

MATRIX OF DISASTER PROJECT FEATURES

| Areas of comparative analysis | Gujarat (India) earthquake (2001) | Sri Lanka earthquake / tsunami (2004) | Indonesia (Aceh and Nias) earthquake / tsunami (2004) | Katrina (USA) hurricane (2005) | Pakistan earthquake (2005) |
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| 1. Scale of disaster | 25,000 people dead and 200,000 injured, 600,000 displaced or homeless and 348,000 houses destroyed and 844,000 damaged as per initial survey. ¹ | 35,322 people dead and 21,441 injured, 500,000 displaced and 114,069 houses damaged or destroyed. | 167,900 people dead or missing, 513,500 displaced and 113,500 houses damaged or destroyed as per initial survey. | 1,836 dead and 705 missing, 0.6 Million displaced and 70,000 houses damaged or destroyed as per initial survey. | 73,338 people dead and 128,304 injured 3.5 million people homeless, 462,363 houses destroyed and 109,956 damaged. |
| 2. Reconstruction strategy | 80% owner driven reconstruction program and 20% public-private partnerships (NGO's) driven program. | As of November 2006, policy change leading to 73% owner driven reconstruction program and 27% donors or NGO-driven program. | 100% donor and NGO driven program. | 100% Government sponsored contractor driven program. | 100% owner driven reconstruction program. |
| 3. Government financial assistance | Not a uniform package, leading to equity issues. Assistance disbursed in 3 tranches. Compensation ranged from INR 5,000 to 90,000 (US\$126 to 2277). | Uniform assistance package. Assistance of LKR 100,000 (US\$880) disbursed in 2 tranches for partially damaged houses and LKR 250,000 (US\$2,200) disbursed in 4 tranches for destroyed houses. | Uniform assistance package. Assistance of IDR 20 Million (US\$2,000) for repairable (damaged) house and IDR 42 Million (US\$4,200) for full construction of house (destroyed) | Not a uniform package. Assistance based on actual value of house and insurance cover. Assistance of up to US\$150,000 available for homeowner. | Uniform assistance package. Assistance of PKR. 75,000 (US\$1,250) for partially damaged house disbursed in 2 tranches and assistance of PKR 175,000 (US\$2,917) for fully destroyed house disbursed in 4 tranches. |
| 4. Government technical assistance and training | Government providing technical assistance through formal training program under which 29,000 masons and 6,200 engineers trained. Additional training through donor technical assistance packages taking place. GSDMA initiated mason training in collaboration with Gujarat Council of Vocational Training. 450 masons certified under the program as of October 2006. | Government providing technical assistance and advice but no formal training program exists. | Done by government through employing services of supervision consultants who are trained on new building codes and disseminate this information amongst beneficiaries. Provided beneficiaries with construction checklist and trained community members on how to identify faults. A technical field officer visited sites for technical assistance. NGOs conducted their own trainings and workshops of employed contractors for compliance with building codes. | US government through Pathway Construction Initiative provided \$5.0 million to Mississippi and Louisiana to assist workers to enter the construction industry, while assisting critical rebuilding efforts in those states. In each state, Reconstruction Centers of Excellence were established to provide workforce services for the construction industry. FEMA inspected an estimated 1.9 Million homes. HUD worked with Home Depot to conduct workshops for affected homeowners on hurricane preparedness and repair of houses and distributed "Tech Sets" on storm resistant roofing and wind resistant openings. HUD Field Offices were established to coordinate all HUD technical assistance requests from local elected officials. | The Government is providing technical assistance through launch of over 600 Army-led Assistance and Inspection (AI) teams as well as through establishment of 12 Housing Reconstruction Centers (HRCs) and engagement of services of over 26 NGO's. As of October 2006, over 834,324 people had received trained in seismic resistance building techniques as well as general awareness training. |

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| 5. Government material facilitation | Government provided material facilitation through 1,082 Materials Banks opened through which subsidized steel and cement as well as excise duty and sales tax exemption for building materials in certain areas such as Kutch. | No formal material facilitation mechanisms rather interventions as and when required by District Secretaries. | BRR hired a technical advisor to assist in addressing the added stress of reconstruction on the supply chain and negate its impacts. This project was launched in 2006 to deal with the housing logistics challenge. WFP shipping service for carriage of construction materials launched at the request of BRR and UNORC in 2005. | No formal material facilitation mechanisms in place. | Government analyzed projected construction material requirements and formulated strategy for establishing a building materials supply chain. Consultations with the construction industry and transporters to establish benchmark prices. One hundred thirty two construction material hubs were established in the affected areas where materials were available at published rates. |
| 6. Disbursement progress | As of first quarter of 2006 disbursements are calculated at INR 37.54 Billion (US\$950 Million) | As of October 2006, housing disbursements stood at US\$98.15 Million. | As of October 2006, housing disbursements stood at US\$557 Million. | US\$113 Million in housing assistance disbursed by US Department of Housing and Urban Development (HUD) in collaboration with Federal Emergency Management Agency (FEMA) as of October 2006. | ERRA had disbursed over PKR 48 Billion (US\$800 Million) as of October 2006. |
| 7. Reconstruction progress | 911,000 damaged houses repaired and over 201,000 houses reconstructed as of first quarter of 2006. In 5 years almost 58% of the destroyed houses have been reconstructed. | 61,019 houses reconstructed after lapse of 3 years out of 114,069 houses and 47,995 are in progress out of total of 114,069 houses. So 53% of houses have been completed while 42% of houses are under construction and 5% houses are yet to be reconstructed. | 90,861 houses reconstructed after lapse of 3 years out of 113,500 houses. Overall reconstruction progress is 80%. | As of October 2006, 2,000 damaged housing units repaired and leased while 20,000 new housing units leased to affected families. Reconstruction and rehabilitation progress is approximately 28%. | As of October 2006, 208,292 houses had been reconstructed including 99,247 destroyed houses and 109,045 damaged houses. Houses are reconstructed as per seismic standards. 349,000 houses are in reconstruction in. After first full year of reconstruction over 39% of the housing stock damaged or destroyed in earthquake has been reconstructed. |
| 8. Ensuring compliance and building quality / standards | Multi-hazard resistant construction ensured through payment of installments after engineer's certification. Third party quality audit by National Council for Cement and Building Materials (NCCBM). | Construction as per minimum accepted standards ensured through direct donor / NGO assistance. Third party technical quality audits conducted in most divisions. | Third Party monitoring and evaluation through UN-HABITAT to look at performance of housing program with respect to official building codes issued by the Indonesian government. | Construction as per building codes ensured through respective local governments of affected areas. | Housing grant is released after inspections and certification by AI Teams that the house is built as per seismically resistant standards. Compliance monitoring teams and third party technical audits were used. |



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| 9. Communications strategy | Many general campaigns on safety and hazard risk awareness launched used electronic and print media and events such as festivals. However no housing specific campaign launched. | Program has suffered due to absence of a clear communications strategy and media relations strategy. | No strategic level communications rather field level interventions by BRR such as community outreach programs. | NGO's such as The Center for Faith Based and Community Initiatives (CFBCI) developed and implemented a communication strategy including the production and distribution of <i>Hurricane Toolkit: Recovery After the Storm</i> , an informational guide to federal and local resources available to hurricane victims, and the organizations serving them. To date, over 50,000 hard copies have been distributed, and the publication has been posted on HUD's Web site. HUD sponsored workshops and summits to advise local governments, non-profits, and community groups of programs and assistance available from HUD. | A comprehensive communications strategy and a public information campaign were launched. Print, electronic media, TV, and radio were used and over 600,000 posters and pamphlets distributed. Press briefings and regular media visits to the affected areas were arranged. NGO's partnered with ERRA formulated and launched information programs during which adapted materials were disseminated and information kiosks were established at the Housing Reconstruction Centers (HRCs). |
| 10. Grievance redressal mechanism | Grievance redressal through normal legal procedure of courts and ombudsman. | Formal grievance redressal mechanism absent, only normal legal channels available. | Informal grievance redressal mechanism. | 135 FEMA Disaster Recovery Centers (DRCs) and local one-stop centers were established to facilitate assistance to the public during the recovery efforts. Staff gave on-site referrals of individuals and families to specific assistance sources and acted as a liaison with state and local partners to ensure effective service delivery and minimize grievances. | ERRA established ten Data Resource Centers (DRCs) in affected areas to handle grievances and to facilitate payments. The DRCs acted as information centers for other problems. State and Province level Reconstruction Agencies were focal points for grievances related to incorrect bank account information. The respective Battalion Commanders of the Army in AJK and NWFP were the focal points for grievances related to surveys and inspections as well as requests for "Category Change". |
| 11. Monitoring and evaluation (M&E) and data management | No formal M&E structure in GSDMA exists, however monitoring procedures established through Technical Assistance and housing beneficiary database established. | The Government's Development Assistance Database (DAD) monitored recovery and reconstruction operations. Shortcomings of the DAD were that it depended on regular inputs by donors and there are no established mechanisms to verify district level information. | M&E system established through UN-HABITAT assistance. Information management a challenge. Gender-disaggregated data not available. | Formal M&E at FEMA as well as local governments and housing authorities. All individual agencies have own databases which in many cases have restricted access. | M&E wing established at ERRA. Housing beneficiary database established at NADRA with disbursement database accessible to all on ERRA Web site. Reporting, M&E system for housing developed with UN-HABITAT assistance as well as Training Monitoring Information System (TMIS). Gender disaggregated data available. |

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| 12. Risk transfer mechanisms | Insurance to 14 types of hazards for 10 years at premium of INR 367 (US\$9.2) deducted by the State from the last housing assistance installment. | Limited individual housing insurance policies. | Limited individual housing insurance policies. | FEMA's National Flood Insurance Program (NFIP) provided funds to policyholders affected by Hurricane Katrina to help them rebuild or relocate. Virtually all claims closed by October 2006. NFIP claims represent more than \$16.1 billion in payments to more than 205,000 policyholders, more than all other claims combined since NFIP inception in 1968. | No concept of housing insurance in the affected areas. |
| 13. Ensuring transparency | Direct payments into bank accounts for which 660,000 accounts opened. Financial audits conducted. | Direct payments into bank accounts through two State Banks, Peoples Bank and Bank of Ceylon. Third Party beneficiary eligibility and financial audits conducted. | Establishment of an anti corruption unit within BRR and launch of programs such as PQAM, Procurement, Quality Assurance and Monitoring as well as introduction of a staff integrity pact at BRR voluntarily monitored by Transparency International (Indonesia). | The Office of Inspector General (OIG) developed and participated in a fraud prevention program to educate state agencies, and federal, State, and local law enforcement to identify fraud in HUD grant programs and other support programs. OIG established division to combat waste, fraud, and abuse in the Gulf Coast States. The Hurricane Recovery Audit Oversight Division audited disaster funding, worked with the HUD Office of Investigations, and other federal and state law enforcement agencies. | Direct payments into bank accounts for which 660,000 accounts opened. internal audits as well as external audits through Auditor General of Pakistan's Office conducted. All disbursement data available on ERRA Web site. |
| 14. Program implementation challenges | Temporary shelters became permanent, disbursement delays, owner and tenant issues, and equity issues. | Equity issues, relocation issues, weak communications strategy, land availability, environmental issues, and providing land titles. | Land tenure and ownership, damaged land and relocation, construction material costs, declining donor commitments, and land and spatial planning | High construction material costs, high labor costs, lengthy application procedure, and lengthy processing times. | Further increasing compliance, focusing on no work started cases, owner tenant issue, hazardous land issue, and scarcity of labor. |

Source of table: Pakistan, Earthquake Recovery and Reconstruction Agency (ERRA), October 2007 (modified).

Endnote: 1. Initial survey figures changed as grievance cases were resolved through subsequent resurveys.

Sources for table:

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