Earthquake 2005, Pakistan

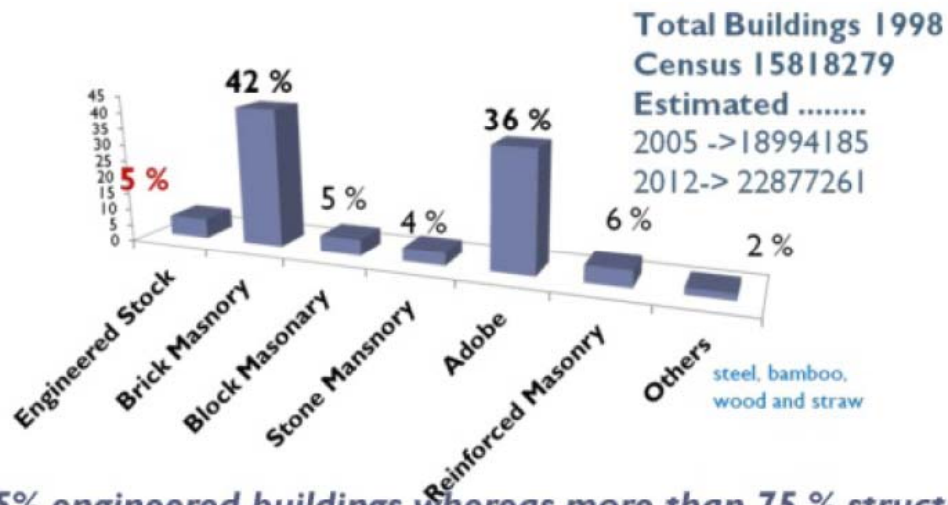
“Earthquakes do not kill people, it is the unsafe buildings which do”

- ▶ Highly fragile built environment when shaken by the M 7.6 EQ,
 - ▶ Devastated 30,000 square kilometers of the area.
 - ▶ Killed more than 73,000 people including 18,000 school children.
 - ▶ About 600,000 families were made homeless
 - ▶ Affecting livelihood and infrastructure in nine districts



Above: Aerial view of devastation caused by EQ 2005- Balakot City, KPK

Building Types in Pakistan



only 5% engineered buildings whereas more than 75 % structures of load bearing brick masonry and adobe.

Source: Built Env. Research Study , Prof Sarosh Lodi, NED University Karachi

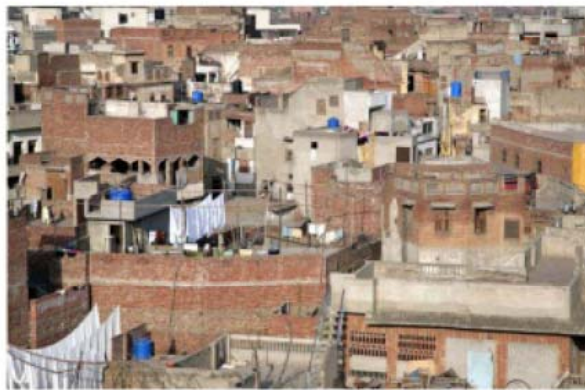
▶ 3

Built Environment- Current Scenario

▶ 5 % Engineered Building
Stock- Islamabad



▶ 42 % Brick Masonry-
Interior Lahore



▶ 4

Built Environment- Current Scenario

- ▶ 4 % Stone Masonry
Northern Area- AJK



- ▶ 36 % Adobe



▶ 5

Built Environment- Current Scenario

- ▶ 6 % reinforced Masonry



- ▶ 2 % Others



▶ 6

Reconstruction Target

- ▶ 600,000 houses
- ▶ 6298 educational facilities
- ▶ 796 health units
- ▶ 6440 km of road network
- ▶ 50-70 % of the infrastructure (telecom, power, water etc)
- ▶ **Challenge**
 - ▶ **Who & How**
 - ▶ **No Institutional Arrangement**
- ▶ **Response**
 - ▶ **Earthquake Reconstruction and Rehabilitation Authority” (ERRA) was constituted on 24th Oct 2005**

▶ 7

Sectoral Challenges

- ▶ **ERRA intervened in twelve different sectors grouped under four clusters:**
 - ▶ Direct Outreach to Households and Individuals,
 - **Rural Housing, Livelihood and Social Protection**
 - ▶ Social Services,
 - **Education Health, Water and Sanitation**
 - ▶ Public Infrastructure,
 - **Governance, Transport, Power and Telecommunication**
 - ▶ Cross Cutting Programmes
 - **Disaster Risk Reduction, Environmental Safeguards and Gender Equality**

▶ 8

Housing- Challenges

- ▶ **Unreliable Data Base** (No Updated Documentation Record Individuals & Land)
 - ▶ Legal Aid Centers
- ▶ **Bank Account for Cash Grant**
 - ▶ Special Arrangement for Banking System
- ▶ **Male Dominant Society**
 - ▶ Established Women Committees

▶ 9

Housing- Challenges

- ▶ **Relocation**
 - ▶ Individual- Comparatively Easier
 - ▶ Town- Alternate Site, Community resistance
- ▶ **Many fold increase in Construction Activity** - Aggregated Demand of Building Material and Trained Workers
 - ▶ **Construction Hub** in affected Districts
 - ▶ **Training** of Costruction Workers
- ▶ **Deforestation** - Tremendous pressure on Natural Resources

▶ 10

Housing- Challenges

- ▶ **Building Design/standards**
 - ▶ **Non-engineered Structures-** Developing Guidelines
 - ▶ **Dissemination** among self builders and contractors
 - ▶ **Seismic Buiding Code**

- ▶ **Monitoring & Evaluation**
 - ▶ **Field AI Teams** (Assistance and Inspection Teams)
 - ▶ **Grievances redress system** for house ownerships, land availability and relocation issues.

▶ 11

Housing (updates & Impacts)

- ▶ **Updates**
 - ▶ Progress so far 92 %
 - ▶ Over 250,000 trained human resources for seismically safe non-engineered construction.

- ▶ **Social Impact:**
 - ▶ Promotion of safer reconstruction methods and new technologies
 - ▶ Established Culture of Compliance
 - ▶ Enhanced level of confidence in reconstructed houses. During a survey in 2008; 88 %consider their new house safer.

▶ 12

Housing with Owner Driven Approach



▶ 13

Health

- ▶ **306 health facilities** (267 were pledged by donors but later 92 facilities were dropped)
- ▶ **Challenges:**
- ▶ **Integration** of Smaller Units into Primary Health Care Centre
- ▶ **Sustainability**

*First dialysis center
at AJ& K, Abbass
Institute of medical
sciences
Muzaffarabad*



▶ 14

Health

▶ Updates:

- ▶ 173 health completed, 86 are under construction and 47 are at designing/ tendering stage. Overall 84 % Progress.
- ▶ very few health facilities are fully operational, primarily due to the lack of government's capacity to maintain and manage.



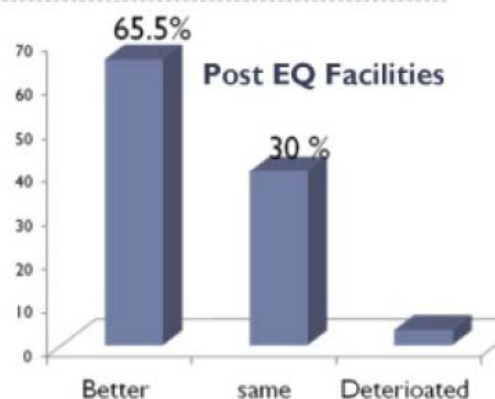
Instead of pre EQ smaller health unit an improved Rural Health Center with modern facilities of minor OT other diagnostic facilities was constructed at Chokothi-AJK

▶ 15

Health

Social Impact

- ▶ A great proportion of patients felt donor/ NGO provided health facilities are better than the facilities managed by the government.



2008 ERRR Social Impact Report 2008

▶ 16 medicine supply

Education

Challenges:

- ▶ Land availability was a big issue, many institutions were to be relocated for improved facilities.
- ▶ Government departments have serious capacity limitations



Instead of three to ten rooms
Pre-EQ facilities more than 20
rooms schools are built with all
allied facilities

Education

Updates

- ▶ 38 % completed whereas 36 % are near completion. (75%)
- ▶ Operation and maintenance of completed facilities is the basic challenge for concerned provincial and state government

Social Impact

- ▶ The new enrolment in primary schools has increased by 90 % as compared to pre-EQ enrolment.

Water Supply & Sanitation

Challenges

- ▶ The scattered water sources in the rugged terrain and inadequate supply system
- ▶ 4001 Water Supply Schemes (WSS) and 623 sanitation projects.



▶ 19

Water Supply & Sanitation

Updates

- ▶ 84% completed

Social Impact

- ▶ Installation of water supply schemes (WSS) within the proximity 75m radius compared to pre-earthquake situation, on average, a household resulted in saving one hour daily.
- ▶ Improved behavioural changes on hygiene and sanitation in the community.



▶ 20

Way Forward

- ▶ **Sustainability** of all the “build back better” facilities by improving capacities of line departments
- ▶ **Preparedness** for future disaster risks for optimum utilization of country’s scarce resources.
- ▶ **Integrating** disaster risk reduction into development. (e.g. B.C. implementation)
- ▶ **2010 and 2011 mega floods reconstruction** demands
 - ▶ Integration of lessons learnt by ERRRA
 - ▶ Measures to reduce carbon footprint & climate change adaptation strategy

▶ 21

Using the natural safeguards

- ▶ **Evacuation Route**
 - ▶ Pedestrian Access to DRM Park
 - ▶ 800 steps, with 5 rest area

