ADAPTIVE CONSTRUCTION TECHNOLOGIES FOR DRR AND ENERGY EFFICIENT HOUSING
Major Recent Earthquakes in Pakistan

<table>
<thead>
<tr>
<th>Area</th>
<th>Magnitude</th>
<th>Year</th>
<th>Deaths</th>
<th>Injured</th>
<th>Buildings damaged</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Pakistan</td>
<td>7.6</td>
<td>2005</td>
<td>73,300</td>
<td>128,474</td>
<td>600,000</td>
</tr>
<tr>
<td>Baluchistan</td>
<td>6.4</td>
<td>2008</td>
<td>169</td>
<td>170</td>
<td>9,881</td>
</tr>
</tbody>
</table>

- Massive destruction due to poorly constructed buildings
- How to build safe and low cost buildings
- Promotion of traditional earthquake-safe buildings
Out of 600,000 houses, 128,000 units were reconstructed with Dhajji technique.
Extreme Temperatures & Energy Crises.

- Buildings consume significant energy.
- Need for promotion of renewable energy options and energy conservation techniques in buildings.
Energy Efficient Buildings

• Natural day lighting, Solar energy used for lighting, heating & appliances
• Rainwater
• Harvesting
• 20% additional cost for energy efficiency.
• Advocacy for energy conservation in buildings
Opportunities

- Insulation material and solar panels
- Retrofitting knowledge and technology for earthquake and energy efficient buildings
Thank You