

MATRIX: Global Post-Disaster Housing Reconstruction Comparative Analysis

Areas of Comparative Analysis	Gujrat (India) Earthquake (2001)	Sri Lanka Earthquake / Tsunami (2004)	Indonesia (Aceh & Nias) Earthquake / Tsunami (2004)	Katrina (USA) Hurricane (2005)	Pakistan Earthquake (2005)
1. Scale of Disaster	25,000 people dead and 200,000 injured, 600,000 displaced / 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 / destroyed.	167,900 people dead or missing, 513,500 displaced and 113,500 houses damaged / destroyed as per initial survey.	1,836 dead and 705 missing, 0.6 Million displaced and 70,000 houses damaged / 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 & 20 % public private partnerships (NGO's) driven program.	As of Nov. 2006 policy change leading to 73 % owner driven reconstruction program and 27 % donors / NGOs 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 ranging from INR 5,000 to 90,000 (USD 126 to 2277).	Uniform assistance package. Assistance of LKR 100,000 (USD 880) disbursed in 2 tranches for partially damaged houses and LKR 250,000 (USD 2200) disbursed in 4 tranches for fully damaged (destroyed) houses.	Uniform assistance package. Assistance of IDR 20 Million (USD 2000) for repairable (damaged) house and IDR 42 Million (USD 4200) for full construction of house (destroyed)	Not a uniform package. Assistance based on actual value of house and insurance cover. Assistance of up to USD 150,000 available for homeowner.	Uniform assistance package. Assistance of PKR. 75,000 (USD 1250) for partially damaged house disbursed in 2 tranches and assistance of PKR 175,000 (USD 2917) for fully destroyed house disbursed in 4 tranches.
4. Government Technical Assistance & Training	Government providing technical assistance through formal training program under which 29,000 masons and 6,200 engineers trained. Additional trainings through donor technical assistance packages also taking place.	Government providing technical assistance / advice but no formal training program exists.	Technical assistance and training done by government through employing services of supervision consultants who are trained on new building codes and disseminate this information amongst beneficiaries. They also provide beneficiaries with construction checklist and train community members	The US Federal Government through Pathway Construction Initiative provided \$5 million each to Mississippi and Louisiana to assist 7,700 workers enter the construction industry, while also assisting critical rebuilding efforts in those states. In each state, Reconstruction Centers of Excellence are also being established to	The Government is providing Technical Assistance through launch of over 600 Army led Assistance and Inspection Teams (AI) as well as through establishment of 12 Housing Reconstruction Centers and engagement of services of over 26 NGO's. Till date over 834,324 people have received

¹ Initial survey figures variably change as grievance cases are resolved through subsequent resurveys

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			<p>on how to identify faults. A technical field officer also visits sites for technical assistance. In addition NGOs also conduct their own trainings and workshops of employed contractors for compliance of building codes. GSDMA also recently initiated mason training in collaboration with Gujarat Council of Vocational Training. So far 450 masons certified under the program.</p>	<p>provide a wide range of workforce services for the construction industry. FEMA also carried out an estimated 1.9 Million inspections to assist homeowners in the affected States. HUD worked with Home Depot to conduct workshops for affected homeowners on hurricane preparedness and repair of houses through distribution of "Tech Sets" on storm resistant roofing and wind resistant openings. HUD Field Offices were also established with a staff presence to coordinate all HUD technical assistance requests by local elected officials from the nearby areas.</p>	<p>training in seismic resistance building techniques as well as general awareness training.</p>
5. Government Material Facilitation	<p>Government providing material facilitation through 1,082 Materials Banks opened through which subsidized steel and cement as well as excise duty / sales tax exemption for building materials in certain areas such as Kutch.</p>	<p>No formal material facilitation mechanisms rather interventions as and when required by District Secretaries.</p>	<p>BRR hired a technical advisor to assist in addressing the added stress of reconstruction on the supply chain and negate its impacts. This study / project was launched in 2006 to particularly deal with the Housing logistics challenge. WFP shipping service for carriage of construction materials also launched at the request of BRR</p>	<p>No formal material facilitation mechanisms in place.</p>	<p>The Government carried out a detailed analysis of the projected construction material requirements immediately after the disaster and formulated a strategy for establishing a building materials supply chain. Consultations with the construction industry and transporters were also held where benchmark prices were</p>

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			and UNORC in 2005.		mutually agreed. Under the strategy 132 construction material hubs were also established in the affected areas where high quality materials are available at published rates.
6. Disbursement Progress	As of 1 st quarter of 2006 disbursements are calculated at INR 37.54 Billion (USD 950 Million) ²	As of October 2006 housing disbursements stood at USD 98.15 Million.	As of October 2006 housing disbursements stood at USD 557 Million.	USD 113 Million in housing assistance disbursed by US Department of Housing & Urban Development (HUD) in collaboration with Federal Emergency Management Agency (FEMA).	ERRA has so far disbursed over PKR 48 Billion (USD 800 Million).
7. Reconstruction Progress	911,000 damaged houses repaired and over 201,000 houses reconstructed as of the 1 st quarter of 2006. This shows that 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 under progress out of total of 114,069 houses. So 53 % of houses have been completed while 42 % houses are under construction and 5 % houses are yet to reconstruct.	90,861 houses reconstructed after lapse of 3 years out of 113,500 houses. So overall reconstruction progress is 80 %.	2000 damaged housing units repaired and leased while 20,000 new housing units leased to affected families. Therefore reconstruction and rehabilitation progress is approximately 28 %.	A total of 208, 292 houses have been reconstructed so far which include 99,247 destroyed houses and 109,045 damaged houses. The constructed houses are as per seismically resistant standards. Additionally 349,000 houses are at various stages of reconstruction in the affected areas. Therefore after the 1 st full year of reconstruction over 39 % of the housing

² Updated disbursements not available therefore projected disbursement calculation based on stated program disbursement of INR 479 Crore (USD 121.25 Million) in 1st 6 months corrected against probable disbursement calculations through available reconstruction figures till 1st quarter of 2006. (Conversion rate used: 1 USD = 39.52 INR)

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					stock which was damaged / 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. 3 rd party quality audit by National Council for Cement and Building Materials (NCCBM).	Construction as per minimum accepted standards ensured through direct donor / NGO assistance. 3 rd party technical quality audits conducted in most divisions.	3 rd Party Monitoring and Evaluation through UN-Habitat to look at performance of housing program in respect to official building codes issued by the Indonesian government.	Construction as per building codes ensured through respective housing authorities of affected areas such as Housing Authority of New Orleans (HANO).	The disbursement grant is released after inspections and certification by AI Teams that the house is built as per seismically resistant standards. Additionally Compliance Monitoring Teams have been launched and a 3 rd Party Technical audit is also planned.
9. Communications Strategy	Many general campaigns on safety and hazard risk awareness launched using 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.	Strategic level communications strategy not present 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 website. HUD sponsored several workshops and summits to advise local	A comprehensive communications strategy was evolved and a public information campaign resultantly launched. Print and electronic media was extensively used and TV / Radio programs held as well as over 600,000 posters / pamphlets distributed. Press briefings and regular media visits to the affected areas were also arranged. NGO's partnering with ERRA also formulated and launched their own information programs during which adapted materials were disseminated and

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				governments, non-profits and community groups of specific programs and types of assistance available from HUD and provided program-specific technical assistance.	information kiosks 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 throughout the affected region were established following the hurricane in January 2006. The 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 10 Data Resource Centers (DRCs) across the affected areas. These DRCs are handling the grievances such as Incorrect CNIC information / CNIC duplication, missing bank account information, account information duplication, no record found cases, Account information updation cases. The Centers are also acting as information centers for any other problems. The DRC Managers are the focal points for redressal of above-mentioned grievances through updation of records after due verification leading to payment. State and Province level Reconstruction Agencies have been designated as focal points for grievances

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					related to incorrect bank account information and have been provided updation facility for rectification of the same. The respective Battalion Commanders of the Army in AJK & NWFP have been designated as the focal points for dealing with all grievances related to survey/inspections as well as requests for "Category Change".
11. Monitoring & Evaluation 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) continues to monitor recovery / reconstruction operations through collection of geographical and thematic disaggregated data. However some shortcomings of the DAD are that it has to depend on regular inputs by donors and and the fact that there are no established mechanisms to verify district level information.	Monitoring & Evaluation System established through UN-Habitat assistance. However information management still a challenge with gender disaggregated data not available.	Formal Monitoring & Evaluation exist at FEMA as well as concerned housing authorities. All individual agencies have own separate databases which in many cases have restricted access.	Monitoring and Evaluation Wing exists at ERRA. A housing specific Beneficiary database exists at NADRA with disbursement details database displayed on ERRA website accessible to all. Reporting Monitoring & Evaluation System for Housing developed with UN-Habitat assistance as well as Training Monitoring Information System (TMIS). Gender disaggregated data available.
12. Risk Transfer Mechanisms	Insurance to 14 types of hazards for 10 years at premium of INR 367 (USD 9.2) deducted	Limited individual housing insurance policies.	Limited individual housing insurance policies.	FEMA's National Flood Insurance Program (NFIP) provided funds to policyholders affected by	No concept of housing insurance in the affected areas.

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	from the last financial installment by the State.			Hurricane Katrina to help them rebuild or relocate. Virtually all claims (99%) have now been closed. The Katrina NFIP claims represent more than \$16.1 billion in payments to more than 205,000 policyholders which is more than all other claims combined since the program's inception in 1968.	
13. Ensuring Transparency	Direct payments into bank accounts for which 660,000 accounts opened. Financial audits also conducted.	Direct payments into Bank Accounts through 2 State Banks i.e. Peoples Bank and Bank of Ceylon. 3 rd 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) has developed and participates in a fraud prevention program in the affected states of the Gulf Coast Region to educate State Agencies, as well as federal, State, and local law enforcement to identify fraud in HUD grant programs and other support programs. OIG has also established a new division as a result of its responsibilities to combating waste fraud and abuse in the Gulf Coast States. The Hurricane Recovery Audit Oversight Division performs audits of the disaster funding, working with the HUD Office of Investigations, and other federal and state law	Direct payments into bank accounts for which 660,000 accounts opened. Additionally internal audits as well as external audits through Auditor General of Pakistan's Office conducted. All disbursement data also available on ERRA website.

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				enforcement agencies. HUD OIG has opened three hurricane-related audits.	
14. Program Implementation Challenges	Temporary shelters have become permanent, Disbursement delays, owner tenant issue, and equity issues.	Equity issues, relocation issues, weak communications strategy, conflict negative impacts, land availability, environmental issues, land titles.	Land tenure/ownership, damaged land and relocation, construction material costs, declining donor commitments, 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 and hazardous land issue, scarcity of labor.

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