Completion Report

July 2015

# Pakistan: Final Report on the Pakistan Earthquake Fund



Asian Development Bank

## ABBREVIATIONS

| | | |
|---|---|---|
| ADB | – | Asian Development Bank |
| BHU | – | basic health unit |
| DHQH | – | district headquarter hospital |
| EMP | – | environmental management plan |
| ERRA | – | Earthquake Reconstruction and Rehabilitation Agency |
| FMIS | – | financial management information system |
| GIZ | – | Deutsche Gesellschaftfür Internationale Zusammenarbeit |
| KPK | – | Khyber Pakhtunkhwa |
| LAC | – | legal aid center |
| NESPAK | – | National Engineering Services Pakistan |
| NGO | – | nongovernment organization |
| NHA | – | National Highway Authority |
| NWFP | – | North-West Frontier Province |
| PEF | – | Pakistan Earthquake Fund |
| PERRA | – | Provincial Earthquake Reconstruction and Rehabilitation Authority |
| PIU | – | project implementation unit |
| RHC | – | rural health center |
| SMC | – | school management committee |
| TA | – | technical assistance |
| THQH | – | *tehsil* headquarter hospital |

## NOTES

(i) In this report, "$" refers to US dollars, unless otherwise indicated.

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**CONTENTS**


| | | Page |
|---|---|---|
| I. | INTRODUCTION AND BACKGROUND | 1 |
| II. | SCOPE AND OUTPUTS OF PAKISTAN EARTHQUAKE FUND | 1 |
| | A. Quick Disbursing Assistance | 2 |
| | B. Sector Components | 2 |
| | C. Capacity DevelopmentTechnical Assistance | 6 |
| III. | PEF UTILIZATION | 7 |
| IV. | IMPLEMENTATION ARRANGEMENT | 7 |
| V. | PROCUREMENT AND IMPLEMENTATION | 8 |
| VI. | PERFORMANCE OF ADB | 9 |
| VII. | PEF OUTCOMES AND IMPACTS | 10 |
| VIII. | OVERALL ASSESSMENTE AND RECOMMENDATIONS | 11 |
| | A. Overall Assessment | 11 |
| | B. Lessons | 12 |
| | C. Recommendations | 14 |

APPENDIXES

| | | |
|---|---|---|
| 1. | Utilization of Consulting Sercvices | 16 |
| 2. | Pakistan Earthquake Fund: Status at Completon | 17 |
| 3. | Student Enrolment Ratio Comparision | 19 |

## I. INTRODUCTION AND BACKGROUND

1. Pakistan suffered a magnitude 7.6 earthquake on 8 October 2005.According to the Government of Pakistan, about 73,000 people died and more than 70,000 were severely injured or disabled. More than 2.8 million people were left homeless and 2.3 million people without adequate food. The overall cost of relief and reconstruction associated with the earthquake was estimated at $5.2 billion.[1]An estimated 324,000 jobs were lost, affecting about 29% of the population previously employed in the districts hit by the quake.

2. On 14 November 2005, the Asian Development Bank (ADB) approved the establishment of the Pakistan Earthquake Fund (PEF) to support the government's reconstruction efforts with an initial grant commitment from ADB of $80.00 million.[2] The PEF commitments subsequently increased to a total of $139.50 million equivalent through additional commitments of $59.50 million equivalent (in various currencies) from the governments of Australia (A$20.00 million), Belgium (€9.92 million), Finland (€10.00 million), and Norway ($20.00 million). On 13 December 2005, ADB approved the Earthquake Emergency Assistance Project,[3] using the initial grant of $80.00 million from the PEF and a loan of $220.00 million equivalent from ADB's Asian Development Fund resources.[4]The scope of the project was increased through three subsequent approvals—in December 2006, March 2007, and September 2007—wherein ADB increased the PEF grant commitment for the project from the original $80.00 million equivalent to $137.50 million equivalent to accommodate the preference of the PEF contributors.[5] In addition, ADB approved capacity development technical assistance (TA) amounting to $2.00 million in June 2007, using the PEF grants.[6]

3. This final report on the PEF-financed operations has been prepared for the contributors to the PEF and ADB's Board of Directors, in line with para. 38 of the PEF Board paper (footnote 2). It complements the project completion report.[7]

## II. SCOPE AND OUTPUTS OF PAKISTAN EARTHQUAKE FUND

4. The PEF's objective was to pool and deliver emergency grant financing promptly and effectively to Pakistan for investment and TA projects to support immediate reconstruction, urgent rehabilitation, and associated development activities. Priority was to be given to activities that could address immediate requirements.

5. The PEF financing for the project was $137.50 million. This was to be used to partly finance the three components of the project: (i) quick-disbursing assistance for import financing ($65.00 million); (ii)project sector components of health ($7.35 million) and education

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1 ADB and World Bank 2005.*Preliminary Damage and Needs Assessment*. Islamabad.

2 ADB. 2006. *Pakistan Earthquake Fund*. Manila; ADB. 2006. *Proposed Change to Rules Governing Contributions to the Pakistan Earthquake Fund and Increase in Financing and Change in Implementation Arrangements of Loan 2212-PAK Earthquake Emergency Assistance Project*. Manila; ADB. 2007. *Increase in Financing of the Earthquake Emergency Assistance Project*. Manila.

3 ADB. 2005. *Report and Recommendation of the President to the Board of Directors on Proposed Loan, Earthquake Fund Grant, and Technical Assistance Grant to Islamic Republic of Pakistan for Earthquake Emergency Assistance Project*. Manila.

4 Loan 2213-PAK (SF) for the Project was in special drawing rights (SDR) amounting to SDR154.20 million.

5 The Project includes a grant of $137.50 million equivalent (Grant 0029-PAK) from the PEF committed by the governments of Australia, Belgium, Finland, and Norway; a cofinancing grant of $37.50 million (equivalent to €30.00 million Grant 0037-PAK) from the European Union; and a loan of SDR162.50 million (equivalent to $232.50 million) from the Asian Development Fund.

6 ADB. 2007. *Technical Assistance for Institutions Related to Earthquake Reconstruction and Rehabilitation*. Manila.

7 ADB. 2012. *Completion Report: Earthquake Emergency Assistance Project in Pakistan.* Manila.

($32.54 million);and (iii) implementation assistance, including legal assistance and governance subcomponents ($31.46 million). It also included $1.15 million for service charges. These components were redesigned to support each other to mitigate earthquake losses in the affected communities and provide rapid rehabilitation and reconstruction of priority infrastructure. They were located in the province of Khyber Pakhtunkhwa (KPK) and districts of Muzaffarabad, Poonch, Neelum and Bagh.

## A. Quick Disbursing Assistance

6. In accordance with ADB policy, a portion of the PEF funds ($65.00 million) was used for quick-disbursing assistance to partly finance the unusually high and unplanned import expenditures required for emergencies.[8] The performance of the quick-disbursing component was satisfactory. It financed imports of mainly fuel, food, and emergency equipment out of the list of import items agreed with the government (footnote 3). The imports were completed in 2006 and fully distributed and utilized in the same year.

## B. Sector Components

7. The PEF grant of $39.89 million was allocated to jointly cofinance rehabilitation and reconstruction of earthquake-damaged health ($7.35 million) and education ($32.54 million) facilities, by providing civil works, equipment, and materials using appropriate construction standards. In addition PEF financed implementation assistance component ($31.46 million)providing for operational support, consulting services and legal assistance. The targets and achievements against each component are detailed below.

### 1. Heath Sector

8. The revised scope of the health sector component included (i) reconstruction of one district headquarter hospital (DHQH), two *tehsil* (subdistrict) headquarter hospitals (THQHs), one rural health center (RHC), 90 health sector residential units, and 26 basic health units (BHUs), including wards, operating theaters, outpatient departments, and staff quarters; (ii) providing all essential medical equipment to the hospitals and BHUs, including ambulances and supplies; and (iii) constructing proper waiting areas, with toilets and water, for visitors. The PEF contribution financed the civil works (30%) and equipment (10%) included in the scope.

9. The outputs of the health sector component were satisfactory. One DHQH, two THQHs, one RHC, 26 BHUs and 90 staff residences were reconstructed to multi-hazard-resistant standards. All hospitals and BHUs were supplied with the required equipment and furniture. Dedicated waiting areas and toilets, water connections, wards, operating theaters, and outpatient departments were provided in all reconstructed facilities. The equipment was fully tested, and staff was trained in its use. The health sector component utilized $6.87 million (Australian grant) from the PEF against the allocation of $7.35 million. The underutilization was mainly because the contracts were awarded in Pakistan rupees, which depreciated substantially against the US dollar during implementation. The supply of equipment was also reduced, as health equipment supplied by other donors during the early recovery and relief phases of the earthquake was installed in many facilities reconstructed through PEF funding, where the equipment was still in good working condition.

[8] ADB. 2004. *Disaster and Emergency Assistance Policy*. Manila; ADB. 2004. *Disaster and Emergency Assistance Operations Manual*. OM D7/BP and D7/OP. Manila.

## 2. Education Sector

10. The revised scope for the education sector included (i) repairing and reconstructing 328 partly or completely destroyed government middle school buildings in Muzaffarabad, Poonch, Neelum and Bagh and 126 primary, middle, and high school buildings in KPK with improved seismic designs, latrines, and offices; (ii) providing essential furniture and equipment for the reconstructed schools as well as an additional 180 government schools in KPK; (iii) training of master trainers for teachers training; and (iv) assessing and advising on school health services.[9] The PEF allocation for this component was $32.54 million to jointly finance 33% of the total allocation for the education sector in the project; the utilization was $23.22 million (71%).

11. In Muzaffarabad, Poonch, Neelum and Bagh, the outputs of the education sector component were satisfactory. Contracts were awarded for 328 middle schools. However, 19 schools were subsequently dropped from the project scope because exiting land for these schools was insufficient to reconstruct according to post earthquake standards or vulnerable to hazards and alternate land was not made available for relocation. In a few cases, the schools did not meet the project selection criteria. At project completion, 305 schools had been fully reconstructed to multi-hazard-resistant standards; the remaining four partially completed schools were subsequently completed using government funds. All 309 schools were supplied with essential furniture and equipment. Master trainers were trained, and they trained 656 teachers. In total, 328 school management committees (SMCs) were formed and trained in health and hygiene, school safety, environmental and disaster management, and first aid services. The PEF allocation for this component was $7.35 million, and utilization was $6.50 million (88%).

12. In KPK, the outputs of the education sector component were partially satisfactory. The overall PEF grant allocated for the civil works and equipment for education component was $25.19 million, and utilization was $17.13 million (68%). Contracts were awarded for 124 primary, middle, and high schools against a target of 126 schools. The remaining two schools were dropped from the project scope as they did not meet the project selection criteria and land was not available for their relocation. Of these 124 schools, 105 were substantially complete before the grant closed. The remaining 19 schools were at various stages of construction at grant closure, and were subsequently completed using government of KPK funds. All 124 schools were supplied with water and sanitation facilities and with furniture, and 79 had electrical connections. The civil works contracts remained incomplete as a result of a dispute between the contractor and the employer, because of which the works were suspended for 1.5 years. Only $14.26 million (63%) of the civil works subcomponent was utilized against the allocation of $22.71 million. The major reason for these variations and disputes was the uncertain security situation of the project area and weak performance of the consultant and the employer. Shangla district in KPK, where 30% of the education portfolio was located, was taken over by insurgents and the contractors had limited or no excess to many of the schools for almost a year. The equipment was procured and supplied on time, and the scope of the component increased to cover 166 additional schools. This increased utilization to $2.87 million (116%) against an allocation of $2.48 million. No master trainers were trained because this activity was being financed through other sources. Moreover, 124 SMCs were formed and oriented on health hygiene, school safety, environmental management, and disaster risk reduction and management.

[9] The middle schools include both primary and middle classes (kindergarten to class 8), compared to the rest of the country where middle schools only have middle classes (class 6 to 8). Therefore, these 309 schools in Muzaffarabad, Poonch, Neelum and Bagh include 309 middle and 309 primary schools.

13. The termination date of the PEF, from which this education subcomponent was partly financed, was 6 November 2009. At the government's request, the Board, with the concurrence of the PEF contributors, approved extensions of the PEF termination date twice to 30 June 2011 to accommodate these delays.[10] However, with no major breakthrough in the resolution of contractual issues, ADB decided to close the education component on 30 June 2011, with some subprojects still incomplete.

### 3. Implementation Assistance

14. The outputs of the implementation assistance component were satisfactory. The scope of the component included (i) incremental staff and operational support for implementing agencies, (ii) consulting services, and (iii) legal assistance and governance assistance (footnote 3). The approved total cost of this component was $31.46 million and utilization was $27.78 million (88%).

#### a. Incremental Administration Support

15. This component was to provide TA in the form of long-term specialists and incremental staff (with related operational costs) to the executing agency—the Earthquake Reconstruction and Rehabilitation Authority (ERRA)—and allied implementing institutions for effective and timely implementation of PEF- and other ADB-financed emergency assistance projects in earthquake affected areas of Pakistan.

16. The outputs of the incremental staff and operation subcomponent were satisfactory. All incremental staff was hired, and the operational cost of related offices and staff was met. The subcomponent included the cost of staff assigned to strengthen the capacity of ERRA and to establish project implementation units (PIUs) in the line agencies. Dedicated PIUs to implement and manage project activities were established for all sector components in each implementing agency (transport, power, education, and health);Reconstruction and Rehabilitation Agencies; and in ERRA. The PIUs were staffed and provided with offices, equipment, vehicles, and operational support. The approved cost of the incremental administration subcomponent was $11.53 million, and utilization was $8.48 million (74%). The underutilization was mainly because incremental staff was also provided by other donors, and many operational activities (especially related to safeguards) were provided through funding from bilateral donors and the United Nations.

#### b. Consultancy

17. The outputs of the consulting services subcomponent were satisfactory. Input of 1,500 person-months was envisaged at appraisal; 2,906 person-months had been used at completion (Appendix 1). The increase was mainly because national consultants were used due to security concerns and the scope of activities was revised and increased considerably as PEF commitments were increased from $80.00 million to $137.50 million. Eight consultancy firms were hired for services related to education; health; transport; and power. The scope of activities included planning, detailed design, construction supervision, and activities related to social safeguard compliance. In addition, four individual consultants were hired to support activities in the health sector. At completion, the expenditure on consultancy services financed

[10] ADB. 2009. *Extension in Termination Date: Pakistan Earthquake Fund*. Manila; ADB. 2010. *Waiver of Maximum Project Completion Period under the Disaster and Emergency Assistance Policy and Extension of the Pakistan Earthquake Fund*. Manila.

through the PEF was $17.61 million, which is 108% of $16.33 million allocated for consulting services.

18. German development cooperation through GIZ was hired for health management and planning, and detail design and supervision of the construction work of two THQHs. Engineering Associates was selected for detail design and construction supervision of the remaining health portfolio. The consulting activities under health were all delivered, with some delays. Design and construction supervision was completed for all health facilities, although the health management and planning framework was developed but could not be implemented because of lack of ownership of the proposed reforms by the Government.

19. NESPAK was hired to undertake contract management and construction supervision for reconstruction of education facilities. The performance of consultants was partially satisfactory, as they had limited understanding of the design–build contracting modality and pre-engineered construction. The consultants delayed decision-making and payments to contractors, which caused disputes that the consultants were unable to resolve efficiently. Socio-Engineering Consultants was sub-contracted to train the teachers and formulate and train SMCs. About 36 clusters were formed to conduct workshops in Muzaffarabad, Poonch, Neelum and Bagh districts. Master trainers were trained, and they trained 656 teachers. Moreover, 452 SMCs were formed and trained.

20. Pakistan Engineering Services was hired in the power sector for field assessment to determine damages and for supervision of installation works in the Muzaffarabad, Poonch, Neelum and Bagh. The consultants successfully designed and supervised the construction of power sector contracts that were completed in June 2009.

21. To undertake design and contract management in the transport sector, three consultancy firms were hired: (i) Engineering Consultants International, (ii) Associates Consulting Engineers, and (iii) Engineering Associates. The design and construction supervision services provided by these consultants were satisfactory and completed successfully, but with delays.

### c. Legal Assistance and Governance and Institutional Building

22. The outputs of the subcomponent were satisfactory, although fund utilization was low. The outputs were financed either fully or partly by ADB. The original PEF grant allocation for this subcomponent was $3.60 million, and utilization was $1.69 million (47%). The underutilization was mainly because many other donor agencies were involved in governance assistance, and nontraditional implementing agencies (e.g., the judiciary, ombudsman office, and revenue department) involved in the implementation of these subcomponents had limited utilization capacity. The scope of the subcomponent included five elements:

(i) **Support for the replacement of registration and disability certificates, and property titles**. Mobile units with male and female staff were established to issue new identity and registration cards, and to verify compensation claims. Procedures for registration were simplified. Three new units established with PEF funding in the revenue department reconstructed the records of the 21 revenue units most affected by the earthquake; they handled lost land titles, compensation, and resettlement issues.

(ii) **Legal assistance to earthquake victims to address legal and documentary issues**. An international nongovernment organization (NGO) was hired through a PEF grant to establish18 centers for free legal aid, with male and female staff available, for widows and orphans. About 26,300 cases related to guardianship, compensation, property, and registration were registered; 96% (36% of which were registered by women) of the cases were resolved within 2 years.

(iii) **Establishing a mechanism to resolve disputes and redress grievances**. Four PEF-financed special courts in the districts settled 2,700 of 3,450 cases registered in the 15 months of their operation. Complaints against public offices increased to 4,507 in 2009–2010 as activities increased. PEF-funded staff in the ombudsman office handled4,259 (94%) of these complaints.

(iv) **Training for Judiciary and Administrative Departments**. PEF grants were used to provide consultants to the law department to improve existing legislation and formulate new legislation addressing calamities, disaster management, and child protection. All legislation related to disaster was compiled, translated into local languages, and posted on the department's website. A judicial conference, financed through the PEF, oriented lawyers and judges on issues related to the affected population and new legislation. The PEF was used to establish a training institute in the revenue department that trained 500 staff in handling issues related to earthquake recovery.

(v) **Vocational training for the earthquake affected areas**. The PEF grants were used to finance the initial operations of the Department of Industries, which facilitated the establishment of the Technical and Vocational Training Authority in 2007. About 37,700 people were trained by the authority by 2012—in computers, construction, surveying, crafts, and machine operations—using funds from other donors.

## C. Capacity Development Technical Assistance

23. Capacity development TA amounting to $2.50 million, including a grant of $2.00 million from the PEF, was attached to the loan program (footnote 6).[11] The TA was satisfactorily completed physically at a cost of $1.78 million (89%) on 30 June 2011. The TA accounts were closed on 30 September 2011. The TA had three components: (i) community-based training in seismic standards and building techniques, (ii) support for the establishment of transparent and accountable financial management systems, and (iii) support for safeguard compliance and monitoring.

24. Under the first component, ERRA hired two NGOs—the Rural Support Program Network and Shelter for Life—as consultants. The primary aim was to assist communities in seismically safe construction. These NGOs trained communities in essential skills for rebuilding cost-effective and seismically safe houses. The performance of both NGOs was satisfactory, and the activities agreed to under the work plan were completed in 18 union councils selected by ERRA.

25. The second component of the capacity development TA supported the establishment of transparent and accountable financial management systems. The TA provided a team of two financial management specialists and one procurement specialist, led by a program

[11] ADB. 2007. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to Pakistan for the Earthquake-Displaced People Livelihood Restoration Program*. Manila.

coordinator—working closely with ERRA and the provincial earthquake reconstruction and rehabilitation authorities (PERRA). They successfully established the financial management information system (FMIS) and strengthened the procurement, budgeting, accounting, and internal control systems of ERRA. All external audits of ERRA are now conducted on system-generated statement of accounts and financial data.

26. Under the third component of the TA, five safeguard specialists were hired to improve the capacity to produce safeguard and due diligence reports, implement safeguard plans, and monitor and report effectively. Training modules were prepared and trainings were conducted with the assistance of the capacity development TA consultants in undertaking safeguards due diligence, preparing the land acquisition and resettlement plans, and undertaking environmental impact assessments.

## III. PAKISTAN EARTHQUAKE FUND UTILIZATION

27. At completion, against the revised grant amount commitment of $139.50 million, a total of $125.35 million was utilized, which included ADB and Finland's contribution of $91.39 million (73%), Australia's contribution of $13.37 million (11%), Norway's grant of $13.91 million (11%), and another $6.68 million (5%) contributed by the Government of Belgium. The underutilization was mainly due to limited absorption capacity of the implementing agencies, delays caused by security issues, major flood in 2010 and finally contractual disputes towards the end of the project. PEF utilization was also delayed as some contributions to the PEF were made in 2007. ADB is in consultation with PEF contributors regarding the treatment of their unutilized contributions of $14.15 million.[12] Appendix 2 presents the allocation and utilization by category of each PEF donor contribution. The summary of allocation and utilization of PEF contributions (in currencies of commitment as well as in estimated equivalent US dollars at appraisal) is provided in the table.

**Table: Pakistan Earthquake Fund– Allocation and Utilization by Donors**

| Fund Contributors | Original Commitments in Various Currencies (million) | (US$ million equivalent) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Original Allocation | | Revised Allocation | | Actual Utilization | |
| | | Amount | % | Amount | % | Amount | % |
| ADB | $80.00 | 80.00 | 100 | 80.00 | 57 | 0.00 | 0 |
| Finland | €10.00 | | | 12.50 | 9 | 91.39 | 73 [a] |
| Australia | A$20.00 | | | 15.00 | 11 | 13.37 | 11 |
| Norway | $20.00 | | | 20.00 | 14 | 13.91 | 11 |
| Belgium | €9.92 | | | 12.00 | 9 | 6.68 | 5 |
| **Total** | | **80.00** | **100** | **139.50** | **100** | **125.35** | **100** |

ADB = Asian Development Bank.

[a] ADB and Finland contributions are pooled funds, and actual utilization of the funds was not monitored separately.

Sources: ADB. 2007. *Increase in Financing: of the Earthquake Emergency Assistance Project*. Manila; Office of Cofinancing Operations data; ADB's Grant Financial Information System.

## IV. IMPLEMENTATION ARRANGEMENT

28. The implementation arrangement of the PEF was partly satisfactory. ERRA was the overall executing agency of PEF-funded activities. Multiple implementing agencies were involved implementing different components funded from the PEF. ERRA was responsible for

[12] The unspent amount of $14.15 million does not include the realized exchange rate gains and losses. The PEF donors will be provided final figures of their individual unspent contributions (with exchange rate gains and losses, as these figures keep changing with time) at the time of consultations with these donors on the treatment of their individual contribution.

planning, coordinating, financing, and monitoring all earthquake-related rehabilitation and reconstruction activities. An elaborate three-tiered institutional framework was developed on the basis of a broad agreement reached with major donors for earthquake reconstruction and rehabilitation. The guiding principle for this framework was decentralized implementation, whereby districts and provincial government had a leading role, within the parameters defined in sectoral strategies, to plan and execute the individual projects and programs. For the PEF-funded portfolio, separate PIUs were established in the departments of education, health, power, and transport to provide capacity to manage the additional load created by the earthquake-related subprojects. Consultants were hired for each sector to design subprojects, validate payments, and supervise construction. Additional staff and consultants were mobilized to support key governance agencies (judiciary, revenue, and registration) to meet the overload created by the earthquake and to establish outreach for the most vulnerable.

29. Apart from the government, ADB was the only institution that channeled funding directly through ERRA and local institutions. This was an informed decision that was taken to build the long-term resilience of the affected area at the cost of a possible drag in implementation. ADB partnered with the executing and implementing agencies in the reconstruction efforts and in this process, a cadre of local people and institutions were trained, who are now specialists in project identification, planning, procurement, turnkey contracts, multi-hazard reconstruction standards and designs; and who are an asset for government operations in meeting current and future challenges of resilient construction, and maintaining the assets built after the earthquake.

30. ADB also established an extended mission in affected area for 3 years for field coordination, expeditious initial review of implementing agencies' submissions, and guidance and capacity-building in due diligence of the subprojects. The scope of the project activities financed under the PEF and ADB earthquake portfolio was thinly spread, and maintaining quality control and oversight remained a challenge throughout implementation. The internal ADB arrangement for administration and management of PEF grant funds also isolated the earthquake operations, and did not make the best use of the operational capacities available to ADB in the resident mission and operational departments (para. 37).

31. The capacity development TA grant (para. 23), however, played a pivotal role in filling capacity gaps of the executing and implementing agencies by improving their procurement and fiduciary risk management skills and enhancing their safeguards review and monitoring capacity. The TA inputs included implementation of a FMIS for ERRA's operations. The FMIS enabled ERRA to automate its financial transaction processing and generate computerized financial reporting that includes annual financial statements. Since 2010, all external audits have been carried out based on the FMIS reporting relying on the checks and controls embedded within the system. The TA has enabled high-quality safeguards compliance and quality review of procurements.

## V. PROCUREMENT AND IMPLEMENTATION

32. The procurement of works and goods for the health and education components and for hiring of consultants was undertaken using ADB's Procurement Guidelines (as amended from time to time) and Guidelines on the Use of Consultants (as amended from time to time).The procurement packages and plans for the PEF-funded activities had to be changed several times to respond to the rapidly changing procurement environment of the earthquake-affected area. The initial challenge was marginal capacity and poor construction practices of local contractors, to meet the high reconstruction demand. The other challenges were issues caused by damaged roads in hilly terrain, a very high demand for contractors and materials with limited supply, and

the immediate escalation of costs caused by some bilateral donors who awarded contracts at excessively high rates. Quality control was another challenge, as the PEF-funded portfolio of schools and health facilities was thinly spread, and most of the deaths during the earthquake were due to the collapse of public buildings, especially schools.

33. To mitigate these risks, ADB introduced pre-engineered structures and the design–build approach in the reconstruction of schools. This was to allow quality control at source, reduce resident construction supervision requirements, improve the seismic resilience of infrastructure, and reduce the construction period. The subprojects were packaged in large contracts for economy of scale and to attract large national and international contractors. The contracts were sequenced to ensure that accessibility was not an issue (wherever possible). With the support of ERRA, construction hubs were established to monitor and facilitate provision of essential construction materials. The TA supported training of local labor. However, the response of contractors remained weak and most contract packages were advertised more than once. To attract bidders, the pre-qualification requirements were lowered; as a result, the capacity of the first two contractors hired in the education sector was weak and they were unable to deliver at the pace expected from an emergency project. To meet these challenges, a large number of packages were advertised simultaneously, which finally attracted a better response. Two contracts in KPK had to be single-sourced with ADB approval, as a result of the poor response and deteriorating security situation in the area. Because of this, preference was also given to local consultancy firms for design and construction supervision.

34. Pre-engineered technology and design–build contracts improved quality control, but the implementation period of contracts was not reduced. This was mainly because the approach and technology were new to the implementing agencies, consultants, and local subcontractors. As a result, decision making was slow and implementation was delayed by issues such as customs clearance and interpretation of contract terms, as the processes were unfamiliar. In spite of this, ADB continued to work through the same implementing agencies, consultants, and contractors to transfer the technology and approach to support indigenization and build local capacity for multi-hazard-resilient construction in the future.

## VI. PERFORMANCE OF ADB

35. ADB's performance in managing the PEF was partially satisfactory. ADB provided the local embassies of the contributors in Pakistan with periodic reports on the use of the PEF and the activities financed there under. The embassies were briefed before all review missions, undertaken at least twice each year, and invited to participate in the missions. The review mission reports were shared with all the contributors, and they were invited to mission debriefings after completion of the missions to update them on the progress and discuss issues related to their financing. The PEF-funded operations were managed in accordance with ADB's applicable policies and procedures.

36. ADB promptly informed the contributors and the Board of any major changes or developments affecting the activities financed out of the PEF, through Board papers (footnotes 2 and 10) and exchange of letters. The local embassies of the contributing countries were provided regular updates on the progress and status of the PEF utilization when requested.

37. The overall internal and external reporting on the PEF was still weak—the PEF was not fully integrated in the ADB management information system, as key milestones of the PEF were not captured in the system. Secondly, the implementation arrangement of the PEF was handled

by a separate extended mission that was isolated from country level operations and sector support. The unit was managed by one core ADB staff, supported by consultants, responsible for handling all PEF donor coordination, project identification, negotiations with donors, approval of projects and their implementation, monitoring, administration, and reporting on all projects related to the earthquake including PEF-supported subprojects. The unit had no linkage with or support from operational departments.

## VII. PAKISTAN EARTHQUAKE FUNDOUTCOMES AND IMPACTS

38. The overall impact of the PEF activities was positive. The PEF managed to "build back better," and quality of life improved in the affected areas from before the earthquake.From2005 to2011, unemployment in the affected area decreased from 35% to 13%, and per capita income increased from PRs500 to PRs1,254. The infant mortality rate remained unchanged. The installed grid capacity doubled and per capita electricity delivery increased by 12 kilowatt-hours. The literacy rate increased by 4%; the number of people per doctor decreased by 10%; and access to health services increased by about 3% (footnote 7).

39. Enrollment in the 433 seismically safe schools partly or completely reconstructed through PEF grants increased from the pre-earthquake level of 47,007 to 52,213. About 1,100 additional classrooms and 1,000 rooms for administration were added to existing schools. In total, 45% of the infrastructure was built for girls and 41% of the enrolled students were girls. For parents, children's safety in schools is no longer a concern. The reconstructed schools have sanitation facilities for boys, girls, and teachers. Their design includes rails and ramps for children with disabilities. Lightning arresters, boundary walls, heat and sound insulation, water, electricity, sanitary disposal, and child-friendly spaces were provided in almost all schools to enhance children's security, safety, and quality of life (footnote 7).

40. The average annual consultation rates in the 26 BHUs partly financed through the PEF grant increased from 25,000 before the earthquake to 123,000 afterward. Outpatients and referrals in the reconstructed hospitals partly financed by the PEF increased by 41%.

41. Delays occurred in completing health and education facilities because of the poor security environment and since some technology options (e.g., pre-engineered cold rolled steel) were being used for the first time, and the contract management capacity of the consultants was weak. As a result, time overruns occurred and some facilities (23 schools) were not complete at closure. These delays slightly reduced benefits, but did not affect the provision of services because all contracts included costs for running schools in temporary shelters. No cost overruns occurred; savings were achieved in most cases because the contracts had fixed prices.

42. In terms of the operational sustainability of the investments, the quality of subproject identification and the standards adopted for the education sector were closely aligned with the historic operational capacities of the line agencies, and investments are likely to be operated sustainably. In the districts of Muzaffarabad, Poonch, Neelum and Bagh the number of teachers increased from 1,690 before the earthquake to 1,928 after reconstruction. Most schools are now fully staffed. In KPK, the number of teachers did not increase in response to the 25% rise in enrollment, although all schools have the minimum staff required to keep them operational. Impact assessment of the SMCs' performance and their role in school management, student enrollment, and teacher assessment was conducted by the PEF-financed consultants on a sample basis. The highest enrollment was reported in pre-school classes where the increase was several time more than the baseline. On average, a 20% increase in enrollment was

observed in the rest of the classes included in the sample. Graphical representation of student enrollment before and after school construction is in Appendix 3.

43. The standards followed for the health were higher than the existing operational capacity of the line department, and less likely to be sustainable in the short term—at least until the department acquires additional capacities and resources. A total of 427 additional positions were approved for the new health facilities, but only 334 staff positions are filled. About 30vacant positions for specialists were also filled in 2014 through a special package. However, health facilities remain underutilized as the budget for these facilities was increased only to about 40% of what the operational plans required.

44. The TA financed by the PEF grant also achieved its outcomes. The first component supported training of more than 783,314 people in seismic-compliant building design and construction techniques. The second component supported the establishment of an FMIS. The third output supported safeguard training, and follow-up campaigns supported by the consultants that improved both environmental and social safeguard compliance.

45. According to ADB's 2010 housing survey, 74% of houses built by the people trained were compliant with seismic standards and more than 98% of people had moved into their new houses, which was the key outcome of the TA.[13] Private contractors have also adopted these new standards, and 72% of houses built since the earthquake without any subsidies have used seismic-resistant construction techniques. The survey showed a 30% increase in the use of flush systems in reconstructed houses, an increase of more than30% in the use of septic tanks and soakage pits for the disposal of excreta, and a corresponding 20% decrease in the open disposal of excreta. The last two annual external audits of ERRA and the allied institutions were conducted with the help of computerized statements of accounts generated by the FMIS. Internal controls were strengthened through on-the-job and formal training. The external auditor's report on earthquake accounts has remained unqualified since the establishment of ERRA.

## VIII. OVERALL ASSESSMENT AND RECOMMENDATIONS

### A. Overall Assessment

46. The PEF was effective in meeting its objective of pooling and delivering emergency grant financing promptly and effectively to Pakistan for investment and capacity development TA projects to support immediate reconstruction, urgent rehabilitation, and associated development activities. Although the PEF grant remained underutilized, with 89% utilization against commitments, and despite delays in its utilization, most of the projects and the TA financed by the PEF grant (except the education sector component in KPK) were successful in delivering the intended outputs and outcome.

47. The PEF grant was pooled and delivered expeditiously in most cases, though delays were incurred in grant utilization. Apart from security and capacity issues, PEF utilization was also delayed as some contributions to the PEF were made in 2007and to accommodate the projects financed by these contributions, the PEF closure had to be extended by 2 years.

48. The PEF interventions were all relevant, as they were related to immediate reconstruction, urgent rehabilitation, and associated development activities such as social

[13] ADB. 2011. *Completion Report: Earthquake-Displaced People Livelihood Restoration Program in Pakistan*. Manila.

services (health and education), protection of the vulnerable (governance and legal components), and strengthening of capacities immediately required after the earthquake. The PEF-financed activities were effective in achieving their intended outcomes (paras.38–42). The education and capacity-building investments are likely to be sustainable, except in the health sector, where institutional reforms were introduced but not fully implemented, making the provision of quality health services less likely to be sustainable in the short term. At different stages, changes were made in the scope and implementation arrangement through Board approvals to accommodate the additional contributions to the PEF. These changes, although relevant, also contributed to delays in implementation.

## B. Lessons

### 1. Transparent Identification of Damaged Facilities

49. One reason for the delay in implementation of the Project is the problems faced in identification of subprojects. This was due to the absence of reliable data, and weak application of identification criteria and standards by the implementing agencies. Politics, individual and institutional preferences also influenced the identification of subprojects and standards to be followed in the reconstruction of education facilities. The portfolio and scope of activities were revised many times because of these delays—slowing down the packaging and award of contracts. Some schools were replaced even after the award of contracts, adding to delays by contractors. For future post-disaster reconstruction planning, it is important to maintain strong oversight and disclosure of school selection criteria and reconstruction standards to be applied. This will allow more equitable and quicker identification of subprojects, which will ensure consistent application of reconstruction standards in post-disaster situations, leaving little room for interference. To avoid conflicts and ensure acceptability, consultations with communities and stakeholders should take place before finalizing such standards and criteria.

### 2. Managing Demand

50. Most developing countries and local governments are cognizant of the fact that disasters can be turned into opportunities to build-back-better, and raise the level of services that the destroyed and damaged facilities originally offered. It is very challenging to manage demands during implementation if expectations are not negotiated and addressed in policy and sector strategies at the outset. This became a major challenge and a sustainability issue in the health sector, and took a long time to negotiate and agree. Reconstruction and upgrading should also be embedded in government standards of services that can be maintained and operated by the responsible agencies. Reforms and training to provide additional resources and capacities should be agreed and fully embedded in sector strategies long before reconstruction planning and implementation starts—something that did not happen in the health sector after the earthquake.

### 3. Implementation with Local Participation

51. As implementation began, the implementation approaches of different donors diverged significantly, with ADB opting to channel support directly through ERRA, existing government line agencies, and others, undertaking construction directly in coordination with line agencies. One of the major dividends of using existing government departments to manage procurement and construction supervision was the major changes in construction practices within line departments and among local contractors. As government departments worked with national and international contractors, the local capacity to maintain completed infrastructure increased,

ownership of facilities by the line departments rose, and capacity was enhanced to manage international procurement and continue to construct new schools and health facilities to multi-hazard-resistant standards after project competition.

### 4. Integrating Reconstruction with Development

52. The health sector had endemic development challenges, such as the quality and availability of staff and incentives to retain staff, the operational sustainability of health services, and health service quality and fee structures that existed before the disaster. Although operational plans were developed for each health facility, and policy reforms were proposed to sustain an optimum level of health services, the government showed no political commitment to the proposed changes. Health allocations were increased, but the success was limited, especially in terms of continuity of these activities beyond PEF funding. Post-disaster reconstruction provided the opportunity to improve some of these endemic issues, although it is important to identify the support areas most relevant for the post-disaster reconstruction phase and not to get embroiled in the overall development agenda of these sectors indefinitely. To address these gaps, one of the key features of reconstruction policy, strategy, and plans should be alignment with the country overall development strategy and reform agendas so that support for endemic challenges is embedded where it belongs. Similarly, regional development agendas and strategies should be adjusted to align them with post-disaster realities.

### 5. Additional Capacities to Meet Initial Demands

53. For effective delivery of post-disaster reconstruction, the main challenge was the additional human resource requirement, retention of staff, additional load on existing staff, and capacity-building where required. This challenge was underestimated both in terms of the capacity of local staff, local markets, local contractors, and consultants at the early design stage. It took more than 1year after the earthquake to place the additional human resources in the organizations responsible for reconstruction. Similarly, there was a major shortage of construction material and consulting firms to respond to the huge demand that was created. The delayed award of contracts generated very high bids and poor performance by contractors and consultants, who grossly underestimated or overestimated the reality of the very difficult post-disaster environment in the affected area. For efficient recovery, the focus should be on special incentives for staff in government institutions in the form of some additional allowance for working in disaster-hit areas, as well as for the private sector service providers in the form of some bonuses for early completion of works, especially in the initial stage before economies of scale are created and supply–demand gaps are reduced. However, this has to be carefully monitored and managed. In many cases, this can result in undue inflation and rent seeking or poor performance in the case of underestimation—as in the education sector, where bids for reconstructing schools varied more than 200% for almost the same construction standards.

### 6. Ownership of Local Communities

54. The drawbacks of outsourcing to contractors include community exclusion, especially if labor and material are brought from outside the area, and can result in lack of ownership and delayed economic revival in the affected area. To overcome this problem, procedures and clauses were put in place to ensure community involvement in the planning, design, implementation, and monitoring of construction work; and in some cases, contract conditions partly enforcing hiring of local labor—as was done under the PEF grant-financed project.

### 7. Time Cost of Innovative Approaches in Emergencies

55. Innovations in procurement, such as the use of turnkey contracts and pre-engineered technologies in the education sector component, did not deliver the expected efficiency and management gains because of the lack of familiarity of line agencies, consultants, and the private sector with these approaches. The use of procedures and designs familiar to the implementing agencies, and design options with innovations in existing construction technology familiar to locals could have been more efficient. However, the risk of quality control would have increased substantially and would have to be managed.

### 8. Clarify Roles and Respect Existing Mandates

56. Initial delays in the implementation of the PEF grant project were caused by confusion over the roles of new and existing institutions. Any large-scale reconstruction operation requires clear delineation of the mandates of levels of government, to provide the structure and clarity required for all stakeholders to work with maximum efficiency. To the extent possible, provincial and regional governments and federal agencies should be provided with the capacity to perform their mandated roles. This approach may cause initial delays in response to major disasters but could build ownership and sustained capacity to manage completed infrastructure and responses to future disasters.

### 9. Articulate Policies, Strategy, and Standards Early

57. Local populations and NGOs started reconstruction work well before provincial and federal governments began to articulate their responses. Expectations of the local population rose, since some facilities, especially in health, were built by bilateral donors to standards that were much higher than the line agencies' capacity to maintain them. This resulted in inconsistencies between the standards of reconstruction done through the bilateral assistance, or the NGOs' support, and the reconstruction done by the line agencies. This also caused violations of policies and standards developed for reconstruction work, and unsustainable operation of completed facilities. The government should ensure that the reconstruction policies and standards are within the capacity of the sector institutions to sustain, and that they are approved and enforced as soon as possible to avoid inconsistencies.

### 10. Integrating Disaster Response and Coordination

58. A strong development partner's coordination system was established and remained operational through the initial years of reconstruction. However the coordination between early recovery and reconstruction phase remained weak because of which many activities specially in education, health and livelihood sectors overlapped in the planning process and scope of the reconstruction projects had to be adjusted several times to adjust the supplies and equipment's already purchased or donated during the early recovery phase. The planning and coordination for the early recovery and reconstruction phases of disaster response needs to done jointly to reduce overlaps and wasteful use of resources and time.

## C. Recommendations

### 1. Improve Emergency Project Designs

59. The PEF as an instrument envisaged multiple projects however PEF was predominantly used through a single project. Although this was done more out of convenience and to deploy

the funds efficiently, the PEF-funded project ended-up with 13 implementation agencies and seven sub-agencies. This complicated project implementation overstretched ADB's capacity to manage the PEF-funded activities. Similarly, procurement plans and packages had to adapt to local capacities, working conditions, and material constraints in the affected area. Procurement plans and methods were changed repeatedly and additional capacities were acquired through the capacity development TA to reduce ADB management overload. These changes delayed implementation. For efficient implementation of emergency projects, the implementation arrangement should be simple—with fewer sectors, implementing agencies, and compliance requirements. Although local procurement conditions can change during implementation, prior assessment of material availability, the local contracting industry, and procurement capacity can improve initial procurement plans and the design of capacity-building components.

### 2. Build on Comparative Advantage and Core Competencies

60. The implementation arrangement of the PEF was handled by a separate extended mission—isolated from country level operations and sector support. The unit had no linkage or support from operations departments. This overstretched capacities and negatively impacted the quality of coordination, reporting, and implementation of the reconstruction and rehabilitation portfolio. Future emergency response initiatives should be coordinated by dedicated units, including possible trust fund management and reporting, but these units should not be responsible for implementation, which should be fully devolved to existing operations and sector departments of ADB.

## UTILIZATION OF CONSULTING SERVICES

| | Description | Person-months | |
|---|---|---|---|
| | | Original | Actual |
| 1. | Planning and contract management (for turnkey construction in education sector in Muzaffarabad, Poonch, Neelum and Bagh | 233 | 521 |
| 2. | Construction supervision of BHUs in Rawalakot | 12 | 24 |
| 3. | Construction supervision of BHUs in Poonch | 12 | 25 |
| 4. | Construction supervision of DHQH Athmuqam | 12 | 23 |
| 5. | Construction supervision of RHC Paniola and BHUs in Poonch | 12 | 25 |
| 6. | Design and construction supervision of transport sector in Abbottabad and Mansehra | 162 | 275 |
| 7. | Design and construction supervision of transport sector in Battagram, Shangla, and Kohistan | 276 | 370 |
| 8. | Design and construction supervision of transport sector in Muzaffarabad, Poonch, Neelum and Bagh | 563 | 914 |
| 9. | Design and construction supervision, for power sector in Muzaffarabad, Poonch, Neelum and Bagh | 60 | 93 |
| 10. | Design and construction supervision of Alpuri Besham road | 68 | 110 |
| 11. | Planning and contract management for turnkey construction in education sector in KPK | 187 | 526 |
| | **Total** | **1,597** | **2,906** |

BHU = basic health unit, DHQH = district headquarter hospital, KPK = Khyber Pakhtunkhwa, RHC = rural health center.
Source: ADB. 2012. *Completion Report: Earthquake Emergency Assistance Project in Pakistan.* Manila.

## PAKISTAN EARTHQUAKE FUND: STATUS AT COMPLETION

### Table A2.1: Pakistan Earthquake Fund –Expenditure by Category

($)

| Category | Original Allocation | Revised Allocation | Disbursed | Unutilized |
|---|---|---|---|---|
| **A. Grant 0029** | | | | |
| 1. Civil Works | 0 | 34,069,432 | 26,863,559 | 7,205,873 |
| 2. Consulting Services | 7,500,000 | 17,988,475 | 17,608,189 | 380,286 |
| 3. Equipment and Material | 0 | 6,321,317 | 3,928,994 | 2,392,323 |
| 4. Incremental Administration Support | 5,000,000 | 10,170,776 | 8,478,916 | 1,691,860 |
| 5. Legal Assistance, Governance, and Institutional Building | 2,500,000 | 2,800,000 | 1,689,943 | 1,110,057 |
| 6. Quick Disbursing | 65,000,000 | 65,000,000 | 65,000,000 | 0 |
| 7. Service Charges | 0 | 1,150,000[a] | 0 | 1,150,000 |
| **Total** | **80,000,000** | **137,500,000** | **123,569,602** | **13,930,398** |
| **B. Technical Assistance (TA-4943-PAK)** | | | | |
| 1. Capacity-Building for Institutions related to Earthquake Reconstruction and Rehabilitation | 2,000,000 | 2,000,000 | 1,779,729 | 220,271 |
| **Total including Grant** | **82,000,000** | **139,500,000** | **125,349,331** | **14,150,669** |

TA = technical assistance.

[a] This amount represents the estimated Asian Development Bank (ADB) administration fee for contributions made by all donors except ADB.

Sources: ADB Grant Financial Information System; ADB Technical Assistance Financial Information System.

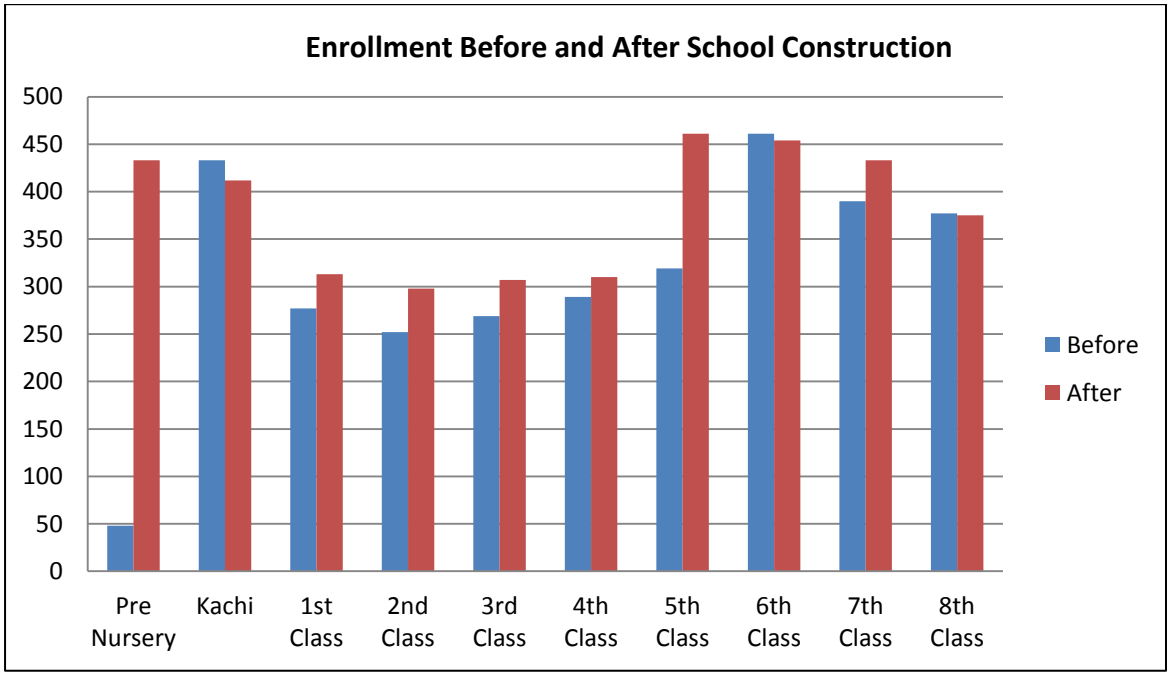
## Table A2.2: Pakistan Earthquake Fund – Expenditure by Donors

($ million)

| Categories | ADB plus Finland | Australia | Norway | Belgium | Total |
|---|---|---|---|---|---|
| **A. Grant 0029** | | | | | |
| 1. 04 - Quick Disbursement | 65.000 | | | | 65.000 |
| 2. Project Components | | | | | |
| a. Equipment and Material/Vehicles | | 0.765 | 2.177 | 0.987 | 3.929 |
| i. Equipment and Material – Education | | 0.404 | | | 0.404 |
| ii. Equipment and Material – Health | | 0.361 | | | 0.361 |
| iii. Equipment and Material – ERRA | | | 0.200 | 0.091 | 0.291 |
| iv. Equipment and Material – Education (NWFP) | | | 1.977 | 0.896 | 2.873 |
| b. Civil Works | | 12.604 | 9.692 | 4.568 | 26.864 |
| i. Civil Works – Education | | 6.092 | | | 6.092 |
| ii. Civil Works – Health | | 6.513 | | | 6.513 |
| iii. Civil Works – Education (NWFP) | | | 9.692 | 4.568 | 14.259 |
| c. Implementation Assistance | | | | | |
| i. Legal Assistance, Governance, and Institutional Building | 1.690 | | | | 1.690 |
| ii. Incremental Admin Support | 7.487 | | 0.604 | 0.388 | 8.479 |
| a. Incremental Admin Support – Education | 0.790 | | | | 0.790 |
| b. Incremental Admin Support – ERRA | 2.814 | | 0.121 | 0.079 | 3.014 |
| c. Incremental Admin Support – Power and Transport | 2.848 | | | | 2.848 |
| d. Incremental Admin Support – Health | 1.034 | | | | 1.034 |
| e. Incremental Admin Support – Education (NWFP) | | | 0.483 | 0.309 | 0.792 |
| iii. Consulting Services | 15.434 | | 1.435 | 0.739 | 17.608 |
| a. Consulting Services – Education | 2.549 | | | | 2.549 |
| b. Consulting Services – Health | 2.816 | | | | 2.816 |
| c. Consulting Services – Power and Transport | 10.070 | | | | 10.070 |
| d. Consulting Services – Education (NWFP) | | | 1.435 | 0.739 | 2.174 |
| **Total** | **89.611** | **13.369** | **13.908** | **6.682** | **123.570** |
| **B. Technical Assistance (TA-4943-PAK)** | | | | | |
| Capacity-Building of Institutions related to Earthquake Reconstruction and Rehabilitation | 1.780 | | | | 1.780 |
| **TOTAL (GRANT 0029 + TA 4943)** | **91.390** | **13.369** | **13.908** | **6.682** | **125.349** |

ADB = Asian Development Bank, Admin = administration, ERRA = Earthquake Reconstruction and Rehabilitation Agency, NWFP = North West Frontier Province now renamed as Khyber Pakhtunkhwa, TA = technical assistance.
Note: Numbers may not sum precisely because of rounding.
Sources: ADB's Grant Financial Information System; Technical Assistance Information System.

## STUDENT ENROLMENT RATIO COMPARISON




Note: Kachi is Preschool in local language.
Source: Socio Engineering Consultants. 2010. *SEC Evaluation Report*. Islamabad.