



Earthquake Reconstruction
and Rehabilitation Authority
Government of Pakistan



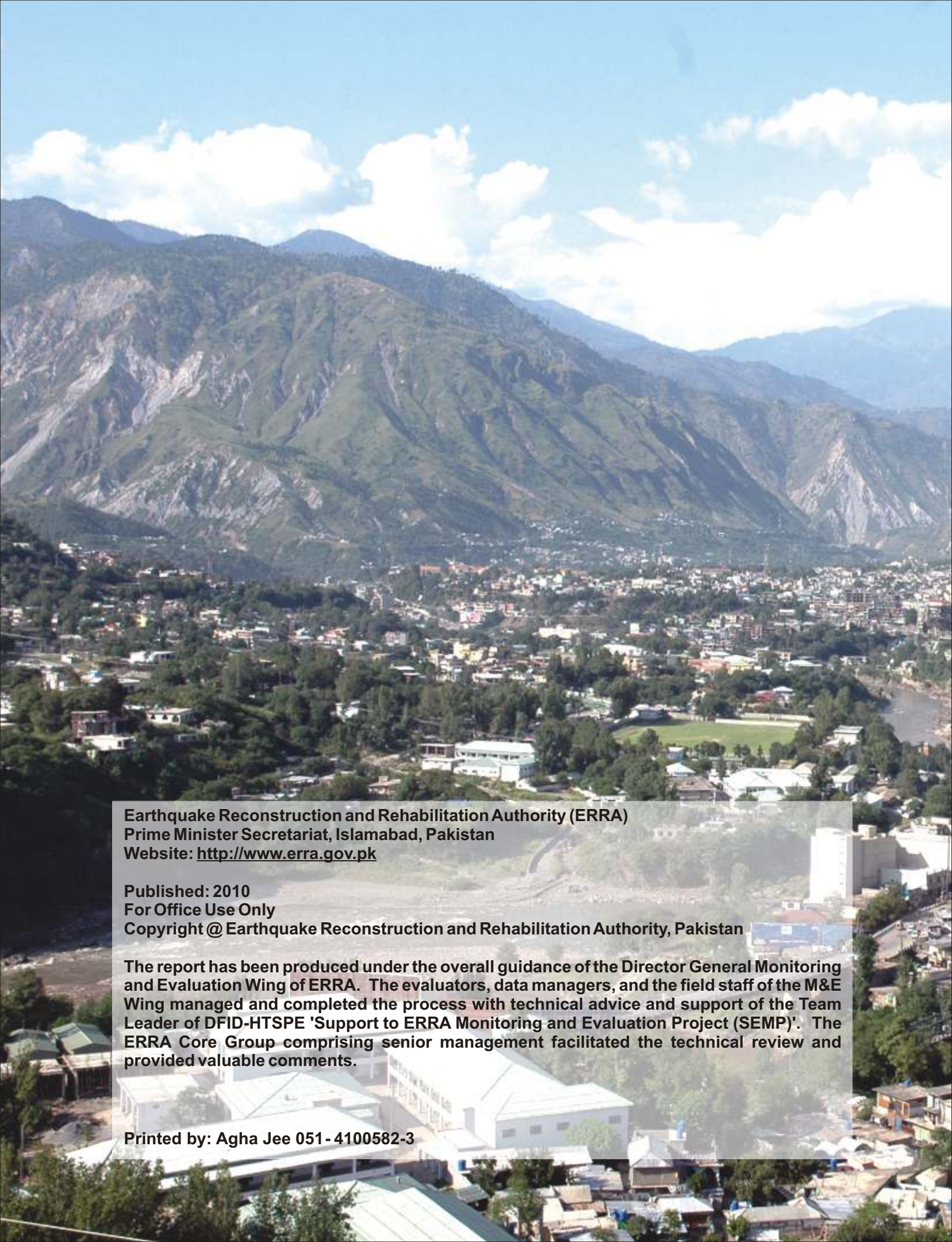
Social Impact Assessment Report

2009

Monitoring and Evaluation Wing ERRA



MARCHING ON TOGETHER BUILD BACK BETTER

An aerial photograph of a city valley, likely Islamabad, Pakistan, with a large mountain range in the background under a blue sky with scattered white clouds. The city is densely packed with buildings, and a river is visible on the right side. A semi-transparent text box is overlaid on the lower portion of the image.

Earthquake Reconstruction and Rehabilitation Authority (ERRA)
Prime Minister Secretariat, Islamabad, Pakistan
Website: <http://www.erra.gov.pk>

Published: 2010
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The report has been produced under the overall guidance of the Director General Monitoring and Evaluation Wing of ERRA. The evaluators, data managers, and the field staff of the M&E Wing managed and completed the process with technical advice and support of the Team Leader of DFID-HTSPE 'Support to ERRA Monitoring and Evaluation Project (SEMP)'. The ERRA Core Group comprising senior management facilitated the technical review and provided valuable comments.

Printed by: Agha Jee 051 - 4100582-3





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Abbreviations and Acronyms

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ADB	Asian Development Bank
AJ&K	Azad Jammu and Kashmir
BEQ	Before Earthquake
BHU	Basic Health Unit
CBO	Community Based Organisations
CGI	Corrugated Galvanised Iron
CLRP	Community Livelihood Rehabilitation Plans
CMT	Construction Monitoring Teams
DFID	Department for International Development
<i>Dhajji and Bhattar</i>	Tailored Traditional House Construction Designs
DNA	Damage and Needs Assessment
DRU	District Reconstruction Unit
EMEF	Earthquake Monitoring and Evaluation Framework
EQAA	Earthquake Affected Areas
ERP	Early Recovery Programme
ERRA	Earthquake Reconstruction and Rehabilitation Authority
FBS	Federal Bureau of Statistics
FGD	Focus Group Discussions
FRC	Federal Relief Commission
HMIS	Health Management Information System
IEC	Information, Education and Communication
IMR	Infant Mortality Rate
INGO	International Non-Governmental Organisation
KM	Kilometer
KW	Kilo Watt
LCGP	Livelihood Cash Grant Programme
LHV	Lady Health Visitor
LHW	Lady Health Worker
M&E	Monitoring and Evaluation
MMR	Maternal Mortality Rate
MRDEA	Medical Rehabilitation of Disabled in the Earthquake Affected Areas
MW	Mega Watt
NGO	Non-Governmental Organisation
NRSP	National Rural Support Programme
NWFP	North West Frontier Province
PERRA	Provincial Earthquake Reconstruction and Rehabilitation Agency
PLM	Programme Logic Model
PSLM	Pakistan Social and Living Standards Measurement
PTCL	Pakistan Telecommunications Limited
PWD	Persons with Disabilities
RCC	Reinforced Cement Concrete
RHC	Rural Health Centre
RHRP	Rural Housing Reconstruction Programme
SCO	Special Communication Organisation
SDC	Skills Development Centre
SERRA	State Earthquake Reconstruction and Rehabilitation Agency

SIAS Social Impact Assessment Survey
SQL Structured Query Language
SST Social Survey Team
SWC Social Welfare Complexes
TBA Trained Birth Attendant
WB The World Bank
UN United Nations
UNICEF United Nations Children Fund
WDC Women Development Centre
WSS Water Supply Scheme



Chairman ERRA Visits Hazara University



Annual Conference



Government Girls Post Graduate College Khirck, Rawalakot



EXECUTIVE SUMMARY



Executive Summary

The Social Impact Assessment Report 2009 is a comprehensive document that captures the changes and effects produced as a result of Reconstruction and Rehabilitation (R&R) strategies and efforts by the Earthquake Reconstruction and Rehabilitation Authority (ERRA). Building on the results of the Household Survey conducted by the ERRA Monitoring and Evaluation Wing, the report highlights improvements in the physical and socio-economic status, and the changes in the lives of communities in the affected areas.

During the survey, all nine earthquake affected districts were covered. Four districts (Bagh, Muzaffarabad, Neelum and Poonch) were surveyed in the State of Azad Jammu and Kashmir (AJ&K) and five (Abbottabad, Battagram, Kohistan, Mansehra and Shangla) in North West Frontier Province (NWFP) during July - September 2008. A total of 4,168 households were approached (2,252 in NWFP and 1,916 in AJ&K). 3,376 of these were rural households and 792 urban households. A rigorous survey and sampling methodology was practised for statistically robust results. This was facilitated by an integrated data collection tool formulated by ERRA's M&E Wing.

A 1 Social Impacts of ERRA's Strategies and Efforts

Rural Housing Reconstruction Programme

- With 96% of the seismically resistant houses constructed and the balance close to completion, the owner-driven approach has brought a paradigm shift in reconstruction through ERRA RHRP. More than 70% of new constructions (even outside RHRP) follow ERRA's principles for seismic resistant designs.
- 61% of the community feel that their newly constructed houses are better than their old structures. Awareness and application of seismic resistant construction and upgraded basic facilities are the key contributing factors. 22% of the households consider the condition of their houses the same as before. A small percentage (17%) of households thinks that the present state is relatively inferior compared to their previous residence. Smaller rooms and living spaces, relocation, and inadequate household infrastructure and facilities are some of the major factors.
- Tranche mechanism of ERRA has encouraged the owners to attain the required compliance level as per schedule, whereas, difficult access and geographical spread were perceived to be the major restraining challenges. This timely assistance and support has helped 83% of the affected households regain their occupancy status at the level that it was before the earthquake.



- Technical training has benefited more than 257,000 individuals, including semi skilled and skilled masons, electricians, plumbers and carpenters. As a result, 85% of the newly constructed houses are built jointly by informed owners and trained/skilled local human resource.
- With seismic resistant structures, families feel that they are living in safer houses with relatively less fear of disaster. Having a secured safe dwelling is helping affected households to focus on the re-establishment of their businesses and other aspects of life.

Livelihood

- The Livelihood Cash Grant Programme has ensured essential cash flow to the affected communities while moving back from the camps. The cash grant provided immediate and interim assistance and helped to replace income losses of the most vulnerable households. The programme has been effective in addressing the immediate needs of food items (62%) and non-food needs (38%) in the early phase¹. This has helped by bringing the lives of the vulnerable communities to normalcy and has provided them with an opportunity to focus their attention on the reconstruction of their houses and routine livelihood activities.
- Community Livelihood Rehabilitation Plans (CLRPs) have created awareness among the communities of their participation for enhanced physical capital.
- These cumulative efforts have helped to restore and maintain the household income generation activities/professions to the same level that they were before the earthquake; the assistance also catalysed a perceptible shift from the traditional patterns of livelihood to commercial ventures.
- Livelihood restoration efforts enabled the community to recover from economic stress and stabilize to its previous state. 64% of the households perceive their current economic situation is either restored to the pre earthquake level or is even better than that. The remaining are in the process of recovery. As a result, more than 90% are satisfactorily looking after their family food needs.

Social Protection

- Social safety networks have institutionalised protection to the most vulnerable segments of the affected population. The construction of key institutions in the sector has facilitated their access to legal aid, medical services and livelihood opportunities.

¹Social Impact Assessment Report - 2008

- ✿ The introduction of 'one-window operation' services has facilitated the effective implementation of Rural Landless (RLL) and Virtual Landless (VLL) policies of ERRA, and has benefitted the affected population.
- ✿ Legal Aid Centres (LACs) proved to be helpful to all those (52% of the surveyed) in need of legal assistance to secure their rights. This has also enhanced their understanding of legal processes.
- ✿ Rehabilitation programme for the "Persons with Disabilities" (PWD) has helped the beneficiaries in raising their morale and in reducing their dependency on others.

Education

- ✿ ERRA's decision to restore the schools through pre-fabricated and/or temporary structures has proved critical in maintaining the education cycle and saving students' academic year after the earthquake. As a result, all the educational facilities are functional in temporary structures or completed (1,103) educational institutions.
- ✿ Besides immediate activation of the educational institutions, the seismically resistant reconstruction of schools has raised the confidence of the parents, consequently raising the percentage of children going to school.
- ✿ The current enrolment rate (53%) among children of school going age not only shows restoration but also a 3% increase in school attendance as compared to pre-earthquake level (50%)².
- ✿ The majority (71%) of the students attend government education institutions. The proportion is higher in NWFP (81%) as compared to AJ&K (61%). The key reasons being that the Government institutions are affordable and have trained teaching staff. Also, the Government schools have better outreach and coverage with separate facilities for both boys and girls.
- ✿ While the reconstruction of ERRA supported educational institutions is rapidly underway, 68% have no problem with the present status of the education facilities, where their children are enrolled.

Health

- ✿ ERRA provided immediate support to make all health facilities

²National Education Census- 2005

functional through interim pre-fabricated structures. This response ensured uninterrupted continuous essential packages of health services (immunisation, vector control, health education, and disease surveillance) to the affected population. Currently, 104 permanent health facilities have been completed with improved access for persons with a disability.

- ✿ 81% of the children (as compared to the national statistics of 76%)³, are being regularly vaccinated, which will contribute towards lowering infant mortality rate (IMR). These percentages are higher for AJ&K as compared to NWFP.
- ✿ Access to regular pre-natal care (52%) and post-natal care (42%) has contributed towards a reduced maternal mortality rate (MMR) and infant mortality rate (IMR).
- ✿ While 100% completion of the reconstruction and rehabilitation health facilities is still to be achieved, the provision of better equipped health services and trained staff are showing positive results in terms of enhanced confidence and awareness among communities.
- ✿ Trained Lady Health Workers (LHWs) based at the BHU/ RHC are instrumental for increasing awareness among the local girls, with regard to healthcare and hygiene.
- ✿ Health awareness campaigns and national health programmes are fortifying maternal, neo natal and child health services. A total of 69% of child births in EQAA are attended by skilled health care providers.
- ✿ 21% of the child deliveries are being administered at the government hospitals, which is twice the national level statistics (11%)⁴.

Water and Sanitation

- ✿ ERRA interventions in WatSan focus on rehabilitation and reconstruction of all public and community owned drinking water supply schemes as well as sanitation and solid waste management systems.
- ✿ Some of the immediate effects of WatSan include better family health and improved hygiene status.
- ✿ Availability of clean water and proximity of the water source has

³PSLM- 2006-7

⁴PSLM, 2006-7

helped in reducing women's workload. ERRA's rural water supply schemes have increased accessibility of households to clean drinking water, thereby reducing the time spent on water collection.

- ✿ With a large scale provision of rural water supply schemes across all the affected areas, 46% of the households have access to clean drinking water either through household taps, or public stand posts.
- ✿ Hygiene practices are fortified by installation of improved toilets. At present 78% of the households have installed various forms of toilets in the process of reconstruction and up-gradation of their houses (which is 4% more than the pre earthquake scenario).
- ✿ Simultaneously, open area defecation has reduced from 26% to 20%.

Governance

- ✿ ERRA adopted a two-track approach to re-establish the governance infrastructure: a) early restoration and capacity building through the provision of prefabricated offices (620), furniture and equipment, and training; and b) reconstruction and repair of damaged infrastructure.
- ✿ Construction of co-located offices within the Muzaffarabad District complex and other allied support to the civil administration by ERRA is facilitating uninterrupted extension of services, easy access and inter departmental coordination resulting in improved efficiency.
- ✿ Capacity building and provision of better equipment and facilities is introducing an enabling environment, both for the local administration and the communities.
- ✿ Households utilising services being provided by police, judiciary, and civil administration are generally (56%) satisfied.

Transport

- ✿ ERRA's efforts supported rehabilitation, reconstruction, and up-gradation of the affected roadways. Simultaneously, it strengthened the capacity of the relevant implementing agencies.
- ✿ Improved specifications, slope stabilisation, and realignment of newly constructed roads and bridges are contributing towards better traffic flow, road safety and reduced travelling time.
- ✿ Restoration of road networks have enhanced mobility and therefore easy access to important services like health facilities, markets and



schools. Hard to access areas and remote communities are now connected through newly installed Bailey bridges.

- ✿ Pace of reconstruction activities has also been improved through restored accessibility and thereby increased income generation opportunities.

Power and Telecommunication

- ✿ Earthquake 2005 disrupted the power supply to around 69% of the households across AJ&K and NWFP. Timely restoration of electricity has significantly contributed to normalcy in people's lives, the local economy and has also facilitated reconstruction and rehabilitation efforts.
- ✿ Currently electric power is restored and extended to 94% of the households. Enhanced power generation capacity (Kathai Power Station from 1.6 MW to 3.2 MW and Jalkot Power Station from 150 KW to 225 KW) has facilitated the aforementioned restoration and has increased the provision of power connections to additional consumers across the earthquake affected areas.
- ✿ Timely provision of permits/ licenses to cellular telecommunication companies to establish and operate their services has enhanced the interface of the affected areas with the rest of the country/world.

Key Conclusions

The following conclusions are drawn regarding the impact of ERRA's interventions since October 2005:

- ✿ The emerging impacts demonstrate that people's lives are back to pre-earthquake level.
- ✿ In line with its mandate, ERRA through its strategic interventions and institutional arrangements has remained relevant and instrumental for effective policy planning, financing, timely approval of projects and maintaining quality control.
- ✿ ERRA's interventions are resulting in reconstruction of housing stock, restoration of the physical infrastructure and other civic facilities, rejuvenation of economic conditions and improvement in the overall quality of life of communities that lost almost all of their assets and resources during the 2005 catastrophe.
- ✿ As reconstruction projects are being completed, the challenge of converting this adversity into an opportunity is increasingly translating into reality.



Deputy Chairman Handing Over Employment Contract of
ERRA to a Person With Disability



Science Laboratory in a Reconstructed School



INTRODUCTION



Introduction

The earthquake that occurred on the 8th October 2005 was one of the most destructive disasters⁵, centred in Pakistan-administered Kashmir and North West Frontier Province (NWFP), with its epicentre (34°29'35"N, 73°37'44"E⁶) at 19 kilometres northeast of the city of Muzaffarabad and 100 kilometres north-northeast of national capital, Islamabad. Pakistan Meteorological Department estimated the magnitude at 7.6 on the Richter scale, while the Japan Meteorological Agency calculated the intensity at 7.8.

The initial death toll estimated by the Government of Pakistan was 73,338, in addition to 128,304 injured⁷. The spread of the earthquake covered 30,000 sq km, across AJ&K and NWFP leaving 3.5 million people homeless, while directly affecting around 8 million people⁸.

The severity of damages in the regions of AJ&K and NWFP was primarily due to poor construction quality and the location of

buildings in the hazardous areas. A summary of some of the damages (estimated at US\$ 5 billion) caused due to the earthquake across the four districts of AJ&K⁹ and five district of NWFP¹⁰ are tabulated below:

- ✿ 600,000 houses destroyed
- ✿ 5,808 education facilities destroyed
- ✿ 307 health facilities destroyed or damaged
- ✿ 692 government sector buildings damaged
- ✿ 2,393 kilometres of roads and 92 bridges damaged
- ✿ 4,747 water supply schemes damaged
- ✿ Damages to power, telecommunication, livelihood and vulnerable population

The Government of Pakistan established the Federal Relief Commission (FRC), on October 10, 2005 in the Prime Minister's Secretariat to undertake early recovery and relief operations in a coordinated manner. Seeing the magnitude and duration of the response, the Government



⁵12th most destructive earthquake in the history- United States Geological Survey

⁶GeoHack- 2005 Kashmir Earthquake

⁷ERRA Annual M&E Report 2007-08

⁸"The Illinois International Review- The Pakistan Earthquake of October 2006: A Reminder of Human -Science Interaction in Natural Disasters Risk Management"

⁹Bagh, Muzaffarabad, Neelum and Poonch

¹⁰Abbottabad, Battagram, Kohistan, Mansehra and Shangla

of Pakistan notified the establishment of the Earthquake Reconstruction and Rehabilitation Authority (ERRA) on October 24, 2005.

ERRA was established as an independent organisation at the Federal level, with its affiliates Provincial Earthquake Reconstruction and Rehabilitation Agency (PERRA) and State Earthquake Reconstruction and Rehabilitation Agency (SERRA) at Provincial and State levels, and the District Reconstruction Units (DRUs) at the District level. The main role of ERRA is that of policy planning, financing, project approval, monitoring and evaluation. Additionally, it does all the coordination and provides facilitation to diverse implementing partners. PERRA, SERRA, and DRUs are its operational arms, which are responsible for implementation of projects and programmes.

ERRA has developed a comprehensive umbrella programme covering all vital sectors inclusive of Housing, Education, Health, Water and Sanitation, Livelihood, Governance, Power, Telecommunication, Transport (Roads and Bridges), Social Protection, Environment, Tourism and cross cutting programmes including

Disaster Risk Reduction, Gender Equality, and Environmental Safeguards, in coordination with all relevant stakeholders.

The ERRA Monitoring and Evaluation (M&E) Wing monitors the project and programme implementation and results of the reconstruction and rehabilitation efforts. It captures relevant challenges and their progress at various stages, along with the sectoral evaluation, and assistance to bridge the compliance gaps.

The ERRA M&E Wing follows a Matrix Management approach with specific functions divided into parallel, yet coordinated groups. It draws directly upon the management and technical support, and advice from the Technical Advisors, supported by the UK Department for International Development (DFID). The advisors work as a part of the M&E Wing, and help in developing and implementing the agenda in synchronisation with the priorities of the wing.

Following the 'Programme Logic Model' (PLM), monitoring is conducted for inputs, outputs, outcomes and impacts of ERRA's specific interventions. The regular



ERRA's Top Management in a Consultative Meeting

monitoring is applied in quantifying the quality of the programmes, assessment of the progress, identification of goals and achievements along with the challenges being faced.

Technical monitoring at the input and output level is conducted by the field based Construction Monitoring Teams (CMTs), whereas, the social survey teams (SSTs) carry out the social monitoring at the outcome and the impact level.

While technical monitoring provides the appropriateness, relevance, quality, and compliance related elements, the social monitoring reports inform the management regarding extension of services as a result of completed facilities, and changes in people's lives. To maintain the authenticity, the social monitoring and studies follow an empirically robust

methodology and sampling framework. Regular data collection is carried out according to statistically sturdy approved scale of monitoring and information gathering.

This report highlights results of the second round of Social Impact Assessment (Household) Survey, providing an opportunity to all the donors and sponsors to view changes in the lives of the earthquake affected community, directly or indirectly, intended or unintended. The report is intended to be shared with all the stakeholders and may be used as an instrument for mid-course correction, to ensure effective and efficient service delivery, and rectification in policies, strategies and approaches regarding earthquake reconstruction and rehabilitation efforts.



Deputy Chairman ERRA in a Meeting



Survey Methodology



Survey Methodology

The purpose of the Social Impact Assessment (Household) Survey was to gather information at the household level, and highlight the prominent findings with respect to changes in people's lives and to ascertain whether normalcy is being restored in terms of physical infrastructure and socio-economic status as an effect of the inputs provided and the holistic reconstruction and rehabilitation effort. To establish comparison, where applicable, the survey measures the changes with reference to their status and socio-economic conditions before the earthquake.

Social Impact Assessment (Household) Survey 2009 focussed on the following key objectives:

- ✿ To highlight effects on identifiable population groups that are emerging through various interventions, directly or indirectly, intended or unintended by ERRA and other partner organisations as part of the reconstruction and rehabilitation efforts.
- ✿ To create a link of the socio-economic changes with applicable sectoral objectives.

The present round covers both the urban and the rural areas (the first impact assessment survey of 2008 covered only rural areas). The survey tool has been developed in line with national and international standards using information gathered by Federal Bureau of Statistics (FBS) in their Pakistan Social and Living Standards Measurement (PSLM) Survey, allowing comparison of the M&E survey results with those of PSLM, as required.

The survey questionnaire was largely designed to replicate the PSLM district level questionnaire administered every two years by the Federal Bureau of Statistics with the inclusion of housing, employment and economic well-being. The advantage of this approach was that there is district level rural and urban representative data available for NWFP from 2004 and 2006, which allows pre-and post-earthquake comparisons, where applicable.

Based on previous experiences of questionnaire development and lessons learnt, a set of key indicators was followed during the process, which clustered the following sections:

- ✿ Interview Information
- ✿ Household Roster
- ✿ Education Status
- ✿ Health Status
- ✿ Employment and Economic Well Being
- ✿ Ownership of Assets
- ✿ Household Construction Details
- ✿ WatSan and other Infrastructure (Governance, Roads and Bridges, Power and Telecom)
- ✿ Access to Services and Satisfaction with Services

The survey was conducted by the ERRA M&E field offices in AJ&K and NWFP. All field teams, including the enumerators, data entry operators and the evaluators were trained in line with the survey objectives, through a comprehensive training manual. The training included specific sessions on survey management, data collection and analytical reporting for quality assurance. For quality control, evaluators from the field offices and headquarters frequently visited the field for spot-checking the data collection

process. A small sample of questionnaires were subject to a post-enumeration back-check exercise where a subsection of questions that were expected to be temporary least stable and easily recordable by the household respondents repeated on return visits.

The questionnaire was pre-tested in the field, based on the experience feedback was incorporated in the final questionnaire. Data was collected from July to September 2009. Soon after data collection, the supervisors edited, checked and cleaned the filled questionnaires manually for consistency and completeness, and referred back to field, where necessary.

Editing and coding was done at the headquarters by the data management group using the SQL data validation code

within Oracle to ensure that questioners complied with compulsory questions, skip rules, permissible numerical ranges etc. However, these rules were not ready when the survey began. Instead, these were retro-actively applied; eliminating the opportunity to provide feedback from the early collection activities and ensuring that data collection improves throughout the survey. Other than automated data corrections based upon scriptural compliance based data modification rules, no further reference was made to the field for clarification or completing missing questionnaire fields.

Quantitative results were substantiated through qualitative methods i.e. focus group discussions (FDGs) with local communities, structured in-depth interviews with key stakeholders and direct observations across all the districts.



Deputy DG M&E in Planning Meeting with Evaluators





Sampling Frame



Sampling Frame

The sampling frame was developed to cater for both the urban and rural areas. The sampling frame, designed by the Federal Bureau of Statistics, for the urban areas was used for the SIAS 2009. All urban areas comprising cities/ towns were divided into small compact areas known as Enumeration Blocks (EBs) identifiable through maps. Each EB consists of about 200 to 250 households on average, which was further categorised into low, middle and high-income groups, in line with the socio-economic status of the majority of households available in the EBs.

In case of rural areas, the list of villages/*mouzas/dehs* developed through Population Census, 1998 was used as a sampling frame. In this frame, each village/*mouza/deh* is identifiable by its name, *hadbast* number and cadastral map. All urban and rural areas of the earthquake affected areas for every affected district of AJ&K and NWFP were designed to be self representing stratum, i.e. should include sufficient households within that stratum

to provide reliable estimates.

D - 1 Sample Size and Allocation

In previous surveys, only 1,350 rural households were included. To determine optimum sample size for this survey, analytical studies based on the results of Pakistan Demographic Survey, Labour Force and Pakistan Integrated Households Sample Surveys were undertaken. Keeping in view the variations observed in the population about the characteristics for which estimates were to be developed, the distribution of population in the urban and rural domains, geographical level of estimates required, availability of field resources and cost, the sample size of 4,168 households from 264 sampled areas (enumeration blocks and villages) were considered sufficient to generate variable estimates at representative district level rural and urban estimates. The distribution of 264 sampled areas among urban (53) and rural (211) domains at FBS and village level are shown in Table D 1.

Table D 1 Number of Selected Enumeration Blocks and Villages from Sampling Frame
(Allocation of households to analytical domains for impact survey 2009)

Administrative Unit	No. of Sample					
	Primary Sample Units (enumeration area or rural settlements)			Secondary Sample Units (households)		
	Urban Block	Rural Village	Total	Urban Households	Rural Households	Total
Abbottabad	4	25	29	120	400	520
Battagram	0	25	25	0	400	400
Kohistan	0	33	33	0	528	528
Shangla	0	11	11	0	176	176
Mansehra	11	31	42	132	496	628
NWFP (Total)	15	125	140	252	2,000	2,252
Muzaffarabad	14	24	38	168	384	552
Bagh	10	22	32	120	352	472
Poonch (Rawlakot)	11	20	31	132	320	452
Neelum	3	20	23	120	320	440
AJ&K (Total)	38	86	124	540	1,376	1,916
Grand Total	53	211	264	792	3,376	4,168

E - Sample Design

A two-stage stratified random sampling scheme was adopted for this survey. EBs in urban areas and villages in rural areas were selected at the first stage while households within the sample EBs/villages were selected at the second stage.

E.Bs in the urban domain and *mouzas/dehs/villages* in the rural domain were taken as Primary Sampling Units (PSUs). In the urban domain sample, PSUs from each stratum were selected by Probability Proportional to Size (PPS) method of sampling scheme using households in each EB as measure of size (MOS). Similarly in rural areas, the population of each village was taken as MOS for selection of sample villages using PPS method of selection.

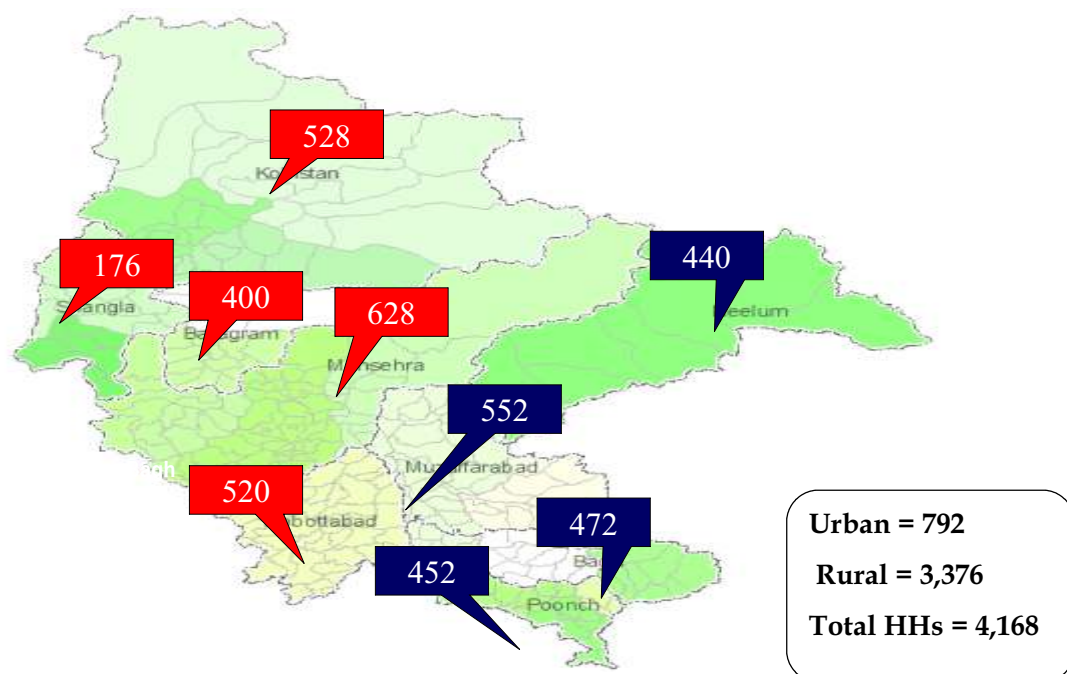
A sample of 16 and 12 households from each sampled village of rural domain and EB from urban domain respectively were selected for this survey through systematic

random sampling scheme with a random start. In urban areas of district Abbottabad and Neelum, more sample SSUs were taken from each PSU for reliable estimation.

Data was collected by direct interview method. Generally, the head of the household was chosen to provide information about all members of the household. In case of his/her non-availability at the time of interview, another informed available member of the household was interviewed instead.

During the SIAS 2009, all the EBs in urban areas and villages in rural areas were included. The number of sampled households enumerated were 4,152 (99.62% of the total sample i.e. 4,168). The gap in between the sampled and the enumerated household is mainly due to non contact and refusal cases in urban and rural areas. The post enumeration survey was also administered to ensure reliability for 10% of the total sample.

Selected Households across Earthquake affected Districts



F - Sectoral Progress and Financial Status (as of February 2010)

Table F 1 - Sectoral Progress

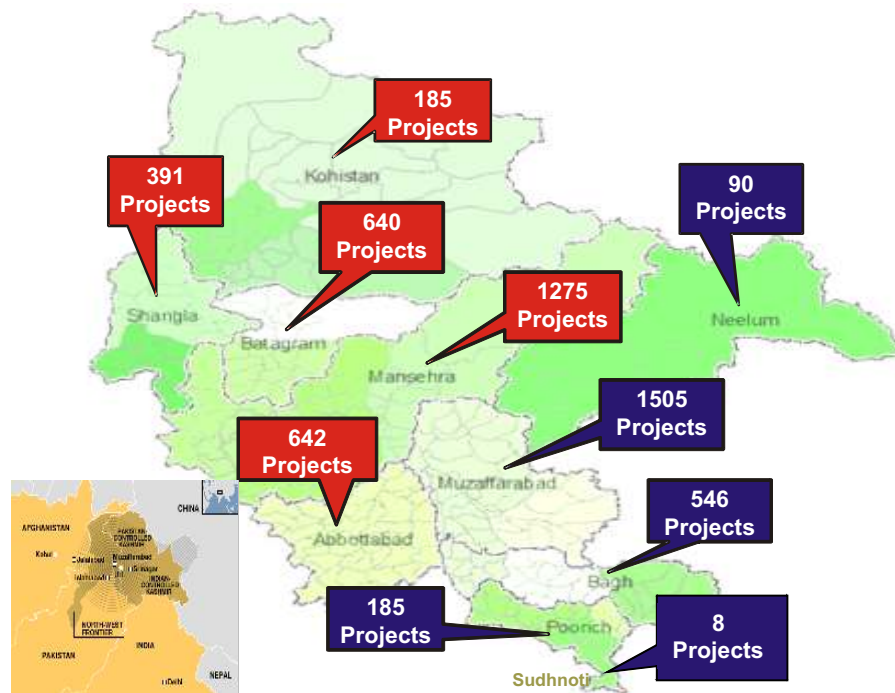
Sector	Completed	Under Construction	Tendering	Designing	Total
Health	104	117	72	14	307
Education	1,103	2,177	1,046	1,476	5,802
Water and Sanitation	3,645	960	105	37	4,747
Governance	348	315	21	8	692
Transport	91	122	5	15	233
Power and Telecom	6	7	-	3	16
Livelihood	71	248	301	47	667
Social Protection	2	4	4	6	16
Environment	97	246	113	10	466
Total	5,467	4,196	1,667	1,616	12,946

Table F 2 - Owner Driven Housing Program

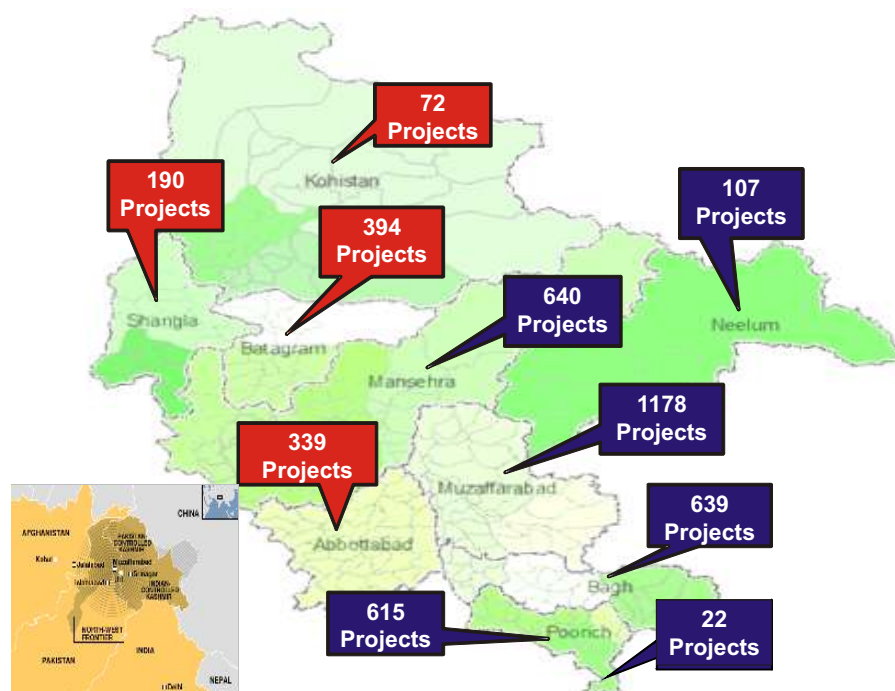
Status	Present Status	%
Construction Completed	419,624	96.14
Under Construction	16,862	3.86
Total	436,486	100

Map 1 and 2 District-wise Completed and Under Construction Projects

Completed Projects - 5497



Under Construction Projects - 4196



**Table F 3: Financial Status
(Annual Allocation / Expenditure of ERRA - PKR in Billions)**

Allocation / Expenditure	2005-06	2006-07	2007-08	2008-09	2009-10 (Up to 31-01-10)	Total
Net Allocation	37.71	13.44	16.07	22.64	25.00	114.87
Expenditure GoP	12.45	13.16	10.48	14.69	12.50	63.29
Expenditure Foreign Aid	7.53	11.75	7.22	5.33	6.00	37.84
Total Expenditure	19.99	24.91	17.70	20.02	18.50	101.14*

**Table F 3A: Year wise Sectoral Expenditure of ERRA since Inception
(PKR in Billions)**

Sectors	2005-06	2006-07	2007-08	2008-09	2009-10	Total
Housing Cash Grants given to affected people excluding PPAF	18.88	18.43	12.82	5.51	2.89	58.53
Social Protection (Livelihood Support, Capacity Building, Payment to Landless etc.)	0.97	4.36	0.44	1.37	1.40	8.54
Education Buildings	0	0.09	0.58	2.96	1.80	5.43
Public Infrastructure (Roads, Power, Governance Buildings, WatSan, Health etc.)	0.14	2.04	3.86	10.18	12.41	28.63
Grand Total	19.99	24.92	17.70	20.02	18.50	101.13*

* Another Rs. 100 billion have been directly spent by the donors and sponsors, thus overall expenditure on reconstruction over Rs. 200 billion.



Household Survey in Progress



Social Impacts of ERRA's Strategies and Efforts



1.0 | Rural Housing Reconstruction Programme (RHRP)

RHRP is ERRA's flagship programme and acclaimed as such internationally. Its salient features are:

- ✿ Owner-driven rural housing approach with assisted and inspected re-construction
- ✿ Emphasises on seismically safe construction techniques
- ✿ Provides guidelines for the affected communities
- ✿ Payments made in four tranches after inspection at various stages of construction
- ✿ A total of US \$ 1.1 Billion disbursed to those with completely destroyed houses, US \$ 8.36 Million to partially damaged, while US \$ 2.80 Million to the houses with negligible damage

The Rural Housing Reconstruction Programme (RHRP) followed an owner-driven approach, targeting amongst other things, to bring about attitudinal change in the people of the earthquake affected areas.

Prior to the earthquake, there was little or no knowledge/awareness and support for seismically resistant construction. Houses and other construction followed conventional designs that were vulnerable to earthquake. However, ERRA's efforts after the October 8, 2005 not only created awareness amongst the masses about constructing safer housing but also helped change the conventional approach to construction. Gradually, home-owners are taking initiatives to adjust their construction techniques to avoid potential damages to life and assets.

The key results are reflected in the form of a combination of:

- ✿ Adherence to ERRA's principles of seismic resistant construction
- ✿ Shift in reconstruction practices and material

- ✿ Capacity building and practice of acquired skills
- ✿ Improvements in facilities, restoration of properties, enhanced comfort and sense of structural security

1.1 Adherence to ERRA's Principles of Seismic Resistant Construction

Along with the basic principles for safe houses, ERRA has provided a menu presenting a combination of seismic resistant designs and materials to cater for different levels of affordability, availability of material and skills. There are trends of the households even outside the ERRA's RHRP adopting the ERRA's approved designs and principles. These designs include Reinforced Cement Concrete (RCC), *Dhajji* and *Bhattar* (which are tailored traditional house construction designs).

While 100% of the houses constructed under ERRA's RHRP are compliant, currently, 71% of the households constructing new houses or making

addition to their existing houses (outside the RHRP) are following the ERRA promoted and approved designs in RCC, *Dhajji*, or *Bhattar*, with full compliance which is a significant indicator of change and sustainability (Table G1.1.). A negligible percentage of newly constructed houses (outside the RHRP) are still non-compliant.

The process of cash disbursement through the tranche mechanism ensured compliance with one of the ERRA's

wood/timber or a mix of these are being reduced by 38%. This change can be attributed to enhanced awareness amongst communities and understanding of principles of earthquake resistant construction and design.

The shift in construction pattern and increased application of seismic resistant construction techniques has brought a positive influence on construction related businesses. Local traders have expanded

Table G1. 1 Percentage Distribution of Construction by Type, Currently and BEQ

	Current	BEQ	Difference
RCC	50.01	18.03	31.98
Dhajji	13.5	10.06	3.44
Mixed	8.52	23.32	-14.8
Bhattar	7.9	5.7	2.2
Mud only	7.23	34.84	-27.61
Prefabricated	4.05	0.56	3.49
Corrugated iron	2.3	0.51	1.79
Wood only	2.25	4.06	-1.81
Temporarily housing	1.69	0.25	1.44
In situ	0.92	0.47	0.45
Other	1.63	2.2	-0.57
Total	100	100	

approved designs. Such mechanism of ERRA has encouraged the owners to attain the required compliance level as scheduled.

1.2 Shifts in the Construction Practices and Material

With an increased adherence to ERRA's principles, there is a gradual shift in construction practices, too. The survey finds an increase (32%) in application of RCC construction in the earthquake affected areas as compared to the pre earthquake. Simultaneously, non prescribed, unsafe house construction using mud and heavy sections of

their business and established building construction material hubs, and small scale units for mechanized blocks production and supply of other construction materials.

1.3 Capacity Building and Practice of Acquired Skills

The introduction of an owner-driven approach and related capacity building campaigns are making the community members self-sufficient and well-trained. These are gradually opening new horizons and livelihood opportunities in the affected areas. In addition to masonry, allied skills that have been acquired by the community

are being used effectively. Timber work, plumbing, and the sale and transport of construction material are some of the emerging trades that are helping to improve the economic condition of the community.

Awareness regarding effects of earthquake on the structures, capacity building of local community and skilled craftsperson and other trainings have significantly contributed towards promotion and application of ERRA approved designs. Technical training has benefitted more than 257,000 individuals including semi skilled and skilled masons, electricians, plumbers steel fixers, carpenters and other skilled persons.

The trainings arranged by ERRA were attended by 43% of the surveyed households. Among the many methods and means employed by ERRA, awareness campaigns through the Social Mobilisation Teams were perceived by 77% of the beneficiaries as most effective. As a result, 85% of the newly constructed houses are being built jointly by informed owners and trained/skilled local human resources. This shows an optimisation of the training and proactive engagement of house owners in reconstruction.

While the full impacts of these trainings are yet to be seen, there is a small percentage of these skilled members of families, who have chosen to utilise these skills as their primary source of job.

1.4 Improvements in Facilities, Restoration of Properties, Enhanced Comfort and Sense of Structural Security

The reconstruction of houses on the ERRA's approved design is not only making them structurally safe, but is also

encouraging the owners to add and improve upon the in-house services and utilities. Improved sanitation system and addition of proper toilets, expanded kitchen/cooking areas, and additional bedrooms are some of the key improvements. More than 60% of the households consider their newly constructed houses better than the old structures.

This form of consolidation and improvement shows the application of knowledge learnt through various trainings and awareness campaigns. Inclination of the community towards better and comfortable lifestyle is an emerging impact of the rural housing programme of ERRA in the earthquake affected areas. In addition, these improvements, coupled with compliant construction, are likely to add to the property.

ERRA has played a significant role in avoiding displacement and change in the occupancy status, which are the likely results of any disaster. October 2005 earthquake destroyed around 72% of the houses in EQAAs. ERRA has supported these households through timely support for reconstruction, advice on seismic resistant design, and relocation to safer sites in proximity to their previous locations. As a result more than 90% of the affectees have settled in their previous neighbourhoods/communities.



2.0 | Livelihood and Social Protection

Livelihood

ERRA is supporting the immediate and mid-term livelihood recovery of the vulnerable groups of the population in the earthquake affected areas through implementation of:

- ✿ Community Livelihood Rehabilitation Plans (CLRPs)
- ✿ Collaborative Watershed Management
- ✿ Reviving the Capacity of the Concerned Line Departments
- ✿ Micro-enterprise Development

Social Protection

- ✿ ERRA's Social Protection interventions incorporate concrete actions, recommendations and policy guidelines for the rehabilitation of the vulnerable groups, identified as widows and women-headed households, children without parental care, persons with disabilities, the elderly and the landless

The damages caused due to the earthquake had intense affects on the livelihoods of the people in the affected areas. The majority of businesses and investments of the community members were affected directly or indirectly, i.e. either the business-sites or the sources of business were damaged or destroyed. In addition, agricultural livelihood viz cattle, crops, fruit trees, and poultry, sustained damages, which destroyed earning opportunities for the earthquake affected community.

ERRA, under its livelihood strategy, devised various means to cater for the aforementioned damages, and designed a sustainable work plan to bring lives of the affected community members back to normalcy. These included Livelihood Cash Grant, Community Livelihood Rehabilitation Plans (CLRP), establishment of Collaborative Watershed Management, Micro-enterprise Development and provision of vocational training.

Following dimensions were surveyed to ascertain the results on communities in AJ&K and NWFP:

- ø• Livelihood restoration and replacement of income losses
- ø• Sustained household economy and food security
- ø• Well-being of vulnerable groups and communities, and persons with disabilities

2.1 Livelihood Restoration and Replacement of Income Losses

To begin with, ERRA provided the Livelihood Cash Grants which helped the communities to rebuild their finances and prevented large scale insolvency and indebtedness.

Rehabilitation efforts during the early recovery programme were planned to restore the economic status of the



communities. These interventions enabled the communities to restore and sustain their income generation activities. The survey 2009 (Table G2.1) shows that more than 90% of the respondents are engaged in the same profession/ employment and income generating activities as they were before the earthquake. This demonstrates the effectiveness of the efforts to rehabilitate economic well being as well as buoyancy of communities to re-establish their economic status.

With the continued input and support from development interventions, these figures are likely to improve and shift towards more non-traditional and viable income generating activities.

2.2 Household Economic Well Being and Food Security

Under reconstruction and rehabilitation programmes, investments were made to redeem the economy to eventually improve the living standards in the affected areas, bringing the lives of the community members to normalcy.

Livelihood restoration activities focused on enabling the community to recover from the economic stress. 65% (Table G2.2) of the household members perceived that their current household economic situation has restored to the level before earthquake

Table G 2.1 Percentage Distribution of Household Income Generation Activity, Currently and BEQ

	Current	BEQ	Difference
Salary/Govt/Teacher/NGO/UN	20.98	21.62	-0.64
Skilled labour	14.85	15.02	-0.17
Business/petty trade/shop keeping	13.95	13.49	0.46
Non-agri wage labour	12.73	12.9	-0.17
Crop or fruit vegetable prod	10	9.91	0.09
Taxi/ transport	5.04	5.04	0
Agriculture/wage labour	3.65	3.53	0.12
Pension	3.33	2.63	0.7
Permanently away	2.58	2.75	-0.17
Private professional	2.46	2.14	0.32
Hotel / Restaurants	1.14	1.17	-0.03
Military services	1.14	1.48	-0.34
Cross border trade	0.97	0.97	0
Livestock prod	0.78	0.85	-0.07
Others	6.4	6.5	-0.1
Total	100	100	

or has relatively improved. The community attributed the restoration and improvement in their economic situation primarily to increased earning opportunities as a result of enhanced reconstruction portfolio and improved resource-to-market access. A total of 46% of the households were in a poor economic state even before the earthquake. This proportion has reduced to 36%. These are the families that are still struggling and making efforts to improve their economic status. Inflation and price hike are considered as some of the restraining factors.



supplement the survey). Women, particularly widows, are involved in agricultural activities and are able to form assets. They are effectively producing

Table G2.2 Percentage Distribution of Overall Economic Situation of Households, Currently and BEQ

	Current	BEQ	Difference
Substantially worse	8.46	13.96	-5.50
Marginally worse	27.31	32.25	-4.94
Same	52.81	32.62	20.19
A little better now	10.37	15.17	-4.80
Much better now	1.09	5.81	-4.72
Do not know	0.028	0.19	-0.16
Total	100	100	

The earthquake forced many of the community members working in other areas of Pakistan and abroad to return to their homes for reconstruction of their houses. This adversely affected the income of these households after the earthquake. However, over a period of the last four years with continued support, and growing income opportunities their economic status has also gradually restored and stabilised. The survey results show that the percentage of community members receiving domestic and foreign remittances is close to attaining pre-earthquake status.

Women participation in income generation is another subject addressed during the focus group discussions (conducted to

handicrafts, sewing and stitching clothes and manufacturing hand woven carpets, which have improved their financial status in the community. Kitchen gardening is yet another activity through which female community members are helping their families generate income.

Improved food security is also one of the important indicators for sustained livelihood and economic stability. The earthquake caused food insecurity in the affected areas. The immediate food needs of the community were met through the timely relief efforts and other food security related activities i.e. food for work. These activities supported the community in meeting their immediate food needs and relieved them to drive the efforts for

reconstruction activities. The survey results show that food security has been achieved to the same level as before the earthquake. More than 90% of the households responded that they are adequately covering their family food needs.

2.3 Mainstreaming of Vulnerable Groups and Communities, and Persons with Disabilities

The devastation caused due to the earthquake affected the lives of hundreds and thousands of people. ERRA had to take initiatives to ensure the physical and psychosocial rehabilitation of vulnerable groups of people.

ERRA devised the Social Protection strategy which incorporates the steps necessary to facilitate the vulnerable population in the earthquake affected areas. ERRA initiated the efforts of physical rehabilitation by planning the setting up of 18 different projects including Medical Rehabilitation for Disabled in the Earthquake Affected Areas (MRDEA), Women Development Centres, Skills Development Centres, and Social Welfare Complexes.

Rural Landless (RLL) and Virtual Landless (VLL) policies of ERRA facilitated affectees

through 'one-window operation' services. Legal Aid Centres (LACs) were helpful to all those (52% of the surveyed) in need of legal assistance to secure their rights. This has also enhanced their understanding of legal processes.

ERRA's efforts are helping to improve the lives of the vulnerable people in the earthquake affected areas by increasing these income generation opportunities. These initiatives are also facilitating establishment of linkages of the affected community with various government and non-government organisations, creating new windows of opportunities while protecting the legal rights of the vulnerable members.

The introduction of MRDEA has enhanced the awareness of the target group and has helped them utilize the services as needed. Periodic visits to the rehabilitation centres have improved their physical condition and PWDs are finding these services productive and sustainable. As a result, PWDs are not only able to live a life close to normalcy, but are involved in various skilled and semi-skilled labours, through which they are able to earn for their families. Respondents during FGDs have been involved in teaching, bank counters, and even public departments.



3.0 | Education

Education

- ✿ Largest sectoral portfolio, i.e., 5,804 educational facilities
- ✿ 'Build Back Better'- providing additional facilities like labs, libraries and safer, spacious and additional classrooms for future needs
- ✿ ERRA is pro-actively encouraging contractors with experience of alternate fast track technologies to expedite the construction activities viz:
 - o Light-gauge cold-formed galvanised steel structures
 - o Structural Concrete Insulated Panels
 - o Introduction of hot rolled steel structures

The education infrastructure in the earthquake affected areas was severely damaged. Along with the destroyed or damaged educational institutions, a large number of trained teaching staff and students of all ages either lost their lives or were severely injured. Immediately after the earthquake, measures were taken by ERRA to ensure uninterrupted conduct of educational activities in the affected areas.

The completed educational institutions are being equipped properly for better service delivery to students of the earthquake affected areas.

Household survey 2009 attempts to capture the overall impacts and ascertain the present education related status in terms of:

- ✿ Literacy rate
- ✿ Enrolment and school attendance
- ✿ School attendance by types of educational institutions
- ✿ Satisfaction of parents with education services

3.1 Literacy Rate

Survey results show a higher (62%) literacy rate among households of the earthquake affected areas, compared with the national statistics (55%)¹¹. The literacy is relatively higher in AJ&K for both male and female compared with that in NWFP.

A high literacy rate is proportionate to high levels of awareness amongst households, especially parents regarding importance of education for their children, and investment in related areas for their career development.



Hazara University

3.2 Enrolment and School Attendance

The devastation caused by the earthquake created a scare among the community members. The destruction of schools, death of teachers and students, and disabilities caused to those buried under the rubble resulted in a high level of reluctance among parents to send their children to schools, despite knowing the importance of education.

ERRA's interventions in the education sector and its strategic approach to restore the education services in temporary structures, coupled with psycho social training and trauma counselling have helped parents as well as children to regain confidence. Seismically safe school construction using better and improved designs has also created an enabling environment for the students to attend these institutions.

ERRA's decision to temporarily restore damaged schools and to continue the academic session were very critical in restoring school enrolment and bringing it back to the same level as before the earthquake. Survey results show that the current enrolment of children of school going age is 53.25%, which is 3.25% higher than pre earthquake enrolment rate that was 50%¹².

Restoration and improvement in the enrolment rate is a significant finding. Considering the crisis faced by the community at the time of earthquake, it is encouraging to see a high percentage of parents sending their children to schools.

3.3 School Attendance by Types of Educational Institutions

Children of school going age are enrolled with a variety of institutions (Table G3.1). The majority of the students are attending Government institutions (71%), or privately operated schools (24%). The percentage of students enrolled with the Government educational institutions is higher in NWFP as compared to AJ&K. A very small percentage of students (5%) are enrolled with educational facilities operated by NGOs, private tuition centres, non formal schools, *deni madaris* and mosques, etc.

Table G 3.1 Percentage Distribution of the Enrolment by Type of Educational Institution

Govt. school	70.95
Masjid school	0.3
Private school	23.78
Deeni Madrasa	1.23
NGO, trust etc	0.41
Non-formal	0.07
Private tuition	0.43
Others	2.83
Total	100



The reason for the marked difference of choice of institutions between the Government (71%) and the private schools (24%) parents' perception that the Government institutions offer better quality of education through trained teaching staff and supporting services at affordable fees. In addition, there are two other key reasons for choosing the Government schools over a privately operated institution. These are:

- ❖ Not all private schools have separate sections for boys and girls, while the Government schools have separate facilities for both boys and girls.
- ❖ Government schools have better outreach and coverage than private schools, and are therefore, well

within reach for most of the communities.

3.4 Satisfaction of Parents with the Education Services

The survey also captured the satisfaction level of parents with the education services. The results show that 68% of the respondents have no problem with the educational facilities available at educational institutions where their children are enrolled. As discussed earlier, the majority (71%) of the students are enrolled in Government schools. While 100% completion of educational institutions is underway, the continuation of education and availability of teaching staff, even in temporary/pre-fabricated schools are major reasons to make parents feel satisfied.



AJ&K University, Mazaffarabad Campus

4.0 | Health

- ✿ New health facilities are designed to provide integrated essential service delivery packages
- ✿ Health facilities reconstructed after the earthquake are better than before due to:
 - o Construction of state-of-the-art buildings
 - o Provision of latest equipment and facilities
 - o Better trained staff

The earthquake of October 2005 gravely affected the healthcare infrastructure in AJ&K and NWFP. There was a complete disruption of healthcare network after the earthquake and it was rendered paralyzed. After rationalisation, 307 healthcare facilities were identified to be reconstructed or retrofitted. To improve the efficiency of the health delivery systems, smaller units of service delivery including first aid posts, TB centres, and mother and child health centres were integrated with four-tier service delivery system.

ERRA restored the health care system with the help of its partners and, to date, 104 permanent health facilities have been completed with improved access for persons with disability. The remaining health facilities are running in prefabricated structures. Importantly all damaged health facilities are functional and providing primary health care services, maternal and neo-natal care, and emergency service.

The social impact (household) survey captures the cumulative results on the health status of the affected population viz:

- ✿ Extension of Health Services, Capacity Building and Awareness
- ✿ Status of Immunization and Diarrhoeal Infection
- ✿ Maternal, Neo-natal, and Child Health Services

4.1 Extension of Health Services and Awareness

There is an increased level of satisfaction over health services due to the provision of better facilities such as the availability of health professionals (doctors, para-medical), medical equipment, and essential medicines. Of the respondents reporting sick or injured within the last two weeks, 87% accessed health services. A majority of them (49%) consulted public health facilities.

A majority of the respondents availing



public health facilities perceived these to be satisfactory. Improved service delivery including availability of doctors, paramedical staff, essential medicines and required equipment and enabling environment are providing confidence with public health services and encouraging the affected community to visit the public health facilities. A large percentage of those availing private health facilities deemed these to be too expensive.

The impact survey indicates that 33% of the households reported regular monthly visits by lady health visitors (LHVs) that are based at local BHUs and RHCs. Capacity building interventions were extended through LHVs/LHWs. These LHVs/ LHWs not only supported the health service extension but served as a resource for health related awareness and capacity building, especially among young women. Such interventions were supplemented through ERRA in collaboration with UNICEF and the Ministry of Health as well.

Systematic and focused communication and outreach strategies have increased the quality of service delivery and capacity of health professionals. They have also created a demand among community for accessing the health facilities and has increased the awareness among community members.

4.2 Status of Immunization and Diarrhoeal Infections

The impact survey records that over 80% (94% in AJ&K & 68% in NWFP) of children (both boys and girls) under the age of five years are being vaccinated according to schedule. Immunization across the earthquake affected districts is higher compared to the national statistics of 76%. Vaccination in the urban areas was quite high in comparison to the rural areas. A

low immunization trend among rural communities is partly because of the prevailing socio-cultural and religious barriers. A total of 46% of the households are maintaining vaccination cards. This percentage is better than the national figures, where the maintenance of vaccination cards is lower. The steady progress in immunization is due to increase in awareness among the community related to health practices, improved service delivery and quality assurance mechanisms.

Diarrhoea is one of the leading causes of child mortality in Pakistan. It was noted during the survey that 12% of children under the age of five years suffered from diarrhoea within the last 30 days. However, 90% of such cases acquired consultations for proper treatment. Around half (51%) of them consulted private health professionals, whereas, around 43% consulted public health facilities and professionals. The consultation of public health professionals and facilities in earthquake affected areas is more than twice as high compared to national status, which is around 20%.

Awareness and practice of using Oral Rehydration Salt (ORS) during diarrhoea is also recorded to be on the higher side. The survey found that ORS is being used by



85% of households, 75% of the households purchased it from the pharmacy and 10% prepared ORS at home. The percentage use of ORS during diarrhoea is comparable with that of the national level (78%).

4.3 Maternal, Neo-natal, and Child Health Services

Pre-natal care is an important factor for safe motherhood. A total of 50% women of child bearing age had children in the past three years. 52% of these women accessed prenatal care during their pregnancy. The majority (61%) of these women were provided health care services by public health professionals. The percentage of consultation of RHCs/BHUs (52%) is much higher if compared to national statistics of usage of Government health facilities (which is 25%).

The presence of proper health infrastructure, quality of service, and improved access to maternal health care facilities reduces the chances of death during child birth. The impact survey 2009 indicated that 64% of women had home deliveries, which is comparatively (4%) lesser than the national level statistics.



Furthermore 21% of women had deliveries at the Government facilities (higher than the national level 10%). Trained and qualified health care providers play a significant role for safe deliveries. The survey shows that 69% of deliveries were attended by trained health professionals.

A total of 42% women reported receiving post-natal care as compared to the national percentage of 24%. Such services were mainly (76%) provided by public health care providers and facilities. Proper care and quality of post-natal services is likely to reduce the infant and child mortality rate in earthquake affected areas.



Shaykh Khalifa Bin Zayad Al Nahyan Hospital Muzaffarabad

5.0 | Water and Sanitation

- Emphasises improved water quality, quantity and accessibility
- Provides a holistic set of interventions including provision of safe drinking water, proper sanitation system, solid waste management and community education for improved hygiene behaviour

The October 8, 2005 earthquake had devastating effects on the lives of the people. The destruction of 4,747 water supply schemes and damage to intake structures, water treatment plants, storage reservoirs, supply mains and distribution networks further aggravated the situation. ERRA responded to address the issue with restoration of rural water supply schemes. This was followed by awareness raising, hygiene education and other activities to strengthen the sanitation systems etc.

The key results are reflected viz:

- Availability and access to clean drinking water
- Enhanced hygiene awareness and improved health status

5.1 Availability and Access to Clean Drinking Water

As a result of ERRA's efforts, 46% of the communities and households have access to clean drinking water either through household taps, or public stand posts that are located within a distance of 75-100 metres from their houses. Protected springs, protected wells, and hand pumps constitute major sources of drinking water for around 13% of the households. However, still 41% of the households are relying on sources such as unprotected springs, river/ lake/pond/streams, and unprotected wells, which is a lower percentage (45%) compared to the pre-

earthquake time (Table G5.1). This trend is expected to improve with enhanced awareness and increased access to safer sources of water.

Table G 5.1 Percentage Distribution of Household's Main Source of Drinking Water, Currently and BEQ

Type of Facility	Current	BEQ	Difference
Piped into house	41.77	38.27	3.5
Unprotected spring	27.6	30.36	-2.76
Protected spring	8.42	9.42	-1
River/lake/pond/stream	8.2	9.18	-0.98
Outdoor tap	4.41	3.51	0.9
Unprotected well	3.31	3.24	0.07
Protected well	2.31	2.48	-0.17
Hand pump	1.8	1.34	0.46
Others	2.18	2.2	-0.02
Total	100	100	

The access of communities and households to WSS and clean water sources corresponds with the completed ERRA's projects (44%). The percentage of households with clean water supply through individual household taps and community taps (46%) is higher if compared to pre earthquake (42%). The coverage of rural water supply has also increased due to the installation of new stand posts, provision of household connections, and the extension of supply lines, as per requirement. This shows not only restoration but improvement in the water supply status of communities that

faced a complete loss of this facility. This proportion would certainly increase in the future with the progressing number of completed rural water supply schemes.

The proximity of water dispensing posts within a convenient distance is making it easier and thereby saving time for households, especially women to fetch water. The saved time is being utilized for other household activities, kitchen gardening, plantation, educating their children and other productive activities.

For all ERRA's schemes, communities were consulted for the location of the sources, pipelines lying and site selection of the storage tanks. This has not only enhanced the community ownership of the projects but increasing the likelihood of their post project management and maintenance. Increased ownership is already showing positive results in certain communities where contributions are being raised for the operation and maintenance of the water supply schemes.

5.2 Enhanced Hygiene Awareness and Improved Health Status

The supply of clean drinking water, coupled



Rain Water Harvesting-Water being used for Clothes Washing

with hygiene promotion and a general awareness raising through a set of development initiatives are showing positive results on health status. Improved hygiene practices are gradually integrating into household routine.

More than 20% of the surveyed households reported to have received

Table G 5.2 Percentage Distribution of Household Having Toilet by Kind, Currently and BEQ

Kind of Latrine	Current	BEQ	Difference
None-open area	20.21	25.62	-5.41
Flush to sewerage	16.95	16.31	0.64
Flush to septic tank	46.39	43.24	3.15
Flush connected with drain	5.54	5.16	0.38
Raised latrine (improved)	0.45	0.42	0.03
Pit latrine	10.02	8.95	1.07
Others	0.45	0.31	0.14
Total	100	100	

hygiene training imparted through various development organisations. In addition, installations of ERRA's water supply schemes were followed by trainings to beneficiaries on promotion of use of safe drinking water to maximize the health benefits and hygiene awareness. Enhanced awareness through trainings is bringing about a behavioural change and a gradual shift towards better hygiene practices.

An overall trend to improve the housing stock as a part of reconstruction is resulting in more houses with some form of proper latrines. At present around 80% of the households have installed some forms of proper in house sanitation system/latrines that are connected to the primary sewerage system, or external septic tanks, or sanitation pits (Table G5.2).

The availability of adequate water and hygiene education are fortifying such improvement in household sanitation. This is directly influencing open area defecation, which has reduced by 5% compared to pre earthquake practices, supplementing a potential reduction in diseases.

Simultaneously, improvement in the physical environment and the availability of related facilities such as taps and washing areas within the houses are promoting hygiene practices. For example, as a result of the hygiene promotion sessions, using soap for washing hands before having food and after defecation and using toilets and properly disposing of solid waste are some of the key results that are helping communities to prevent diseases. Prevalence of diarrhoeal diseases among children of five year or less (12%) is still lower than the national level (17%).



Water Filtration Plant with Ground Water Pumping Scheme

6.0 | Governance

- ✿ Reconstruction and rehabilitation to ensure that the public sector physical infrastructure is upgraded and becomes functional through the construction of seismically safe structures
- ✿ It emphasises on custom made and co-location of facilities to expedite processing of issues related to communities
- ✿ It also includes provision of necessary capacity building components in the shape of furniture, equipment, consultancy, etc.

The buildings that housed the offices of civil administration, the police and the judiciary and their residences in the earthquake affected areas were severely damaged and destroyed, paralysing the whole administrative structure. To respond to the challenge of restoring governance structure, immediate actions were taken to provide prefabricated offices, furniture, equipment and training to the staff of different departments.

The ERRA's strategy focussed on reconstructing seismic resistant buildings, to expand and improve the facilities, provision of equipment, furniture and technical support to strengthen the capacities of the State/Provincial departments. A total of 692 buildings were to be reconstructed and repaired in both AJ&K and NWFP. While the work on the repair of the buildings has been almost completed, the reconstruction is proceeding according to plans. Prefabricated structures, in the meantime, continue to provide uninterrupted services to the public where the reconstruction of buildings is in progress.

The household survey for impact assessment captures the effect of restoration viz:

- ✿ Enhanced effectiveness of public offices and service delivery
- ✿ Beneficiaries perspective in terms of satisfaction over services received

6.1 Enhanced Effectiveness of Public Office and Service Delivery

During the reconstruction phase, a new concept of a co-located district complex was introduced, where the offices of all the Government departments and the residential accommodation of the staff working in these offices are located in just one building complex. One such district complex, at Muzaffarabad, has been completed and is now functional. Work on the construction of such complexes in



Bagh, Rawlakot, Shangla, Battagram and Tehsil complex Balakot, are at various stages of planning and implementation. The co-located district complex has improved the effectiveness, efficiency and quality of services by providing different services under one roof. Infrastructure development, proper and relevant equipment, inter-department coordination and capacity building interventions have also added value by improving the quality of service delivery. A combination of the aforementioned will lead to a saving of resources and time and provide a convenient service to beneficiaries.

6.2 Beneficiaries Perspective in terms of Satisfaction Over Services Received

Satisfaction and confidence of community members has gradually enhanced as a result of ERRA's cumulative efforts to restore the governance related infrastructure. The perception is that the quality of services of general administration, police and courts has improved compared to pre-earthquake period. With the completion and functioning of the full portfolio, the trends are likely to improve and create a better state of governance.



District Complex Muzaffarabad

7.0 | Transport

- ✿ Transport sector includes rehabilitation and reconstruction of major inter/intra district roads, bridges and other related infrastructure with improved specifications and geometry
- ✿ The sector aims at rehabilitating and upgrading important link roads as well

The 2005 earthquake affected the road infrastructure in nine districts of NWFP and AJ&K by damaging 2,393 kilometres of roads and 96 bridges. A transitional rehabilitation of roads and bridges was a top priority for relief and reconstruction activities immediately after the earthquake. For the economic revival in the long term, a permanent rehabilitation has remained a priority with ERRA during the past four years.

To measure the cumulative results of road infrastructure reconstruction and allied investments, the 2009 survey and assessment focused on two key aspects:

- ✿ Restoration of Road Infrastructure and Rehabilitation of EQAA
- ✿ Improved and Easy Access and their Effects on Earning Opportunities

7.1 Restoration of Road Infrastructure and Rehabilitation of EQAA

Roads and related infrastructures are the only means of transport for the earthquake affected districts of Pakistan. This enhances the importance of timely restoration and reconstruction of well designed roads and bridges. So far 45 road projects and 46 bridges have been completed. A total of 82 road projects and 39 bridges are under construction. Due to the timely restoration and reconstruction

of roads and bridges, projects were able to help by providing timely relief and emergency services to the affected areas. They were also able to rehabilitate the socio-economic activities for bringing lives back to normalcy due to the easy access to different facilities and services.

7.2 Improved and Easy Access and their Effects on Earning Opportunities

The improved specifications and geometry of newly constructed roads and bridges by ERRA have greatly enhanced access and significantly reduced travelling time. As a result communities are more able and frequently availing different services as compared to pre-earthquake period. The



household survey 2009 shows that an overwhelmingly majority (95% of households) has easier access and has thereby improved the utilisation of different civic services including public transport, general administration, courts, police station, agricultural extension offices, micro credit outlets and banks. Educational facilities have also benefitted with the improvement of students and teachers attendance. This comes as a result of the improved connectivity due to reconstruction of new roads.

The restoration of road networks has

enhanced the pace of reconstruction activities through improved accessibility and has thereby increased income generation opportunities of the local and domestic industrial and agricultural producers. The reconstruction of the roads network is one of the major activities where many skilled and unskilled labourers are earning their livelihood. Better sources to market access and improved means of communication were quoted as the two major factors for improved business opportunities, which are a direct result of restored roads and bridges.



8.0 | Power and Telecommunication

- ✿ The Power sector ensures restoration of electricity supply to pre-earthquake levels and to provide necessary spares and human resources to enhance local capacities
- ✿ The Telecommunication Sector ensures restoring and upgrading, where necessary, of all services with better infrastructure in AJ&K (or affected areas)

To measure the results of the Power and Telecommunication Strategies and efforts, the 2009 household survey looked into the combination of:

- Restoration and expansion of power supply to communities
- Expansion of telecommunication services and infrastructure

8.1 Restoration and Expansion of Power Supply to Communities

The 2005 earthquake disrupted power supply to approximately 70% of households that were connected to the electricity grids at that time. Prompt restoration of electricity in the earthquake affected areas, using emergency measures, greatly facilitated the overall recovery effort. Work on restoration and up-grading of power stations, grid stations, transmission and distribution systems have enhanced the outreach and improved access of the affected population to electricity.

Enhanced power generation capacity (Kathai Power Station from 1.6 MW to 3.2 MW and Jalkot Power Station from 150 KW to 225 KW) has correspondingly increased coverage, especially for the rural areas. Electricity connections have been restored for 94% of the households that have uninterrupted access to electricity power for lighting. Cumulative efforts of early restoration of electricity, enhanced coverage and upgraded facilities are helping the revival and expansion of socio-economic development and bringing back

life to normalcy.

8.2 Expansion of Telecommunication Services and Infrastructure

Work on the re-establishment and repair of destroyed and damaged telecommunication network was started immediately after the catastrophic event. In NWFP, the work to restore the system was undertaken by the Pakistan Telecommunications Limited (PTCL). ERRA's intervention was restricted to supporting the Special Communication Organisation (SCO) responsible for the affected areas in AJ&K.

Connections and usage of mobile phones and services rapidly increased from 24% before the earthquake to 68% at present (AJ&K). This increasing trend has been a result of the enabling environment and policies of ERRA which has streamlined the issuing of licenses for cellular telecommunication companies, especially in AJ&K. Enhanced communication coverage to the affected population has helped in early restoration and reconstruction efforts, fast and easy communication, ease in business and job provision.

This is also significant increase in cellular communications across the earthquake affected areas, which will improve the ability of communities in EQAA to warn, coordinate and reconstruct should such a disaster affect these areas again.



Conclusions



Conclusions

The social impact assessment (household) survey 2009 and analyses provide a statistically robust picture of the effects of cumulative reconstruction and rehabilitation efforts made by ERRA, its partners and other development organisations. The findings are in accordance with the expected results articulated in the ERRA sectoral strategies, as well as those presented in different reviews by donors, international partners, Government of Pakistan's different household level surveys, particularly in Pakistan Social and Living Standard Measurement Survey 2006-7.

- ✿ The emerging impacts are showing that local institutions are being strengthened to create a sustainable support infrastructure and people's lives are coming back to normalcy.
- ✿ The positive trends and development thus far highlights local communities' resilience against

catastrophe; ability to regenerate local economy, and optimisation of development initiatives and opportunities.

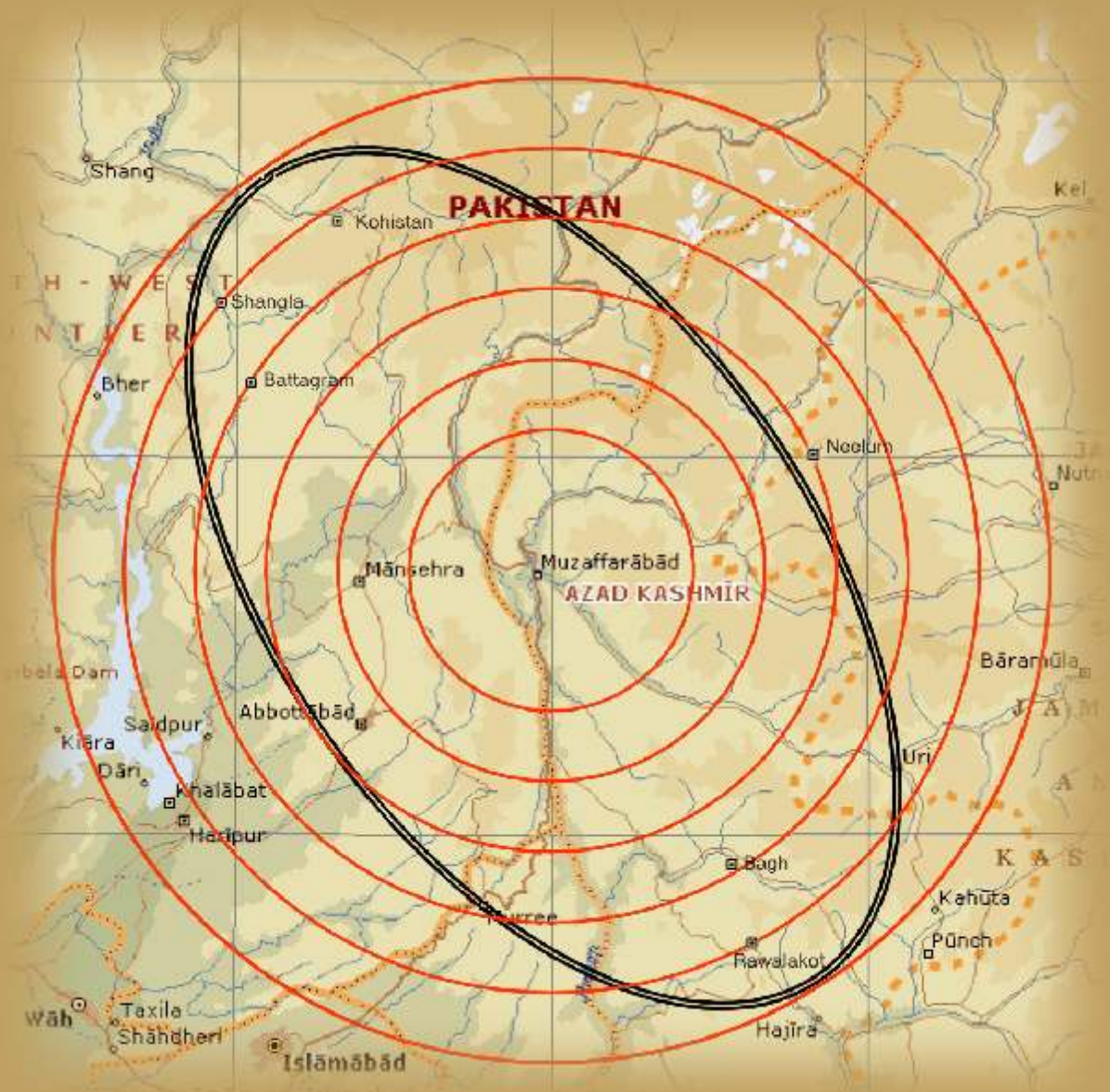
- ✿ In line with its mandate, ERRA through its strategic interventions and institutional arrangements has remained relevant and instrumental for effective policy planning, financing, timely approval of projects and maintaining quality control.
- ✿ ERRA's interventions are resulting in reconstruction of housing stock, restoration of the physical infrastructure and other civic facilities, rejuvenation of economic conditions and improvement in the overall quality of life of communities that lost almost all of their assets and resources during the 2005 catastrophe.
- ✿ As reconstruction projects are being completed, the challenge of converting this adversity into an opportunity is increasingly translating into reality.







Social Impact Assessment Report 2009



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