DR. QAISAR ALI, PHD, PE

Department of Civil Engineering

University of Engineering and Technology Peshawar

Peshawar, Pakistan

Phone: +92-91-9218569 Fax: +92-91-9218569 Mobile: +92-333-9194676
Email address: drqaisarali@uetpeshawar.edu.pk

EDUCATION

Ph.D. University of Engineering and Technology Peshawar **2004**

Department of Civil Engineering

Research topic: Seismic Performance Study of Brick Masonry Building System in Peshawar Region

M.S. University of Engineering and Technology Peshawar **2001**

Department of Civil Engineering

B.S. University of Engineering and Technology Peshawar (with honors) **1991**

Department of Civil Engineering

TEACHING EXPERTISE

Professor **2007 - Present**

University of Engineering and Technology Peshawar

Department of Civil Engineering

Associate Professor **2005 - 2007**

University of Engineering and Technology Peshawar

Department of Civil Engineering

Assistant Professor **1999 – 2005**

Lecturer **1993 – 1999**

RESEARCH WORK WITH INTERNATIONAL COLLABORATION

Evaluation of Response Modification Factor for Reinforced Concrete Frames in Pakistan. (2009-2014)

- Funded by Higher Education Commission (HEC)
- Project goals:
  - A survey of design practices of Reinforced Concrete construction in Pakistan
  - Experimental investigation of Code-compliant and non-compliant reinforced concrete structural members
  - Development of R-Factors for building Code of Pakistan (BCP-SP07)

Seismic Performance Evaluation of Stone Masonry Buildings of Himalayan Belt using Shake Table Tests. (2009-2012)

- Funded by HEC through BOASAR
- Project goals:
  - The main purpose of this research work was to study performance of existing construction of stone masonry in the Northern regions of Pakistan
  - Develop construction guidelines for an improved performance.

Seismic Performance Evaluation of Dhajji Dewari Construction using Quasi Static Cyclic and Shake Table Tests. (2009-2012)

- Funded by HEC through BOASAR, Rectors' Conference of the Swiss University of Applied Sciences (KFH), and Philip Morris International.
- Project goals:
  Performance assessment and development of design guidelines for Dhajji Dewari construction in the Northern regions of Pakistan.

Development of R-Factor and Indigenous Retrofit Techniques for Brick Masonry Building in Pakistan. (2014-Present)

- Funded by HEC through BOASAR
- Project goals:
  - Seismic performance improvement of masonry buildings through experimental investigation
  - Development of low cost and effective retrofit techniques for existing masonry buildings.

PHD and M.SC RESEARCH PROJECTS SUPERVISION

PhD Supervision

1. Evaluation of Response Modification Factors for Reinforced Concrete Frame structures in Pakistan. (2014)

List of M.Sc Research Projects Supervised.

1. Comparison of approximate analysis method (portal) with more refined FEA method (SAP2000) for static and dynamic lateral load procedures.
2. Profiling and zoning of geotechnical data using geographic information system.
3. Study on seismic performance assessment of Tarbela dam using stat of the art finite element techniques.
4. To check the suitability of Coarse Aggregate Sources Available in District Noshera for use in Ordinary Structural Concrete.
5. Engineering Assessment of Coarse Aggregates used in Peshawar.
6. Strengthening of existing columns using FRP warp.
7. Comparison of BCP, SP-2007 with IBC 2009 and NBC of India 2005, with regard to the resulting safety and economy from the design of a reinforced concrete building.
8. Study on seismic capacity enhancement of stone masonry buildings using horizontal timber land RC elements.
9. Comparison of Russian Structural Codes with IBC (US) Structural codes in terms of safety and economy for Afghanistan.
10. Seismic Resistance of Traditional buildings in Afghanistan.
11. Performance Evaluation of Dhajji Construction under Dynamic Loading.
12. Non-Liner static (Pushover) analysis timber frame construction (Dhajji) with masonry infill.
13. Study on evaluation the adhesive properties of various epoxies used for reinforcement anchoring and crack injection.
14. Mechanical properties of block masonry structural system.
15. Seismic performance evaluation of stone masonry structural system.
16. Non-Linear shear Damage Index studies of brick masonry using finite element modeling techniques.

17. Development of non-linear shear strength constitutive material
18. To study the compressive strength and modulus of electricity of brick masonry.
19. Study on shear modulus of un-reinforced brick masonry system.

LIST OF RESEARCH PAPERS/ARTICLES PUBLISHED IN NATIONAL AND INTERNATIONAL JOURNELS/ CONFERENCES

1. Naveed Ahmad, **Qaisar Ali** & et al., "Earthquake loss estimation of residential buildings in Pakistan" Natural Hazards (2014) 73:1889-1955.
2. **Qaisar Ali** & et al., "Seismic performance of stone masonry buildings used in the Himalayan belt" Earthquake Spectra, Vol. 29 (04) 2013 (USA)
3. Mohammed Javed, et al., & **Qaisar Ali**, "Experimental seismic performance evaluation of unreinforced brick masonry shear walls" Earthquake Spectra, 2013 (USA)
4. Naveed Ahmad, **Qaisar Ali** & et al., "Seismic vulnerability of the Himalayan half-dressed rubble stone masonry structures, experimental and analytical studies" Natural Hazards & Earth System Science, 12, 3441–3454, 2012, (Germany)
5. **Qaisar Ali**, Tom Schachar & et al., "In-plane behavior of full scale Dhajji-Dewari structural system (wooden braced frame with masonry infill)". Earthquake Spectra, Volume 28, No. 3, pages 835–858, August 2012 (USA).
6. Naveed Ahmad, **Qaisar Ali** & et al., "Simplified engineering tools for seismic analysis and design of traditional Dhajji-Dewari structures" Bulletin of Earthquake Engineering (2012) 10:1503–1534, 2012 (UK)
7. M. Ashraf, et al. & **Qaisar Ali**, "Seismic behavior of intact and retrofitted unreinforced and confined brick masonry walls before and after ferro cement overlay retrofitting" International Journal of Architectural Heritage, 6: 665–688, 2012 (USA).
8. T. Nakagawa, et al. & **Qaisar Ali**, "Collapse behavior of a brick masonry house using the shaking table and numerical simulation by extended distinct element method", Bulletin of Earthquake Engineering (2012) 10:269–283 (UK).
9. Amjad Naseer, at al. & **Qaisar Ali**, "Observed seismic behavior of buildings in northern Pakistan during Kashmir earthquake", Earthquake Spectra, Vol. 26, 425-449, 2010 (USA).
10. Tatsuo Narafu, et al. & **Qaisar Ali**, "A proposal for a comprehensive approach to safer

non-engineered houses", Journal of Asian Architecture and Building Engineering, Vol. 9, No. 2, 315-322, 2010 (Japan and South Korea).

11. Ahmad, N., at al. & **Qaisar Ali.**, "Displacement-based earthquake loss assessment of masonry buildings in Mansehra city, Pakistan", Journal of Earthquake Engineering, Vol. 14 (SI), 1-37, 2010 (USA).
12. M. Ashraf, et al. & **Qaisar Ali**, "Physico-chemical, morphological and thermal analysis for the combined pozzolonic activities of minerals additives", Construction and Building Material, Vol. 23, 2207–2213, 2009 (UK).
13. M. Riaz, at al. & **Qaisar Ali**, "Pakistani Bentonite use in Mortars & Concrete as Low Cost Construction Material", Applied Clay Sciences, Volume 45, Issue 4, 220-226, 2009 (Germany).
14. Amjad Naseer, et al. & **Qaisar Ali**, "Performance of Pakistani volcanic ashes in mortars and concrete", Canadian Journal of Civil Engineering, Vol. 35, 1435-1445, 2008 (Canada).
15. **Qaisar Ali** & at al., "Seismic resistance evaluation of unreinforced masonry buildings", Journal of Earthquake Engineering, Volume 11, No. 2, 133-146, 2007 (USA).
16. **Qaisar Ali** at al. &, "A critical review of seismic hazard zoning for Peshawar and adjoining areas", Journal of Earthquake Engineering, Vol. 9, No. 5, 587-607, 2007 (USA).
17. **Qaisar Ali**, Akhtar Naeem Khan, Naveed Ahmad and Bashir Alam, [2012] "In-situ dynamic testing of masonry structure by means of underground explosions simulating earthquake motions, a unique case study", International Journal of Earth Sciences and Engineering. ISSN 0974-5904, Volume 05, No. 05 (USA).
18. **Qaisar Ali**, Yasir Irfan Badrashi, Naveed Ahmad & et al., [2012] "Experimental investigation on the characterization of solid clay brick masonry for lateral shear strength evaluation", International Journal of Earth Sciences and Engineering. ISSN 0974-5904, Volume 05, No. 04 (USA).
19. Naveed Ahmad, **Qaisar Ali**, Mohammad Ashraf and et al., [2012] "Seismic performance evaluation of reinforced plaster retrofitting technique for low-rise block masonry structures", International Journal of Earth Sciences and Engineering. ISSN 0974-5904, Volume 05, No. 02 (USA).

20. Naveed Ahmad, **Qaisar Ali** and Muhammad Umar. [2013] "Seismic vulnerability assessment of multistory timber braced frame traditional masonry structures", Advanced Materials Research Vol. 601 (2013) pp 168-172© Trans Tech Publications, (Switzerland)
21. Ahmad, N., **Ali, Q.,** Ashraf, M., Naeem Khan, A., Alam, B. [2012] "Performance assessment of low–rise confined masonry structures for earthquake induced ground motions", International Journal of Civil and Structural Engineering. Volume 2, No 3.
22. Syed Abid Ali Shah, M.K.R. Kayani. and **Qaisar Ali** [2000] "Analysis of concrete masonry beams", j. eng. & appl. sci. vol. 19 No.2.
23. **Qaisar Ali** and Akhtar Naeem Khan [2000] "Effect of maximum size of aggregate and its gradation on the shear capacity of R.C beams without web reinforcement", j. eng. & appl. sci. vol. 19 No.2.
24. Syed Abid Ali Sllah, M.K.R, Kayani and **Qaisar Ali** [2000] "Load transfer from high strength concrete columns through ordinary strength concrete slabs", j. eng. & appl. sci. vol. 19 No.1.
25. Mohammad Javed and **Qaisar Ali** [2000] "Shear capacity of reinforced concrete beams without web reinforcement", j. eng. & appl. sci. vol. 19 No.1.
26. **Qaisar Ali**, Mohammad Javed, and Irshad Ahmad [2000] "Simplified equation for estimating the shear capacity of reinforced concrete beams without web reinforcement", j. eng. & appl. sci. vol. 19 No.2.
27. **Qaisar Ali** [2000] "The '3rp' computer program for the solution of the three reservoir problem in hydraulics", j. eng. & appl. sci. vol. 19 No.1.
28. Akhtar Naeem Khan, Attaullah Shah and **Qaisar Ali** [2001] "Use of fly ash as cementitious material in concrete", j. eng. & appl. sci. vol. 19 No.1.
29. **Qaisar AIi**, Qaisar Hayat [2001] "Slab analysis and design software based on ACI code", j. eng. & appl. sci. vol. 19 No.1.
30. **Qaisar Ali**, Akhtar Naeem, and Siddique Akbar [2001] "Simulated earthquake vibration tests on brick masonry model through contained underground explosions", j. eng. & appl. sci. vol. 19 No.2.
31. Bashir Alam, Mohammad Javed, **Qaisar Ali** & et al., [2012] "Mechanical properties of no-fines bloated slate aggregate concrete for construction application, experimental study", International Journal of Civil and Structural Engineering. Vol.3, No. 2.

32. Naveed Ahmad, **Qaisar Ali**, Mohammad Ashraf & et al., [2011] " Seismic structural design codes evaluation in Pakistan and critical investigation of masonry structures for seismic design recommendations", International Journal of Engineering and Technology. Vol. 1, Issue.1 (2011)42-85.
33. Mohammad Ashraf , Akhtar Naeem Khan , **Qaisar Ali** & et al., [2011] "Experimental behavior of full scale urm building retrofitted with ferro cement overlay", Advanced Materials Research Vols. 255-260 pp 319-323© (2011) Trans Tech Publications, Switzerland.
34. Ahmad. N., **Ali. Q**., Ashraf. M., Naeem Khan. A., Alam. B. [2012] "Performance assessment of low–rise confined masonry structures for earthquake induced ground motions", International Journal of Civil and Structural Engineering. Volume 2, No. 3.
35. Muhammad Ayub, **Qaisar Ali** & et al., [2013] "Conservation of Islamia College Building in Pakistan", Procedia Engineering 54 (2013) 465 – 471. The 2nd International Conference on Rehabilitation and Maintenance in Civil Engineering.
36. Naveed Ahmad, **Qaisar Ali**, Helen Crowley and Rui Pinho [2012] "Earthquake loss estimation of structures in Pakistan", 9th International Conference on Urban Earthquake Engineering/ 4th Asia Conference on Earthquake Engineering March 6-8, 2012, Tokyo Institute of Technology, Tokyo, Japan.
37. Ahmad, N., Crowley, H., Pinho, R., **Ali, Q.**, [2011] "Displacement-based earthquake loss assessment of adobe buildings in Pakistan", ISEC-6, Proceedings of the International Structural Engineering and Construction Society, Zurich, Switzerland. Paper no. S2_S54.
38. Ahmad, N., Crowley, H., Pinho, R., **Ali, Q.**, [2011] "Frame-elements constitutive law for nonlinear static and dynamic analyses of masonry buildings", ISEC-6, Proceedings of the International Structural Engineering and Construction Society, Zurich, Switzerland. Paper no. S2_S63.
39. Ahmad, N., **Ali, Q.**, Crowley, H., Pinho, R., [2011] "Displacement-based seismic performance evaluation of Dhajji structural systems", 11NAMC, Proceedings of the Masonry Society, Minnesota, USA. Paper no. 89
40. Ahmad, N., Crowley, H., Pinho, R., **Ali, Q.**, Aziz, S., [2011] "Development of fast building seismic screening (FBSS) method", ICEESNUST, Proceedings of the International Conference on Earthquake Engineering and Seismology, Islamabad, Pakistan, Paper no.13

41. Ahmad, N., Crowley, H., Pinho, R., **Ali, Q.**, Aziz, S., [2011] "Development of displacement-based method for seismic risk assessment of rc building stock of Pakistan", ICEESNUST, Proceedings of the International Conference on Earthquake Engineering and Seismology, Islamabad, Pakistan, Paper no. 11
42. Ahmad, N., Crowley, H., Pinho, R., **Ali, Q.**, [2010] "Simplified formulae for the displacement capacity, energy dissipation, and characteristic vibration period of brick masonry buildings", 8IMC-Dresden Germany, Proceedings of the International Masonry Society 11(2), 1385-1394.
43. Ahmad, N., Crowley, H., Pinho, R., **Ali, Q.**, [2010] "Derivation of displacement-based fragility functions for masonry buildings", 14ECEE, Proceedings of the European Conference on Earthquake Engineering, Ohrid, Macedonia. Paper no. 327 CD-ROM (SGAC awarded by Swiss Society for Earthquake Engineering and Structural Dynamics).
44. Ahmad, N., **Ali, Q**., Crowley, H., Pinho, R., [2010] "Displacement-based seismic risk assessment of stone masonry buildings of Pakistan", ACEE-2010, Proceedings of the Asian Conference on Earthquake Engineering, Bangkok, Thailand, Paper id. ACEE-P-101.
45. **Qaisar Ali** et al., [2010] "In-Plane behavior of full scale Dhajji walls under quasi-static loading", 9th US & 10th Canadian Conference on Earthquake Engineering, 24-27.
46. **Qaisar Ali** et al. [2010] "Shake table test on typical stone masonry buildings in the Himalaya range", 9th US & 10th Canadian Conference on Earthquake Engineering, 24-27.
47. M. Ashraf, **Qaisar Ali** et al., [2010] "Experimental study on the performance of brick masonry piers of before & after retrofitting with reinforced plaster", 9th US & 10th Canadian Conference on Earthquake Engineering, 24-27.
48. Tom Schachar, **Qaisar Ali** & M. Stephenson, [2010] "Mainstreaming of traditional earthquake resistant building methods: The Example of the Dhajji Method in the Post Earthquake Reconstruction Process in Pakistan", International Conference on Technologies for Development, Lausanne, Switzerland.
49. **Qaisar Ali,** [2008] "Ensuring school safety using local material and skills in the Himalaya region", International conference on schools safety, 14-16 May 2008 Islamabad, Pakistan.
50. T. Nakagawa, et al., & **Qaisar Ali**, [2008] "Shaking table test of model house of brick masonry for seismic construction", 14th World Conference on Earthquake Engineering, October 2008, Beijing, China.

51. C. Minowa, et al., & **Qaisar Ali**, [2008] “Collapse behavior test of a masonry using shaking table”, AZORES 1998, International seminar on seismic risk and rehabilitation of stone masonry housing July 2008 Azores, Portugal.
52. **Qaisar Ali**, [2007] "Seismic Disaster Mitigation through safe housing", National conference on Seismic Disaster Management by Institute of Engineers Pakistan, UET Peshawar April 2007.
53. **Qaisar Ali,** [2005] "Performance of engineered and non-engineered structures during the October 8, 2005 Earthquake", 8th Conference on Earthquake Engineering, San Francisco, USA, April 2006.
54. **Qaisar Ali**, [2005] "Seismic Disaster Mitigation in Pakistan", International Conference on Earthquake Rehabilitation in Pakistan, Nov 18-19 2005, Islamabad.
55. Ahmad, N., Crowley, H., Pinho, R., **Ali, Q.**, [2010] "Capacity curves for unreinforced fired brick masonry buildings of Pakistan-UFB5", WHE Pager Project: Development of Analytical Seismic Vulnerability Functions, Analytical Data Part III, EERI, Oakland USA.
56. **Qaisar Ali**, [2009] “Confined Masonry in Pakistan”, International video conference on Confined Masonry, Tokyo, Japan March 23, 2009.
57. Ahmad, N., **Ali, Q.**, [2008] "Site-specific probabilistic seismic hazard analysis of Mansehra urban area", Technical Report, Earthquake Engineering Center, NWFP University of Engineering and Technology Peshawar, Pakistan.
58. **Qaisar Ali**, [2008] “Finite Element Analysis of an URM model structure”, Building Research Institute Kskuba, Japan, Jan 2008.
59. **Qaisar Ali**, [2008] "Case study of Pakistan Housing Reconstruction”, Building Research Institute Kskuba, Japan, Jan 2008.
60. **Qaisar Ali,** "The software Strong Motion Analyzer", China Seismological Bureau Beijing China.
61. **Qaisar Ali**, [2008] “Finite Element Analysis of an URM model structure”, Tokyo International Workshop on Earthquake Disaster Mitigation for Safer Housing Tokyo, 23 Jan 2008.
62. **Qaisar Ali,** [2007] "Seismic Risk Reduction Approaches", International Disaster Risk Management Course, Nov 12-22, 2007 Islamabad.
63. **Qaisar Ali**, [2007] "Case study of Pakistan Housing Reconstruction”, Rose School, European Centre for Training & Research in Earthquake Engineering, Pavia, Italy June

2007, http://roseschool.it.

64. **Qaisar Ali,** [2007] "Shaking table testing and Finite Element Analysis techniques applied to Masonry structures", International Video Conference Tokyo Japan, July 2007.

65. **Qaisar Ali**, [2007] "Earthquake Safe Housing", National Video Conference", UET Peshawar, May 2007

66. **Qaisar Ali** and Akhtar Naeem et al., [2006] "Learning from Earthquakes: First Report on the Kashmir Earthquake of October 8, 2006", Earthquake Engineering Research Institute, EERI, USA, www.eeri.org, Feb 2006.

67. **Qaisar Ali**, Mazhar Ali and Akhtar Naeem, [2006] "Uniaxial compression study of the brick masonry work used in Pakistan", Tokyo International workshop on Earthquake Disaster Mitigation for Safer Housing, November 22 2006, Tokyo.

68. **Qaisar Ali** and Akhtar Naeem, [2006] "Shear Damage Studies of Brick Masonry Structures, Experimental and Numerical Observations", Tokyo International workshop on Earthquake Disaster Mitigation for Safer Housing", (Plenary session), November 23 2006, Tokyo.

69. **Qaisar Ali**, [2006] "Seismic Risk Reduction for Education Institutions", British Council Conference, British Council, Peshawar, Jan 2006.

70. **Qaisar Ali**, [2006] "Building Code for Pakistan", Capital Development Authority, Islamabad, Aug 2006.

71. **Qaisar Ali,** [2006] "Case Study of Pakistan Earthquake Housing Reconstruction", Aseismic Building Technology Acceptable to Communities", 17th November 2006 at JICA Hyogo Office 2nd floor a pre-workshop event of Tokyo International Workshop 2006 on Earthquake Disaster Mitigation for Safer Housing organized by Building Research Institute (BRI) and United Nations Centre for Regional Development (UNCRD, Nov 2006).

72. **Qaisar Ali** and Taj Mohammad, [2006] "Stone masonry residential buildings", World Housing Encyclopedia, Earthquake Engineering Research Institute, EERI, USA, www.eeri.org.

73. **Qaisar Ali** and Akhtar Naeem et. al, [2005] "Reconnaissance Report on the 8th October 2005 Earthquake", Earthquake Engineering Research Institute, EERI, USA, www.eeri.org, Nov 2005.

74. **Qaisar Ali,** [2005] "Unreinforced brick masonry residential buildings", World Housing Encyclopedia, Earthquake Engineering Research Institute, EERI, USA, www.eeri.org, Oct 2005.

75. **Qaisar Ali**, [2005] "Revisions of Pakistan building codes and housing for the earthquake victims", International Housing Conference Lahore, Pakistan Engineering Council, Dec 2005 Lahore, Pakistan.

76. **Qaisar Ali**, [2005] "Uncertainties in Seismology and Earthquake Engineering - an unexpected seismic disaster in Pakistan", Rose School, European Centre for Training & Research in Earthquake Engineering, Pavia, Italy Oct 2005, http://roseschool.it.

CONSULTANCY PROJECTS COMPLETED

Project Name: Third party Quality Control validation and Retrofitting of 100 Schools in AJK
Client: World Bank through P & D Department of AJK
Type of Work: The work and then recommend and execute remedial measures where required.

Project Name: Structural Assessment and Retrofitting of Supreme and High Courts AJK.
Client: China Government through ERRA
Type of Work: The work includes assessment, retrofitting and design of Supreme and High Courts Buildings AJK

Project Name: Structural Assessment and Retrofitting of Commerce College Mansehra
Client: ERRA
Type of Work: The work includes assessment, retrofitting and design of college buildings.

Project Name: Reconstruction and Retrofitting of 100 Public Schools and Basic Health Units in Mansehra and Battagram Districts.
Client: Swiss Agency for Development and Cooperation
Type of Work: Project Management and design Consultant for construction of 100 schools at Districts Battagram and Mansehra, in Earthquake Effected Areas.

Project Name: Structural Designs of more than 100 buildings for works and services department KPK.
Client: Works and Services District KPK
Type of Work: Structural Designs with emphasis on earthquake resistant design of structures.

Project Name: Up-gradation and Reconstruction of Pakistan Forest Institute at Shinkiari, Mansehra.
Client: Pakistan Forest Institute
Type of Work: Architectural/Structural designs, Topographic Survey, Geotechnical Assessment

Project Name: Architectural / Structural designs of Gymnasium, Auditorium and Academic Block at Gomal University D.I.Khan, and University of Peshawar.
Client: Gomal University DI Khan
Type of Work: Architectural/Structural designs.

Project Name: Modular Design for Basic Health Units, Rural Health Center, Primary Secondary, Higher Secondary Schools and Residential Units.
Client: Govt. of KPK
Type of Work: Development of Interim Seismic Building Code and other relevant documents.

Project Name: Post-earthquake damage assessment (and Retrofitting if required) of buildings in earthquake affected areas of KPK, including Ayub Medical Complex Abbottabad, Abbottabad Public School, Post-Graduate College Swat, District Jail Sawabi and District Hospital Mansehra.
Client: Govt. of KPK
Type of Work: Damage Assessment

Project Name: Karachi Port Tower
Client: Karachi Port Tower
Type of work: Seismic hazard assessment

Project Name: Emporium Islamabad
Client: SaifCo Construction
Type of work: Structural analysis and design

Project Name: Silk Executive apartments, Peshawar
Client: SaifCo Construction
Type of work: Structural analysis and design

Project Name: North-West Hospital Complex, Peshawar
Client: Raees Faheem Associates
Type of work: Structural design vetting

Project Name: Archeological Museum, Swat
Client: Archeology, Community, Tourism (ACT)
Type of work: Structural health assessment

Project Name: Provincial assembly building, Peshawar
Client: Government of KP
Type of work: Structural health assessment

Project Name: Retrofit of Governor House Darbaar, Peshawar

Client: Government of KP

Project Name: Retrofitting of brick masonry schools in Bam, Iran
Client: Japan International cooperation Agency

Project Name: Verification of Ferro-cement overlay technique for the retrofit of brick masonry in Nepal
Client: Japan International cooperation Agency

Project Name: Structural design vetting of steel trusses for 100 schools in AJK
Client: USAID

SOFTWARE DEVELOPMENT

The main algorithm of the following software has been developed by Dr. Qaisar Ali.

- **SAD**: Slab analysis and design software based on ACI Code
- **3RP:**Software for solution of three reservoir problem in hydraulics
- **SMA**: Strong Motion Analysis, software for earthquake data analysis
- **SDA**: Shear Damage Index, software for shear damage studies in masonry structures