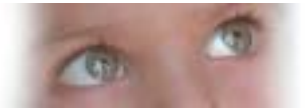
Earthquake Reconstruction
& Rehabilitation Authority



Rebuild, Revive
with
Dignity & Hope

Principles, Themes and Lessons Learnt:
Design and Implementation of ERRA's Rural Housing Programme

PREFACE

The mammoth task carried out by the Earthquake Reconstruction and Rehabilitation Authority (ERRA) has a human face, too, which is being brought out in the case studies on selected themes from reconstruction programme sectors. The story of the process of Rural Housing, the flagship programme of ERRA is one of the series. Other programme sectors include Education, Health, Urban Housing, Town Planning, Livelihood, Social Protection, Environment, Water & Sanitation, Road/Transport, Telecommunication, Power and Government Buildings.

ERRA's mandate includes restoration and reconstruction of physical assets and infrastructure as well as revival of livelihoods that were lost in the massive earthquake of October 8, 2005. The coverage extends to 3.5 million affected population in nine districts of AJK and NWFP spread over an area of 30,000 sq. km. that consists of difficult mountainous terrain, remote and dispersed settlements and a population unaware of the hazards of natural disasters of this scale.

The reconstruction programme that took off in April 2006 is now gaining momentum. A large number of private housing units are being built on seismically resistant designs. All Education and Health facilities have been made functional, some in newly constructed buildings and others in interim structures. Water facilities have been provided at the doorstep or in community dwellings while mechanism for testing of water quality and filtering system has been established; in some areas for the first time in the history. Sanitation infrastructure at community level has been restored and attitude towards personal and external hygiene has been built through awareness raising. As livelihoods of people are being revived, measures for protection of environment have also been introduced. Skills' training has been provided to both men and women and as a result a large pool of skilled/semi-skilled workers has been developed. Community participation was ensured in the process to create a sense of ownership.

ERRA takes pride in being able to catalyse the process of social change in communities through programme interventions that are pragmatic and people focussed. Over the last one and a half years, while striving to convert this adversity into an opportunity, ERRA established close affiliations with communities it stands to serve. The period is marked with mutual learning and sharing of success and failures with stakeholders.

While this process will go on for a few more years, it is important to create milestones from time to time to keep the spirit of work and sense of achievement alive. The brief snippets captured in these case studies are a harbinger of a bigger social change in the offing.

It is also an occasion for ERRA to reiterate its commitment to the earthquake-affected people to deliver the reconstruction and rehabilitation programme with full dedication. It is not an end in itself, but a means to achieve a better quality of life across board.

Altaf M. Saleem
Chairman

BACKGROUND

On October 8, 2005, an earthquake measuring 7.6 on the Richter scale struck the northern parts of Pakistan, severely jolting an area across nine districts of Azad Jammu and Kashmir (AJK) and the North West Frontier Province (NWFP). The disaster was unprecedented. Never in its history had Pakistan witnessed death and destruction on such a scale. In a short period of time, nearly 73,338 people had lost their lives and another 128,304 were seriously injured. Nearly 600,000 houses were either totally destroyed or badly damaged, rendering 3.5 million people homeless. Decades old public infrastructure, including schools, government office buildings, and health establishments, over a vast and geographically inaccessible area, came crumbling down. The immediate food, shelter, healthcare, and communication needs were overwhelming and the task of relief and rehabilitation seemed insurmountable. However, with tragedy came hope and an unparalleled display of commitment from people and organisations from across the country and by the international community, who joined hands to help the earthquake-affected people and succeeded in averting a disaster of continuing misery.

CHALLENGES

A majority of the deaths during the earthquake occurred due to near instantaneous collapse of poorly constructed buildings and homes – 80 percent of all the buildings that collapsed were *katcha* (temporary) houses in rural areas which had been built without any element of seismic resistance. The challenge of rebuilding seemed enormous. However, adversity also opened up avenues for opportunity. The government decided that this large scale devastation had provided an opportunity to rebuild houses as per seismic-resistant standards, and to do it in a way which would rehabilitate people's livelihoods, enhance their capacities and skills and strengthen social capital – the later being critical at a time when heavy loss of property, infrastructure and life had spread gloom and despondency amongst the survivors.

With these objectives, the government decided to place the affected people in the driving seat by instituting an ***owner-driven*** approach under its overall strategy of 'Build Back Better'. Under the ***owner-driven*** approach, rebuilding would be led by the owners, and the Earthquake Reconstruction and Rehabilitation Authority (ERRA) along with its partner organisations (POs) would provide the necessary financial and technical support. It was recognised that the ***owner-driven*** approach would be more difficult and time consuming – compared with if the government had rebuilt and handed over the houses to the people. However, under the circumstances, the need to involve people in rehabilitating their own lives was thought to be of prime importance for material, social and psychological reasons.

The overarching challenge was to bring about a change in the mindset of the affected people to accept new designs for constructing seismic-resistant houses, and discontinue using

building techniques and materials which had proved ill-fated during the earthquake. Associated with this were the requirements of setting up a mechanism for surveying the damage and identifying affected individuals and households over an area the size of Belgium, developing cost-effective and context-specific designs and setting up adequate compensation packages and procedures for timely delivery.

The two most important elements of ERRA's rural housing reconstruction strategy was the providing training in seismic-resistant housing reconstruction to the people and ensuring the sustained supply of construction material. The training package included training for home owners and masons in approved designs, and establishment of mechanisms for compliance and monitoring. Given the nature of the task and the education levels and remoteness of many of the affected areas, a degree of non-compliance was anticipated. However, non-compliance had to be kept at a minimum because:

- There was a need to protect an investment of US$1.2 billion[1] which had been made available by the government for reconstruction of rural houses.
- High levels of non-compliance would shatter donor confidence in the programme and in the capacity of the government.
- Non-compliant houses would have negated ERRA's aim of 'Building Back Better'.
- Most crucially, the objective of ensuring safety of people during future seismic activity would be compromised.

One of the early challenges faced was related to the capacity to implement such an ambitious programme for which there was no ready model available to replicate, since it was for the first time that the owner-driven housing reconstruction was carried out across the board. The flagship housing programme was ERRA's first test and was being closely watched by the national and international community, media and the donors. The margin for error being limited, ERRA chose to team up with experienced organisations for the implementation of the programme.

PROCESS AND INPUTS

The following steps were taken in the development and implementation of the housing reconstruction programme (some of which were initiated and implemented concurrently).

Strategy

Under the owner-driven approach, home owners were provided with a financial grant for reconstructing or retrofitting their houses, and were encouraged to employ their own labour in the effort or hire skilled labour from the market. The second element was capacity-building of the stakeholders; and the third was technical advice and assistance from approved POs. The following were the guiding principles for the housing reconstruction programme:

[1] USD 1 = PKR 60.61 (as of September 22, 2007). Conversion rates are from www.xe.com; all conversions in the text are approximate.

- Incorporate earthquake-resistant standards and designs in housing reconstruction.
- Rebuild *in-situ* and, wherever possible, encourage people to rebuild on the original plot of land.
- Encourage an owner-driven approach, where owners manage the rebuilding effort of their houses, hire labour or use their own labour – which meant that disaster-affected people as well as masons would need to be trained in approved design elements.
- Rebuild using familiar methods and materials – earthquake-resistant elements should be introduced in traditional and current building techniques.
- Relocate settlements to minimise hazards, but only where necessary.
- Offer uniform, not compensation-based, assistance packages.
- Co-ordinate to ensure full spatial coverage and prevent double counting or missing affected households.
- Complement housing reconstruction with livelihoods and social and physical service support.

Damage Assessment

An initial joint damage and need assessment exercise was carried out by the World Bank and the Asian Development Bank, which provided the basis for carrying out a detailed assessment. A detailed assessment exercise was carried out by ERRA by deploying over 600 Assistance and Inspection (AI) teams across nine affected districts. The objective of the exercise was to:

- Establish and verify the list of beneficiaries.
- Categorise the degree and level of damage to each house as (a) negligible; (b) partial; or (c) complete.
- Determine the level of compensation to be paid to the home owner(s).

The task was entrusted to the Army Engineering Corps, which was the only force with the requisite numbers of trained technical staff (engineers and sub-engineers) needed as part of the assessment teams. The AI teams also included representatives of local government, usually the local councillor of the area. The teams filled out damage assessment forms and signed Memorandums of Understanding (MoUs) with the grant beneficiaries, binding them to use the grant for reconstruction purposes only. The huge load of damage assessment was shared with the Pakistan Poverty Alleviation Fund (PPAF) to do the needful in 34 Union Councils where they had a pre-earthquake presence.

Table 1 gives a region-wise summary of damaged and destroyed units.

Financial Assistance

After deliberations with various stakeholders and careful assessment of the context and local needs, the government approved a housing grant of Rs. 175,000 for each beneficiary. The grant was formulated based on reconstructing a house on an area between 250 to 400 sq. ft. An initial grant of Rs. 25,000 was paid to cover immediate shelter needs during the relief phase. The balance of Rs. 150,000 – to be utilised for the reconstruction of a

TABLE 1: Results of Field Survey Carried out by Army and PPAF-led Teams

Province/ State	Districts	Completely Damaged		Partially Damaged		Not Damaged	
NWFP		Army	PPAF	Army	PPAF	Army	PPAF
	Abbottabad	13205	7800	15793	3593	19707	1281
	Batagram	39601	11696	6960	1577	1555	301
	Kohistan	11948	0	4865	0	2450	0
	Mansehra	63977	44719	31332	2669	9316	1357
	Shangla	14190	0	9623	0	2804	0
	Total	**142921**	**64215**	**68573**	**7839**	**35832**	**2939**
AJK							
	Muzaffarabad	121715	0	7194	0	1332	0
	Neelum	7222	0	8772	0	4372	0
	Rawalakot	28746	13019	10189	2205	41	530
	Bagh	49731	34794	4372	812	137	136
	Total:	**207414**	**47813**	**30527**	**3017**	**5882**	**666**
	GRAND TOTAL	**350,335**	**112,028**	**99,100**	**10,856**	**41,714**	**3,605**

permanent house – was paid in three installments. Those with partially damaged houses received an initial Rs. 25,000 for meeting immediate shelter needs, and Rs. 50,000 for restoration and retrofitting. Grant money was directly transferred to over 600,000 bank accounts opened in the earthquake-affected area for beneficiaries – eliminating the need for middlemen and the opportunities for graft.

House Design Options

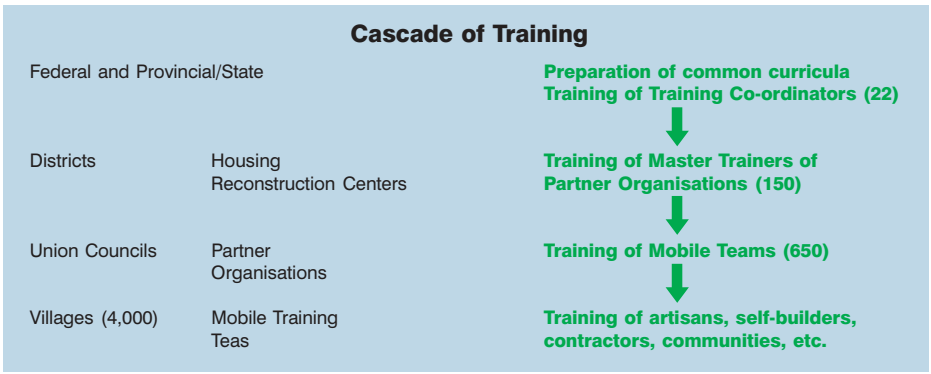
The ERRA hired a reputable national engineering firm, National Engineering Services of Pakistan (NESPAK), to come up with design solutions in conformity with cultural preferences, climate, terrain and safety features. The ERRA recognised that the new designs would be greeted with some skepticism by the population, and there would be instances where it would be genuinely difficult for people to reconstruct their houses according to the approved design. Therefore, ERRA kept the bar for seismic compliance high, which allowed for some margin of relaxation. The process of developing design options, which could then be shared with affected people, in the first instance entailed conducting multi-stakeholder consultations with various non-governmental organisations (NGOs) and international non-governmental organisations (INGOs), donors such as the World Bank, the United Nations, and other national and international organisations such as National Society for Earthquake Technology–Nepal (NSET) and NESPAK. After a series of exhaustive sessions and review of various recommendations by a panel of national and international experts, an initial design menu based on brick, stone and block masonry was formulated and approved. Since the design menu was envisioned as being dynamic and open to modifications based on needs and ground realities, additional designs were

also added later on to include timber design option and RCC (reinforced cement concrete) or confined masonry design option. The recent addition of BHATTAR[2] design has brought many previously non-complaint houses of districts Kohistan and Shangla in the compliance net.

Training Programme

The training programme was and remains an integral component of the overall strategy for rural housing reconstruction. Under this programme, 12 Housing Reconstruction Centres (HRCs) were established at the sub-district level for training of Master Trainers (MTs). The MTs were to train home owners and masons with the help of mobile training teams. The ERRA took on board a number of national and international POs to work on the programme: four implementing partners[3] took a lead role in the reconstruction effort by managing the 12 HRCs, which were not providing the construction material rather they were only serving as the training and information hub for the rural housing sector. The ERRA also signed an agreement with another 26 POs for providing training for home owners and masons, assisting vulnerable groups and households headed by women, mobilising communities, and forming Village Reconstruction Committees (VRCs) to streamline reconstruction. HRCs were also made responsible for monitoring POs' performance, and for providing them back-up support. To keep track of the multitude of training and related activities of the different POs, the ERRA established a Training Management Information System (TMIS). Figures 1 and 2 show the implementation arrangements for the training component and overall programme.

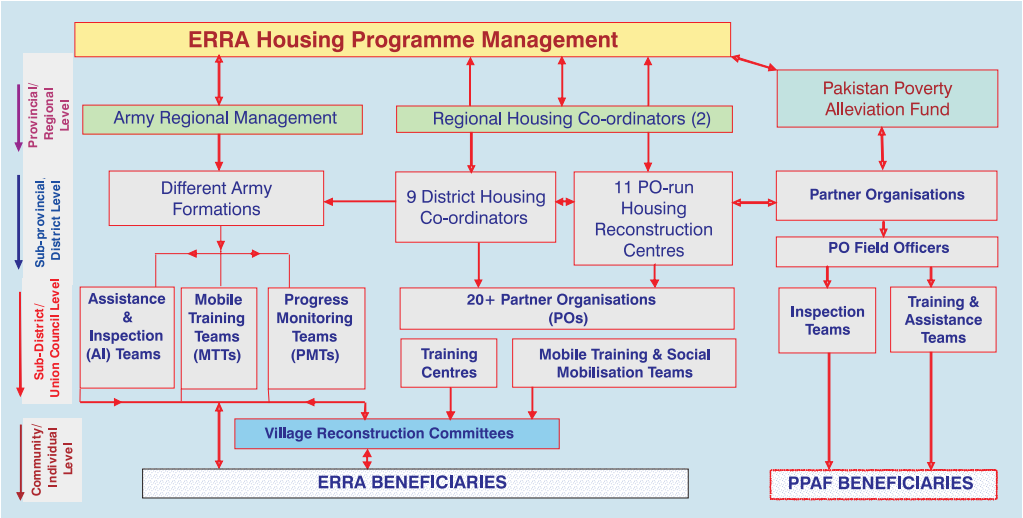
FIGURE 1: Cascade of Training Approach



[2] The design was based on timber reinforced masonry using dry stone and no mortar. The design was formulated after stakeholder consultations with partners such as Swiss Development Corporation, La Croix-Rouge Reste Mobilisee.

[3] The implementing partners were: UN-Habitat, Swiss Development Corporation, Pakistan Poverty Alleviation Fund (PPAF), and GTZ - German Technical Co-operation. In addition to managing HRCs, these organisations also provided inputs for policy development and design options.

FIGURE 2: Schematic of Programme Implementation Arrangements



Public Information Campaign

ERRA launched a massive public information campaign to create awareness amongst beneficiaries and to bring about behavioural changes aimed at inculcating a culture of compliance. The message of reconstruction was put across to beneficiaries through the extensive use of electronic and print media as well as through road shows all across the affected areas. During this campaign, which is still ongoing, over 600,000 posters and brochures were distributed amongst the population of the area, in addition to local campaigns and supplementary material formulated and disseminated by the POs.

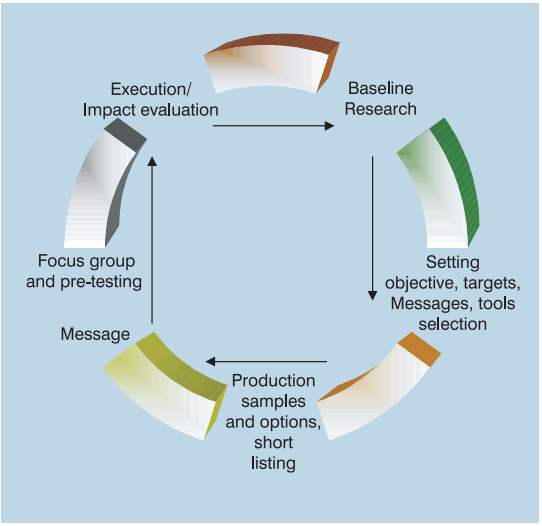
Under phase II of the public information campaign, ERRA is focusing on non-compliance issues, with the help of its implementing partners and POs. A sustained campaign incorporating lessons learnt after analysing various reasons for non-compliance is being run and people are being continuously motivated to reconstruct seismically-resistant safe houses. To ensure that the message of building safe houses remains with the coming generations, efforts will also be made towards incorporating relevant messages as part of school curricula. Figure 3 gives a representation of the information campaign approach.

Compliance Catalogue

Keeping in view the scale of the programme and complexity of the task, a degree of non-compliance was anticipated from the beginning. Some of the most common factors behind non-compliance were:

- ERRA guidelines were not received at the time of construction.

FIGURE 3: Operational Approach of the Information Campaign



- Changes in design and construction advice was not understood and created confusion.
- Beneficiaries tried but were not able to reconstruct as per ERRA guidelines – as they found the information provided difficult to understand.
- Beneficiaries did not attempt to reconstruct as per ERRA guidelines.

In the first three reasons, where there is a will to construct a seismically-resistant house, interventions can be made to 'fix' the problems. For this purpose, the ERRA tasked NESPAK and its implementing partners to assist in formulating a Compliance Catalogue. The first version of the Catalogue was recently launched and contains various types of non-compliance, and measures needed to make the houses compliant explained through simple language and use of pictures and graphs. The original version of the document, it was discovered, had been hard for people to follow and understand.

Grievance Redressal

The grievance redressal system set up at the Union Council, Tehsil and District levels, and designed before the launch of the project, was unable to address those grievances of the people which related mostly to status of applications, and corrections in bank account details or other beneficiary information. Thereafter, the ERRA devised a new system and established 12 Data resource centres in the EQ-affected areas where on-line application tracking and data update facilities were made available. Through this system process time for applications was reduced by factor of ten. Under the new system, people could walk into any of the District Resource Centres and get

their record checked/amended, and money released if it was held up due to incomplete or wrong information. The data resource centres were able to process over 200,000 queries and complaints from earthquake-affected people living all over the affected areas. The ERRA also established a dedicated complaint cell at its headquarters to respond to all complaints. Figure 4 gives a snapshot of the management and information system (MIS) for grievance redressal.

The ERRA also designated the respective Battalion Commanders of the Army in AJK and the NWFP who were overall responsible for AI teams carrying out the damage assessment surveys as the focal points for dealing with all grievances related to survey or inspections as well as requests for 'Category Change'. A sizable number of applications were received in this regard; an average of 50 percent of such applications, however, were found to be bogus. Affected people also put in multiple applications which at times were not detected, causing duplication of effort. Such cases occupied the valuable time of the AI teams and so inspections suffered. Table 2 explains the problem.

TABLE 2: Cases Received and Rejected

State / Province	Cases Received	Cases Rejected / Bogus
AJK	70,022	40,893
NWFP	71,545	30,323
Total	**141,567**	**71,216**

FIGURE 4: MIS Snapshot for Grievance Redressal

Data Management

The overall Rural Housing Programme Beneficiary Database construction and operation responsibility was outsourced to the National Database Registration Authority (NADRA). All damage assessment forms were forwarded by AI teams to NADRA for further processing. After scrutiny at NADRA in the form of various crosschecks against the database, the bank branch-wise lists were generated by NADRA and provided to the ERRA for making payments through banking channels.

In collaboration with its implementation partners, the ERRA has also implemented a dedicated Reporting, Monitoring and Evaluation (RME) system. The system is fully operational with disaggregated data on physical and financial progress and seismic compliance being received from Army regional offices and NADRA/ERRA MIS, respectively. The system also contains data streams from the Training MIS and ERRA's monitoring and evaluation unit's building material supply and price monitoring mechanism. The RME has in-built query and monthly reporting options, and cross-tabulation capacity across the above variables and data streams. Furthermore, gender segregated beneficiary data stream is also being added to the RME database. The system enables a much more effective and efficient monitoring of reconstruction trends; identification of problematic areas; and consequently more informed decision-making and development of mitigation measures. Figures 5 and 6 show the types of data input streams, and the kind of reports generated, from the ERRA RME system.

The following gender disaggregated data is an output of ERRA's RME system.

FIGURE 5: Data Input Streams and Reports Generated

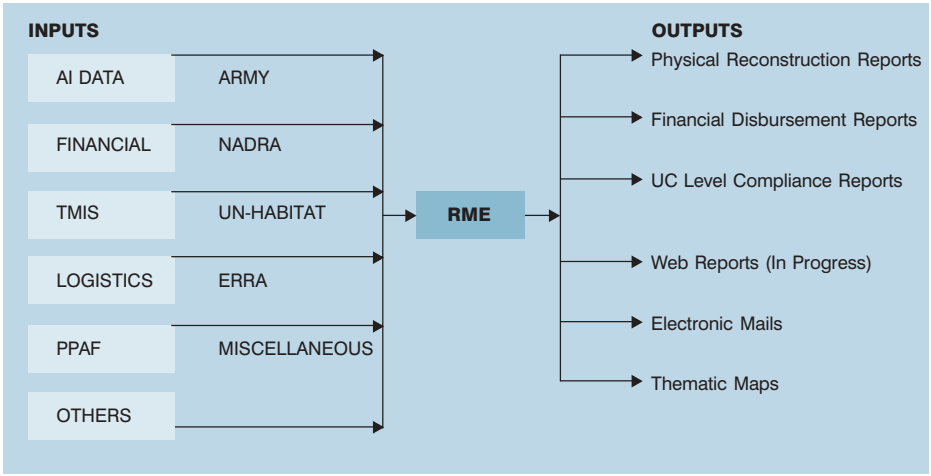


FIGURE 6 (a): Gender-disaggregated Data (Marital Status)

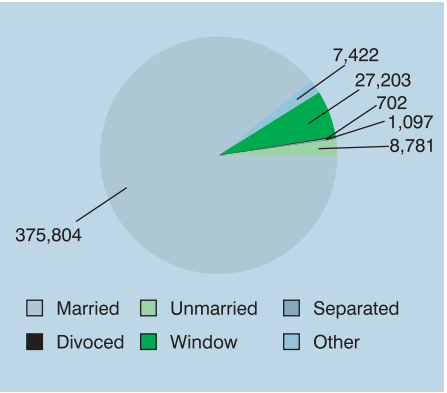
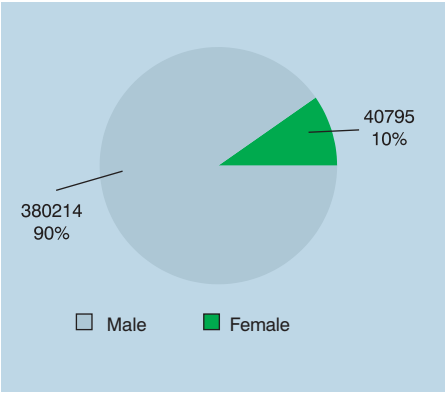


FIGURE 6 (b): Gender Diregated Beneficiaries



PERFORMANCE – OUTPUTS AND OUTCOMES

Key Achievements

The programme has shown impressive reconstruction start-up rates. According to latest ERRA surveys, close to 291,647 houses are under reconstruction – which is about 83 percent of 350,335 rural houses earmarked for the reconstruction grant in ERRA allocated Union Councils only (See Table 3 for region-wise break-up). This achievement is impressive considering that 2007 represents the first full reconstruction season. On the financial side, the ERRA has disbursed a total of Rs. 47.12 billion amongst disaster-hit people across the affected areas (see Figure 6 for gender disaggregated data on beneficiaries).

If we compare the situation in Pakistan with other post-disaster scenarios around the world, we find that Pakistan is way ahead in the level of assistance and compensation offered to its people, and the progress in reconstruction. For example, in comparison with the tsunami-related work, 100,000 houses are required to be re-built. So, on magnitude alone, Pakistan is confronted with a reconstruction task six times bigger. In terms of performance, in the first year after the disaster, reconstruction progress in Pakistan was 42 percent while in the tsunami-hit areas it was 14 percent. In the case of Hurricane Katrina over 70 percent of the affected population has still not returned to their homes. In Iran, where a devastating earthquake hit in 2003, only 5 percent of permanent houses were rebuilt in the first year.

Outcomes

The development of a comprehensive strategy for rural housing through multi-stakeholder consultations, robust implementation arrangements, clear institutional vision and a pro-active approach in implementation of the programme created the conditions for exceptional and visible progress.

TABLE 3: ERRA District-wise Reconstruction Progress

No.	Province	District	Houses to be Reconstructed as per Survey	Total no. of Houses under Reconstruction	% of Houses Earmarked for Reconstruction which have been Completed or are Currently under Construction
1	NWFP	Abbottabad	13,205	10,465	79.25
2	NWFP	Batagram	39,601	16,779	42.37
3	NWFP	Mansehra	63,977	44,625	69.75
4	NWFP	Shangla	14,190	12,925	91.08
5	NWFP	Kohistan	11,948	5,322	44.54
6	AJK	Bagh	49,731	37,143	74.68
7	AJK	Muzaffarabad	121,715	114,861	94.36
8	AJK	Neelum	7,222	6,527	90.37
9	AJK	Poonch	26,654	23,451	87.98
10	AJK	Sudhnoti	2,092	1,892	90.43
	Total		**350,335**	**273,990**	

One major outcome of the programme was the training strategy which proved to be very successful. To date, a total of 310,436 people have received general training, while 199,686 people have acquired technical training, and 110,750 have received training in social mobilisation. The training programme has created a technical pool of workmen at the local level, who are familiar with safe building techniques, will be able to contribute to a shift in house design culture of the area towards seismic-resistant construction. See Figure 7 for a graphic representation of training component performance to date.

FIGURE 7 (a): Cumulative People Trained

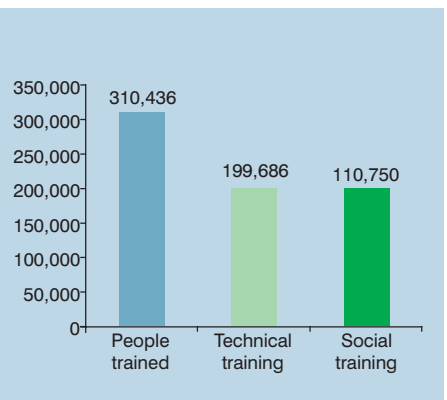
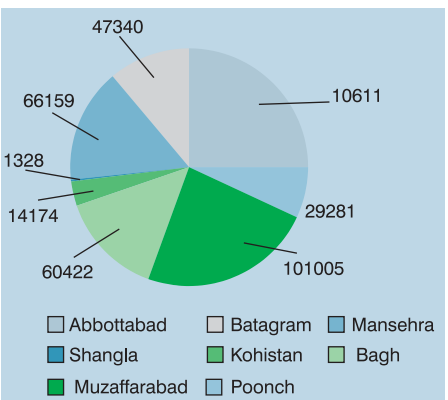


FIGURE 7 (b): District-wise People Trained



COPING MECHANISMS AND LESSONS LEARNT

The programme encountered, and continues to face, a number of issues and challenges. It is but reasonable to expect this to have been so given the inhospitable terrain and the sheer magnitude and urgency of the task, and the fact that there existed no disaster management plan, capacity or a delivery mechanism to execute this giant task. Nevertheless, it is important to recognise areas of weaknesses and to take corrective measures. Some of the key lessons learnt and the major challenges faced, as well as what the ERRA did to address them, are discussed along with relevant policy prescriptions.

Key Lessons Learnt

- Provision of timely information to, and involvement of, beneficiaries from the very outset and throughout the programme is critical for successful implementation.
- A supplementary community validation mechanism for determining grant eligibility must be in place in order to avoid disputes and litigation at later stages.
- Provision of an enabling environment (that is, awareness generation, training, technical assistance, supervisory support, and support to vulnerable groups and families) for grant beneficiaries is critical for the internalisation of disaster-resistant construction approaches and standards.
- Individual house-building should be part of a larger strategy aimed at mobilising people for self-help, which helps inculcate a spirit of community, builds social capital and reduces effort and costs involved in house-building efforts through collective action.
- Options (for buildings) provided to the community have to be varied and flexible and be based on or adapted to local tastes, geography and culture.

TABLE 4: Main Challenges Faced and their Policy Implications

Challenge	ERRA's Response	Policy Implications
CAPACITY		
Shortage of skills in seismically-resistant construction	Army and NGOs were tasked with training over 22,000 master trainers, who further trained more than 200,000 workers and artisans in seismically-resistant reconstruction.	For a disaster of this or similar scale and magnitude, there are unlikely to be sufficient POs that may be required. Hence, a national volunteer force of individuals trained to deal with various facets of disasters is worthy of consideration.
Limited capacity to carry out task of damage assessment over a large area (30,000 sq. km.)	There weren't enough combined numbers of trained or skilled individuals, engineering firms, NGOs, or local government staff.	There is a need to build capacity of national organisations and individuals (through national disaster relief training) to conduct

Challenge	ERRA's Response	Policy Implications
	This was the main reason for the delay in carrying out the damage assessment exercise. Eventually, the Army Engineering Corps was engaged and the assessment took off on April 7, 2006.	field surveys over a large area in a disaster-like situation. Mandatory training of college and university students should also be considered.
SOCIAL MOBILISATION		
Difficulty in mobilising people suffering from shock and trauma, into reconstruction efforts.	This was addressed by involving NGOs who created VRCs and impressed upon people the value and advantages of collective efforts. The VRC progressively took on greater responsibility including making joint material purchases, arranging collective transport, and other mutually beneficial activities saving time and money.	Mobilisation of affected (and non-affected) people is critical to relief, reconstruction and rehabilitation efforts. Social mobilisation and counselling of vulnerable groups should be one of the early priority interventions in a disaster, particularly for (a) verifying beneficiary eligibility through community validation; (b) on-the-spot and subsequent inter-household grant disputes; and (c) resolution of owner-tenant issues.
CO-ORDINATION		
A large number of activities were being carried out by multiple organisations and groups, across different sectors at any given time throughout the earthquake-hit areas, leading to information overload.	The ERRA devised mandatory weekly meetings between all implementing and partner organisations. With the help of UN-Habitat, a reporting, monitoring and evaluation system was introduced which incorporated all reports coming from various quarters, and was capable of generating combined reports for policy decisions.	It is important for all the parties to agree on a reporting format and mechanism, along with a central repository and report generation facility.
The many management tiers in the system, that is, ERRA, State Earthquake Reconstruction and Rehabilitation Authority (SERRA)/Provincial Earthquake Reconstruction and Rehabilitation Authority (PERRA), and District Reconstruction Units (DRU), plus the Line Departments – had a delaying effect on programme activities.	To minimise lengthy process due to management tiers, the Rural Housing Programme used the existing administrative and operational set up, that is, district administration and the army.	It is expedient to use available administrative and operational infrastructure, and give greater level of control over decision-making at the local level.

Challenge	ERRA's Response	Policy Implications
GRIEVIENCE		
Essential information on the forms found missing resulted in rejection by NADRA. The number went up to 40,000 at one point.	At that time there was no online facility for data update at the field level. An ERRA team sat with NADRA and guided the creation of an online facility. The number of cases ranged from 2,000-3,000 per district. It helped to address grievances at the local level. Some 40,000 rejected forms had to be printed and refilled, for which enumerators had to be trained.	Grievances should be addressed at the grassroot level and through involvement of local communities in order to save process time and to satisfy affected people. It is also critical to ensure that illiterate people and those living in far-flung areas have special facilities available for registering complaints and grievances.
A large number of grievances piled up which necessitated a fresh survey of some 150,000 applicants.	A re-survey was conducted from June 30 to July 26, 2006, as a result of which some 43,000 out of 80,000 were declared eligible in the NWFP - which is where the tenant-owner problem was more acute.	Reluctance about repeating exercises due to cost implications should be avoided when the matter at hand involves grievances of disaster-affected people.
Initially, tenants were required to get a no-objection certificate from the owner to receive housing subsidy for reconstruction of their damaged houses, which raised grievances from affected tenants.	After thoroughly studying the problem and discussing it with relevant departments, the ERRA prevailed upon the provincial government to remove the clause. The revision of MoU text brought a number of eligible families within the fold of the programme. However, the matter went to Court and is currently sub judice.	Dispute resolution is a very difficult business and most of the time matters do go to Court despite the best efforts of agencies to act as interlocutors.
PUBLIC INFORMATION CAMPAIGN		
Deadline for fresh survey and its enforcement in the field.	The ERRA decided to end the project by July 26, 2006. However, no public announcement to the effect was made. By the start of 2007, the ERRA was flooded with Court decisions to carry out the fresh surveys, and it found itself on a weak footing with respect to the Courts and the ombudsman office, given that it had failed to make a public announcement. On Court orders many fresh surveys were carried out, and 93 percent of them were found to be bogus.	A programme approach based on continuous exchange and sharing of information with communities is critical – even where there are concerns about unscrupulous elements gaining more than their share of benefits or compensation.
Absence of communications policy.	A media firm was hired to develop and print 600,000 posters, brochures, flyers and leaflets for	A key requirement in any reconstruction or development programme is to have

Challenge	ERRA's Response	Policy Implications
	distribution among affected people. The firm also undertook development and airing or printing of the following activities: • TV shows • Radio shows • Road shows • Newspaper/TV advertisements	communication policy guidelines or principles as well as adequate means of communication and feedback from the earliest stage.
Messages about design options and guidelines got confused at the local level and many people started to carry out hybrid construction using two or more ERRA designs.	ERRA came up with the idea of a Compliance Catalogue to bring all non-compliant houses under the compliance net. The final Catalogue became too technical a document to be easily understood by a layman. There was a need to translate it into a form easily understood by a common person. This task was assigned to UN-Habitat.	Proper and timely sequencing of information is essential. All the suggested designs must be launched at the same time, and importantly, should be conveyed in an easy-to-understand manner, using vernacular languages, or through the use of images targeted at illiterate people.
DESIGN OPTIONS		
Limited design options for houses.	The earlier design options included only cement and steel structures whereas people demanded wooden structure due to their low cost and transportation to heights. ERRA, with the assistance of NESPAK, developed wooden frame designs which were highly appreciated by the people.	Keep all options for meeting the requirements of people open. The programmes should be demand-driven and should not be imposed from top.
NESPAK, general consultant to ERRA for house designs, was unwilling to approve suggestions for changes in its designs deeming them technically inappropriate, and feared damage to its reputation in case the changes did not hold up to any future seismic activity.	The formulation of Compliance Catalogue was delayed.	Commercial organisations have their own stakes which need to be considered. Use must also be made of professional bodies and associations (architects, engineers, and so on) and relevant university or college departments in developing designs and strategies.
NON-COMPLAINCE		
ERRA learnt that all the houses in district Kohistan were non-compliant, and the people there were finding it difficult to follow ERRA designs.	A peculiar design called BHATTAR was adapted for Kohistan. The design was based on timber reinforced masonry using dry stone and no mortar. The design was formulated after stakeholder consultations with partners such as SDC, French Red Cross (FRC),	It is critical to keep the design options menu as broad and flexible as possible, keeping options in line with local customs, needs and taste.

Challenge	ERRA's Response	Policy Implications
	Belgian Red Cross (BRC), UN-Habitat and NESPAK. The ERRA approved selective implementation of the design.	
ADMINISTRATION		
Opening of approximately 600,000 bank accounts for people who had never operated one before and, in many cases, lost the documentation required for opening accounts.	Since the policy required fund transfer directly into bank accounts to ensure transparency, special arrangements had to be made to open 600,000 bank accounts for people, many of whom could not read or write, including getting account opening requirement waivers from the State Bank, and other relaxations from individual banks.	Transfer of funds to beneficiaries through the bank channel reduces the chances for officials seeking graft - the government should institute a policy for easing requirements for opening accounts in disaster situations.
DONOR REQUIREMENT(S)		
Donor requirement to have an operational manual prior to commencement of the project.	Given the urgency of the task and shortage of time, the project could not be held back till development of an operational manual. It was agreed with the World Bank that the manual would be developed as the project progressed, and that the document would be a living one, open to changes. Some basic operational instructions were issued till development of the document.	Putting requirements for sequencing when speed is of the essence should be avoided. Instead, basic operational guidelines should be issued at the very beginning and necessary Standard Operating Procedures developed as implementation proceeds.
CONSTRUCTION		
Non-availability or high cost of construction material.	Construction Material Hubs were opened through outsourcing to the private sector to facilitate adequate supply of construction material. Although entrepreneurs were willing to open the hubs in bigger cities, it was not economically viable for them to do so in far-flung areas. Opening of major hubs was the responsibility of the ERRA; opening of mini hubs that of provincial and state governments. Progress on establishment of mini hubs was very slow and people were not getting the material at the tail end of the supply chain.	While it is important to involve the commercial sector wherever possible, it should be recognised that some element of subsidy will have to be provided for far off and inaccessible areas. In disaster situations requiring reconstruction, a mechanism and programme for quick and cheap procurement of material(s) to affected areas is necessary.

OVERALL IMPACTS

Apart from its immediate outputs and outcomes, the longer term impacts beginning to be created by the ERRA rural housing reconstruction programme seem to transcend even the expectations of the ERRA's implementation and financing partners[4], particularly relative to the execution and performance of similar post-disaster housing programmes internationally. The unprecedented socio-political, cultural and logistical challenges that the Pakistan programme has had to incessantly surmount and successfully overcome, and the odds it has had to defy, make the efforts and resources put in place seem even more formidable.

Some of the major impacts created or being created by the housing programme are summarised here.

Immediate and Longer Term Seismic Risk Reduction

As a result of owner-driven, in-situ, seismic-resistant reconstruction, hundreds of thousands of home owners have been, and continue to be, sensitised and technically enabled to reconstruct their present and future homes according to seismic-resistant construction standards. The benefits of this shift towards seismic-resistant construction techniques and technologies are expected to go beyond the project period, and beyond the immediate project beneficiaries, to create a culture of seismic-resistant construction. As a result, it is assessed that the programme shall, in the longer term, significantly contribute towards reducing the risk of massive housing destruction and a catastrophe in terms of human casualties, that can be unleashed by future earthquakes of intensity similar to the 2005 disaster. As per various field reports and social impact assessments, a culture of compliance is visibly setting in the affected districts. This is a most satisfying outcome from a programme that started off from a point of little beneficiary awareness and ownership of the 'Building Back Better' agenda, and is now reaching a stage where a majority of the beneficiaries have not only been adequately sensitised, but seem eager to comply and abide by (without being forced) seismic-resistant construction standards and techniques.

Capacity-building of Local Artisans and Communities in Seismic-resistant Construction

The huge technical training and beneficiary assistance campaign launched under the housing programme, arguably the biggest such campaign in the country's history, has led to the creation of a highly skilled pool of artisans conversant with seismic-resistant building techniques. Simultaneously, the training received by the beneficiaries and communities would help them better cope with the current and future disasters. Furthermore, the skilled labour trained in seismic-resistant construction techniques will train others, triggering a cascading effect even in

[4] Most of ERRA's international partners have extensive knowledge of, or have been directly involved in, post-disaster housing interventions regionally and internationally. In relative terms, they place Pakistan's housing programme among the top-performing of such programmes.

areas outside the earthquake-affected region.

Socio-economic and Environmental Impacts

- Protection of women's and vulnerable groups rights through specialised assistance leading to mutations of land titles in favour of women and vulnerable sections of the population.
- Documentation of the economy through opening of over 600,000 bank accounts.
- Formalisation of a community-based approach to solving problems through creation of VRCs.
- Confidence-building of communities through involvement in the reconstruction process under the owner-driven model.
- Environmental protection through ERRA's promotion and partial enforcement of rationalised timber use for housing reconstruction, and other environment-friendly construction options and methods.

Acronyms and abbreviations

AI	Assistance and Inspection
AJK	Azad Jammu and Kashmir
BRC	Belgian Red Cross
DRU	District Reconstruction Unit
ERRA	Earthquake Reconstruction and Rehabilitation Authority
FRC	French Red Cross
HRC	Housing Reconstruction Centre
INGO	International non-governmental organisation
MoU	Memorandum of Understanding
MT	Master Trainer
NADRA	National Database Registration Authority
NESPAK	National Engineering Services of Pakistan
NGO	Non-governmental organisation
NSET	National Society of Earthquake Technology-Nepal
NWFP	North West Frontier Province
PERRA	Provincial Earthquake Reconstruction and Rehabilitation Agency
PKR	Pakistani rupees
POs	Partner organisations
PPAF	Pakistan Poverty Alleviation Fund
RCC	Reinforced Cement Concrete
RME	Reporting, Monitoring and Evaluation
SERRA	State Earthquake Reconstruction and Rehabilitation Agency
TMIS	Training Management Information System
VRC	Village Reconstruction Committees

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