



Validation Report

Reference Number: PCV: IND 2010-12
Project Number: 35068
Loan Number: 1826
April 2010

India: Gujarat Earthquake Rehabilitation and Reconstruction Project

Independent Evaluation Department

Asian Development Bank

ABBREVIATIONS

ADB	–	Asian Development Bank
BTOR	–	back-to-office report
EMG	–	extended mission in Gujarat
GSDMA	–	Gujarat State Disaster Management Authority
GUDC	–	Gujarat Urban Development Corporation
ICB	–	international competitive bidding
IED	–	Independent Evaluation Department
O&M	–	operation and maintenance
PCR	–	project completion report
RRP	–	Report and recommendation of the President
SGIA	–	second generation imprest account

NOTE

In this report, “\$” refers to US dollars.

Key Words

india, adb, asian development bank, earthquake, emergency loan, gujarat, independent evaluation department

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PROJECT COMPLETION REPORT VALIDATION

A. Basic Project Data		PCR Validation Date:	April 2010	
Project Number:	35068		Approved	Actual
Loan Number:	1826			
Project Name:	Gujarat Earthquake Rehabilitation and Reconstruction Project	Total Project Costs (\$ million):	625.00	390.62
Country:	India	Loan (\$ million):	500.00	315.14
Sector:	Multisector	Total Cofinancing (\$ million):	0.00	0.00
ADB Financing (\$ million):	ADF: \$0.00 OCR: \$500.00	Borrower (\$ million):	125.00	75.48
Cofinancers:	None	Beneficiaries (\$ million):	0.00	0.00
Approval Date:	26 March 2001	Others (\$ million):	0.00	0.00
Signing Date:	26 April 2001	Effectiveness Date:	24 Jul 2001	17 May 2001
Project Officers:	Name: Alex Jorgensen Ashok Srivastava	Closing Date:	30 Jun 2004	6 Nov 2007
		Location: India Resident Mission India Resident Mission	From 2001 2007	To 2006 2008
Validator:	J.A. League, Consultant	Director:	R. Adhikari, IED1	
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B. Project Description (summarized from the report and recommendation of the President [RRP])¹

- (i) **Rationale.** The earthquake, which occurred on 26 January 2001, was measured as having an intensity (on the Richter scale) of 6.9 by the Indian Meteorological Department and 7.7 by the United States Geology Survey. The earthquake resulted in a major catastrophe that severely impacted the local population. The quake, which was the worst on record for India (during the last 180 years for which records are available), resulted in more than 19,000 confirmed deaths, with about 200,000 people injured, and up to 1.7 million homeless. The quake completely destroyed 300,000 and damaged more than 600,000 dwelling units, and damaged much of the power, water supply, and sanitation systems in the affected areas. The quake's epicenter was in the Kachchh district of Gujarat, and the impact on people's lives and economic activity was even greater as a result, as this was the fifth major disaster to strike the northeastern part of Gujarat in the past 4 years. The preceding events were two cyclones and two severe droughts, the second of which was still causing major distress to the poorest regions in the state when the earthquake struck. The resources of the government of Gujarat and civil society were already depleted and the estimated \$2.3 billion cost for rehabilitation and reconstruction of basic services, together with the further \$1 billion–\$1.5 billion in economic damage due to loss of production and lower fiscal revenues, would be difficult for the state to bear without assistance. By providing financing for the most urgently needed components and works, the loan enabled the government to finance a portion of the overall reconstruction program, and helped restore economic activities essential for the survival of residents in the heavily affected areas.
- (ii) **Impacts.** The expected impacts of the project were to (a) protect poor and affected people from falling further into poverty through provision of support, both in terms of financial assistance and improved earthquake-resistant technology; (b) help families resettle and provide them with a safer and healthier environment; (c) rehabilitate urban and rural infrastructure, particularly water supply and sanitation; (d) assist in reviving industries and agriculture, through the positive secondary effects of support for physical reconstruction in key sectors such as power; (e) rehabilitate public and community infrastructure; (f) help restore livelihoods that could help prevent the disaster from having adverse effects on the poor; (g) rehabilitate livelihoods for local artisans, craftsmen, and self-employed people,

¹ ADB. 2001. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan and Technical Assistance Grant to India for the Gujarat Earthquake Rehabilitation and Reconstruction Project*. Manila.

for the recovery of the local economy and employment opportunities; (h) help rehabilitate (socially and economically) severely affected people such as disabled persons and women; and (i) build capacity for reconstruction and rehabilitation and for multidisaster-related efforts (from prevention to mitigation).

- (iii) **Objectives or expected outcomes.** The main objective of the project was to support the government's efforts to reconstruct and restore essential damaged infrastructure in the affected areas of the state, especially the Jamnagar, Kachchh, Patan, Rajkot, and Surendranagar districts. This was essential to enable early restoration of economic and social activity in the affected areas, especially for the poor. The project focused on the highest priority areas, identified through consultations with the government, public and private sector, nongovernment organizations, and other civil society.
- (iv) **Components and/or outputs.** The project had the following components:
- (a) **Part A: Housing.** Assistance for reconstruction of residential houses, focusing on rural areas and the poorer sections of the population, particularly those living below the poverty line and the economically weaker sections of the population in the affected rural areas.
 - (b) **Part B: Urban and Rural Infrastructure.** Work on urban and rural water supply, sewerage, sanitation, drainage, roads, streets and related structures; markets, rehabilitation of bus and truck stations, civic buildings, staff quarters; electrification and lighting; provision of administrative hardware; provision of utility vehicles including water tankers, fire trucks, garbage collection and compactor equipment; development of sites and services; and related debris removal and appurtenances.
 - (c) **Part C: Power.** Refurbishing and rehabilitating substations, transmission lines, distribution systems, staff quarters, administrative and related buildings, switch gear and transformers, control systems, and related equipment and works.
 - (d) **Part D: Livelihood Rehabilitation.** Support for livelihood projects, given the strong linkage between economic rehabilitation, housing reconstruction, and access to basic needs. The specific projects included financial and infrastructure support for skill-based affected persons, including retraining of affected persons needing alternative lines of work and livelihood.
 - (e) **Part E: Consulting Services and Incremental Administrative Support.** Support for concerned state agencies and municipal bodies to implement the rehabilitation and reconstruction, capacity building, and benefit monitoring, as well as incremental equipment, services, supplies, and incremental personnel costs incurred by the agencies responsible for project implementation.
 - (f) **Part F: Multihazard Disaster Preparedness and Mitigation.** Support to the government for preparation of disaster management plans, disaster management information systems, and disaster management training.

C. Evaluation of Design and Implementation (project completion report assessment and validation)

- (i) **Relevance of design and formulation.** The project completion report (PCR)² noted that the project, with its focus on poverty reduction, was consistent with the Asian Development Bank's (ADB's) country operational strategy for India, which aimed to promote economic efficiency and higher sustainable growth to improve employment and reduce poverty. The project's design and formulation was highly relevant, being a response to an emergency that devastated wide areas of Gujarat and affected millions, particularly the poor. The PCR emphasized the prompt action taken by the government and ADB (as well as other development partners) in response to the emergency situation. ADB emergency assessment mission was in Gujarat 2 weeks after the earthquake and, together with other development partners, immediately launched an intensive 10-day field assessment in the affected areas, followed by 10 days of data assimilation and formulation of the joint assessment report, which was the basis for defining development partner assistance and participation in earthquake rehabilitation and reconstruction. Appraisal was completed barely a month after the earthquake and the loan became effective 4 months after.

² ADB. 2008. *Completion Report: Gujarat Earthquake Rehabilitation and Reconstruction Project in India*. Manila.

The project benefited from ADB's experience in rehabilitation assistance, which was clearly incorporated in the project design. There were two changes in project scope: (a) transfer of the housing component from the project to the World Bank's project, resulting in a much reduced rural housing component (the transfer was implemented because the financing offered by the World Bank's International Development Association was less costly [a 40-year term and a 1% service charge], than the ADB ordinary capital resources loan [a 30-year term and interest rates varying from 1.1% to 5.6%]); and (b) addition of 14 additional state line agencies as implementing agencies to ensure ownership and decentralized implementation.

However, the PCR also pointed out that implementing such a large-scale, complex project spread over a large area within the original specified period of 3 years was not possible.

The PCR could have further emphasized that the components identified addressed the critical and urgent problems immediately after the earthquake and their inclusion made the project truly relevant and responsive to the needs of the affected population, particularly the most vulnerable.

- (ii) **Project outputs.** The PCR stated that most major outputs were achieved, with some adjustments in scope, components, and coverage.

Part A: Housing. Despite the major change in scope, the ADB-financed rural housing component constructed 41,902 houses, exceeding the original target of 37,150. Most of these houses (62%) were built in situ with multihazard-resistant technology after extensive consultation with beneficiaries. According to the PCR, the quality of construction improved compared with the pre-earthquake situation—houses are larger and the proportion of houses with separate toilets has doubled.

Part B: Urban and rural infrastructure. The focus went beyond replacing lost capital stock and included the creation of holistically planned urban infrastructure in the towns. Development plans were completed through a highly consultative process with affected people.

Urban infrastructure completed included (a) 350.45 kilometers (km) of roads, (b) 702.92 km of water supply pipes, (c) 352.24 km of sewerage, (d) 52 water supply and sanitation structures, (e) 16 railroad crossings, and (f) 174 buildings. Goods procured included (a) 642 containers, (b) 30 tractors, (c) 15 bulldozers, (d) 15 loaders, (e) 15 power tillers, (f) 17 dumpers, (g) 15 vacuum emptier, and (h) 116 ambulances.

The following rural infrastructure was completed: (a) 2,576 km of water supply pipeline for 27 towns and 1,857 villages, (b) 602 water structures, (c) 270 pump sets, and (d) 17 water treatment plants. In addition, 222 tube wells were drilled in 152 villages that had no reliable water supply source, and 3,600 km of major district roads and village access roads were rehabilitated and upgraded.

The PCR cited significant economic growth in the reconstructed towns, but did not give data to substantiate this, other than mentioning that real property values rose in three relocation sites around Bhuj. Similarly, the PCR should have provided more data to substantiate the perceived water supply improvement, other than mentioning that a greater percentage of households have access to piped water system.

Part C: Power. The medium- to long-term objective was to replace redundant and damaged equipment, transmission lines, and transformers to ensure reliable functioning of the power transmission and distribution system and to improve system efficiency. The PCR pointed out that both these objectives have been met.

Part D: Livelihood restoration. This component was intended to provide an enabling environment for those affected by the earthquake to regain lost income-generating assets and livelihood activities. The PCR noted that measures implemented under the livelihood component helped restore and increase employment and income levels. Livelihood assistance provided included: (a) over 3,400 handloom weavers were provided with looms, and 2,500 assisted with working capital; (b) 31,000

tool kits were distributed; (c) 1,629 small industries were provided with subsidy assistance; (d) 13,299 kiosks and shops were provided with cash assistance; (e) 14,147 women benefited from the women's livelihood restoration program; and (f) 2,500 women were provided with working capital under the self-employment scheme.

Part E: Consulting services and incremental administrative support. According to the PCR, consultancies resulted in the project being well designed, supervised, monitored, and implemented.

Part F: Multihazard disaster preparedness and mitigation. Seismic equipment was procured to provide 24-hour online monitoring of earthquake activity. This work was 67% completed by the loan closing date. Sophisticated medical emergency equipment and ambulances were procured and provided to urban local bodies.

(iii) **Project cost, disbursements, borrower contribution, and conformance to schedule**

- (a) **Project cost.** The PCR stated that at appraisal, the project cost was estimated at \$625 million, comprising foreign exchange of \$513 million equivalent and local currency cost of \$112 million equivalent, with ADB providing a loan of \$500 million. However, after five cancellations, the loan amount was reduced to \$315.14 million. With the exception of three contracts, all the components comprising over 300 contracts have been fully implemented. Cost savings and the availability of less costly financing and grants from other development partners were the main factors for the reduction of the ADB loan.
- (b) **Disbursement.** Disbursements at project completion amounted to \$315.14 million. Implementation time doubled to 6 years and disbursement was also spread out over 6 years. Provision of an imprest account was hampered by procedural delays at various levels, which resulted in ADB reimbursements to the Gujarat State Disaster Management Authority (GSDMA) being delayed instead of taking place immediately as specified in the loan agreement. ADB's requirement that reimbursement funds should reach the second generation imprest account (SGIA) immediately was not achievable.
- (c) **Project schedule.** Although both primary and secondary objectives were achieved, the project was extended to 6 years instead of the 3 years set out during appraisal. Implementation delays resulted from (i) the lengthy period (9–14 months) to award international competitive bidding (ICB) contracts, due to the need for multiple approvals by the implementing agencies, GSDMA, and ADB; (ii) cancellation of some contracts due to poor quality works or the slow pace of construction, necessitating re-tendering; (iii) provision of fraudulent bank guarantees by contractors (according to BTORs, Office of the Auditor General looked into the matter), which led to contract cancellations and re-tendering (this involved one Gujarat Electricity Board and three Gujarat Water Supply and Sewerage Board contracts); (iv) major steel price escalations following the award of a major ICB contract for mild steel pipe, resulting in the contract not being completed, and the performance guarantee of the supplier being cashed while three civil work contracts awarded in anticipation of the pipe supply had to be cancelled. All four contracts were re-tendered, causing a 14-month delay; (v) delays in obtaining statutory clearances and permissions; (vi) disruptions in processes and decision-making as a result of frequent changes in the senior officials at the implementing agencies; (vii) delayed receipt of funds into GSDMA's account, which sometimes caused delays in making payments to contractors; (viii) payment arrangements taking much longer than expected; and (ix) the need to handle encroachment removals sensitively, which was time-consuming.

The back-to-office reports (BTORs) mentioned delays due to land acquisition, but there was no mention of these in the PCR discussion of delays in the project schedule. BTORs cited delays of 10–27 months in 26 out of 68 contracts, due to factors such as heavy monsoon rains and severe flooding, inadequate pre-design investigations by project consultants, lack of information about underground utilities, poor databases, earthquake zoning changes, and related design code and land availability problems.

The PCR observed that implementing such a large-scale, complex project spread over a large area within the original specified period of 3 years was not possible.

(iv) **Implementation arrangements, conditions and covenants, related technical assistance, procurement, and consultant performance**

- (a) **Implementation arrangements.** The PCR stated that the implementation arrangements formulated during appraisal were substantially followed. Overall coordination was provided by GSDMA, including coordinating assistance extended by other multilateral and bilateral development institutions. GSDMA established a project management and coordination unit, which was responsible for facilitating project implementation and coordination with the implementing agencies appointed for each of the key sectors. There were initially five implementing agencies but 14 were added, making project management and processing more complex and difficult for GSDMA and ADB.

ADB's extended mission in Gujarat—which consisted of two ADB staff consultants who coordinated effectively between implementing agencies, GSDMA, and the India Resident Mission—was very useful; solutions for many issues, including procurement-related issues, were expedited in the field. The extended mission ensured quality control and speedy subproject approvals.

Implementation arrangements for the project, including empowering of GSDMA by the government and fielding of the extended mission in Gujarat, were rated *highly successful* by the PCR. However, there were problems, particularly with the Gujarat Urban Development Company, which was responsible for implementation of the urban infrastructure component.

- (b) **Conditions and covenants.** Audited financial accounts and financial statements were generally submitted within the specified timeframe. Instead of the 5 working days specified in the loan agreement, internal approvals within GSDMA and/or the implementing agencies sometimes took 15–30 days. The condition specifying submission of a report within 3 months of physical completion of each subproject could not be complied with. GSDMA submitted regular monthly and quarterly progress reports but could not submit a report on each of the 300 subprojects because the implementing agencies were preoccupied with implementation and could not complete the documentation. All required environmental clearances for sewage treatment plants and landfill sites were obtained and all social and financial covenants have been complied with.

The covenant requiring immediate credit of disbursement proceeds into the SGIA was not complied with.

- (c) **Related technical assistance.** The technical assistance for capacity building for earthquake rehabilitation and reconstruction aimed to assist GSDMA on a daily, hands-on basis throughout the rehabilitation process, and by building disaster management and training capacity within the state.³ The PCR noted that the technical assistance objectives were substantially achieved. The PCR (Appendix 10) rated this TA *highly successful*.

- (d) **Consultant recruitment and procurement.** Goods, civil works, and services were procured in accordance with ADB's *Procurement Guidelines* (2007, as amended from time to time) and *Guidelines on the Use of Consultants* (2007, as amended from time to time). Due to the emergency nature of the project, three design supervision consultants were recruited by inviting proposals from firms already working on various ADB-financed projects in India. The ICB contract awards were delayed because of preparation of bid documents and bid evaluation reports, and protracted and multistage approvals needed within the implementing agencies, GSDMA and ADB. At appraisal 3,600 person-months of consulting services using individual national consultants were envisaged to assist GSDMA for housing design and construction supervision, but only 1,100 person-months were used, primarily because of the transfer of urban owner-driven housing to the World Bank loan.

³ ADB. 2005. *Technical Assistance Completion Report: Capacity Building for Earthquake Rehabilitation and Reconstruction of Housing*. Manila.

- (e) **Performance of consultants, contractors, and suppliers.** The PCR rated the performance of all national consultants (except for one) *satisfactory*. However, four contracts were terminated due to fraudulent bank guarantees (see iii-c), and nine contracts were terminated due to nonperformance. Considering that over 300 contracts were awarded, these problems were considered not significant by the PCR. The terminated contracts were re-tendered and the planned scope of work was completed with expected delays.
- (v) **Performance of the borrower and executing agency.** The PCR rated the performance of the borrower and GSDMA *highly satisfactory* and the Independent Evaluation Department (IED) rates it *satisfactory*. GSDMA demonstrated strong ownership of the project and was credited for successfully managing the complex and multicomponent project involving numerous implementing agencies, aid agencies, and contractors over a large area. GSDMA was also responsible for timely provision of counterpart funds. The PCR attributed the success of GSDMA to its sustained focus on rehabilitation, selection of a good leadership team, and complete support from the government. GSDMA received an award for its outstanding work in disaster management and disaster reduction (United Nations Sasakawa Award, 2003) and an award for initiatives undertaken in governance (Commonwealth Association for Public Administration and Management, 2004). The ADB midterm mission commended GSDMA for “its undeterred focus backed by commitment to realize the project objectives, apt policy guidelines, proactive intervention to facilitate interdepartmental clearances and quick disbursements to implementing agencies, which have contributed toward effective project implementation.”⁴ However, due to some shortfalls—protracted disbursement period; extension of the implementation period; and some covenants that are not met, including audited financial statements and credit to disbursement proceeds not met in the SGIA—the IED rating is lower than that of the PCR.
- (vi) **Performance of the Asian Development Bank.** The PCR rated ADB’s performance *satisfactory*, and IED concurs with this rating. ADB responded promptly to the earthquake emergency situation and immediately fielded a mission to assess the earthquake damage and participated in formulating a strategy for rehabilitation and reconstruction. In retrospect, the PCR noted that ADB provided the GSDMA and implementing agencies with training, quick approvals, regular monitoring and advice, but inevitably, the project could not avoid significant delays of 3 years, which resulted in extra costs for supervision and staff time. As stated in some BTORs during 2003–2005, physical completion progressed to the 60% level as early as 2004, but from that point onward the Gujarat Urban Development Corporation (GUDC) component progressed slowly, and was the major reason for the overall delay. ADB and GSDMA had already agreed to the 2-year extension by September 2004, but the executing agency approved a 1-year extension instead, in order to encourage faster implementation. ADB’s extended mission in Gujarat is identified as a critical factor in the eventual success of the project, but in retrospect, the official project review mission was done twice yearly by the resident mission staff, and the two consultants making up the extended mission staff had limited authority to exert pressure on the ground and on GSDMA. IED acknowledges the difficulties surrounding emergency loan implementation, and that the three main reasons for the delay—approval of a detailed Gujarat Development Plan, rebidding of a pipe supply contract, and the heavy monsoon—were beyond ADB’s control. However, the inclusion of civil works that went beyond normal post-disaster reconstruction undoubtedly made the initial 3-year implementation schedule impossible, and was a key issue that should have been thoroughly discussed during appraisal and the early stages of negotiation. This is an important lesson for similar future endeavors.

D. Evaluation of Performance (project completion report assessment and validation)

- (i) **Relevance.** The PCR rated the project *highly relevant*, and IED concurs with this rating. The PCR pointed out that the project adopted a comprehensive reconstruction and rehabilitation program focusing on reducing risk and vulnerability and promptly addressed high-priority and critical problems related to housing, urban and rural infrastructure, power, livelihood and multihazard disaster preparedness and mitigation, and necessary technical assistance and administrative support. It

⁴ A. Jorgensen. 2004. India: Gujarat Earthquake Rehabilitation and Reconstruction Project Midterm Review Mission Back-to-Office Report (16 April). *Aide Memoire*. Manila (Loan 1826-IND). p. 9.

should also be noted that the prompt response and speedy processing and approval ensured that the project was relevant. Moreover, the project's emphasis on greater community participation enhanced its success. Community participation in housing, subproject selection in urban and rural infrastructure, and formulation of town planning schemes and development plans enabled greater responsiveness and relevance of the project.

- (ii) **Effectiveness in achieving outcome.** The PCR rated the project *effective* in achieving its outputs and outcomes, and IED concurs with this rating. The PCR cited that the project fully achieved its objective of rehabilitation and reconstruction of damaged infrastructure and housing, and assisted in livelihood rehabilitation. It pointed out that basic infrastructure such as water supply, electricity, sewerage, sanitation and public buildings is more widely available and far superior in quality than before the earthquake. Given that significant assets damaged by the earthquake have been restored, there is good ground to say that socioeconomic development in the affected areas has resumed and community life revived.
- (iii) **Efficiency in achieving outputs and outcomes.** The PCR rated the project *efficient* in achieving the stated outcomes and outputs, but IED rates the project *less efficient*. The project experienced significant delays, as it took 6 years to complete (double the original scheduled duration). The delays required an additional 160 days of ADB supervision, and the same for the borrower. The GUDC (part B) component in particular included redevelopment beyond the usual post-disaster reconstruction. Although a worthy cause in the long term, if this was the intention of both the government and ADB from the outset it should have been addressed as the objective of the project in the original project document, and the project schedule drawn up accordingly. The main delay, and the need for extensive consultation with various stakeholders for the Gujarat Area Development Plan, should have been foreseen or recognized much earlier by both GSDMA and GUDC. In addition, the PCR did not recalculate the economic or financial internal rates of return, as this was an emergency loan. Therefore, IED is unable to assess the return on investment.
- (iv) **Preliminary assessment of sustainability.** The PCR rated the project *likely to be sustainable* primarily because water supply and power are managed by experienced state organizations. The PCR also noted that operation and maintenance (O&M) of facilities in some rural areas, including water treatment plants and pumping stations, has been contracted out and that these were being well maintained.

The PCR did not specify the total number of rural towns that have contracted for O&M, or what the O&M situation is in towns where it has not been contracted. The PCR conceded that municipally owned assets are suboptimally used, that O&M staff housing (particularly in rural areas) has not been fully used, and that municipal governance needs to be further strengthened. The PCR also stated that it may be necessary to provide municipal governments with capacity building and revenue enhancement support (the PCR is not clear about the level of financial sustainability for revenue generating components such as power) to ensure that municipal assets become more sustainable. For these reasons, IED rates the project *less likely to be sustainable* because municipal institutions may not have the technical and financial capacity to undertake O&M of the completed projects.

- (v) **Impact (both intended and unintended).** The PCR noted that project implementation greatly enhanced the quality of both the built and natural environment, which was devastated by the earthquake. The PCR rated the positive impacts of the project as *significant*. IED concurs with this assessment.

The overall strategy, policy, and mechanisms of the government and GSDMA for enabling rehabilitation and reconstruction that is responsive to the community have been *effective*. GSDMA adopted a highly consultative process throughout the project. All statutory environmental clearances for the facilities constructed under the project were obtained by the respective implementing agencies. The project carried out resettlement of people who lost their homes as a result of the earthquake, but all resettlement was voluntary. The new serviced housing lots were provided at greatly reduced rates and supported with grants for house construction. Positive social outcomes of the project are (a) the choice of relocation or in situ reconstruction was determined by the village community, and housing areas were provided with access roads, electricity, water supply and

community buildings, ensuring the restoration of community life; and (b) livelihood support ensured that rural handicraft workers and tradesmen were able to earn more income as they are better organized, have more skills, have new tools, and have been provided with marketing support.

The project served as a trigger or a driver for the resumption of socioeconomic development activities interrupted or curtailed by the earthquake, thereby restoring community life disrupted by the disaster. The highest-priority issues—such as repair of housing, basic infrastructure and water supply, sewerage, and power that was severely damaged by the earthquake—were addressed within the first 3 years and completed expeditiously. Implementation of these initial priority projects addressed the needs of the most vulnerable people, who would not have been able to undertake the rehabilitation of lost or damaged assets by themselves.

E. Overall Assessment, Lessons, and Recommendations (validation of project completion report assessment)

- (i) **Overall assessment.** The PCR rated overall performance of the project *successful*. IED concurs with this rating, primarily because the project achieved its objective of supporting the government's efforts to reconstruct and restore essential damaged infrastructure in the affected areas and thereby enable early restoration of economic and social activity in these areas, especially for the poor. Given the severely limited preparation time, the project was well designed (compared to projects with much longer project preparation time and resources). Considering the enormity of the devastation the project needed to address, and the complex implementation arrangements—involving numerous implementing agencies and communities, a large geographic area, and multisectoral components and subprojects—the project was exceptionally well executed and implemented, with relatively minor implementation problems. Far simpler projects have experienced more serious implementation problems, and many failed to achieve their envisioned objectives, outcomes, and impacts. The very tight and efficient project supervision is a credit to both GSDMA and ADB, particularly the extended mission in Gujarat.

The BTORs showed that ADB had an excellent grasp of the problems and promptly took necessary action, calling the attention of GSDMA and implementing agencies to the need to undertake immediate corrective or mitigating measures.

The communities themselves were also a key factor in the project's success. Gujarat has a tradition of community awareness and proactive involvement, including widespread activities by nongovernment organizations. The active participation of beneficiaries and communities throughout the project—including in subproject selection, town planning work, and housing—greatly assisted in successful project implementation.

- (ii) **Lessons.** The PCR identified useful lessons from the project, which could enhance ADB's involvement with future disaster-related assistance. The lessons cited were:
- (a) implementing a large-scale reconstruction program within a 3-year period was not practical. The project could have been prepared as two separate loans—one for the immediate relief and rehabilitation and the second as a normal or sector loan project covering the reconstruction phase. In the recovery phase, which is generally limited to 2 years for natural disasters, only immediate, short-term assistance is provided for the rehabilitation or reconstruction of critical infrastructure;
 - (b) civil works, particularly in urban areas, should be sequenced so that water supply, sewerage, drainage, and other projects requiring underground work are substantially complete prior to award of road contracts;
 - (c) the construction of public buildings and staff quarters should be selective and minimized given the inability and/or lack of interest by municipalities to maintain and use them for the planned purpose;
 - (d) ADB stipulated that reimbursements be immediately credited to the SGIA. The transfer of funds from the government to SGIA took about 3 months, moving through several institutions and levels of government. ADB must appropriately define what "immediately" means;
 - (e) capacity building for O&M of assets requires careful attention and needs to be incorporated into loan processing and included in the follow-up to the emergency loan. The capacity of municipalities for O&M is limited, and they need to be provided with capacity building assistance.

- (iii) **Recommendations.** The PCR presented useful recommendations, with which IED concurs. The PCR suggested that appropriate high-level coordination mechanisms be established to reduce

delays in obtaining statutory clearances from other government agencies. The PCR recommended that complex and widespread emergency assistance projects be undertaken in two stages—one addressing immediate relief and rehabilitation, and the second as a normal or sector loan project for medium- to long-term construction investment covering the reconstruction phase and strengthening or expansion of water supply, transport, and power. Urban works should be sequenced, so that water supply, sewerage, drainage, and other projects requiring underground work can be substantially complete prior to award of road contracts. It also recommended that better dialogue be undertaken (and coordination mechanisms established) between GSDMA, the implementing agency, and end-user agencies (e.g., municipalities) to prepare them to assume responsibility for O&M of newly created assets within agreed timelines.

F. Monitoring and Evaluation Design, Implementation, and Utilization (project completion report assessment and validation)

Because this was an emergency loan, a baseline survey was not conducted at the beginning of the project. The PCR should have provided comparative pre-earthquake and post-project data to strengthen the assessment, however. Data from the benefit monitoring and evaluation should have been used to more clearly show that the project was effective in achieving its outcome. Baseline information was collected over 2 years after the earthquake through a survey of user perceptions and beneficiary recollections. The first survey covered 8,000 beneficiaries; the second (conducted in March–April 2004), covered 4,000 beneficiaries; the third covered 8,000 beneficiaries, and was submitted to GSDMA in August 2007. The PCR gave little detail regarding the surveys and the specific studies, and did not provide data to measure the impact of the project components on the communities. The PCR gave only a scant summary of the findings of the benefit monitoring and evaluation, citing that both employment and income have increased (but did not say by how much); that public satisfaction with street lights, drainage, and sewerage system is high (but gave no statistical data); and that there is higher coverage of piped water supply connections among communities (with no data showing how much higher coverage is). A review mission in December 2005 raised the need for systematic benefit monitoring of subprojects and poverty assessment of beneficiaries.

G. Other (e.g., safeguards, including governance and anticorruption; fiduciary aspects; government assessment of the project, as applicable) (project completion report assessment and validation)

H. Ratings	PCR	IED Review	Reason for Disagreement/Comments
Relevance:	Highly relevant	Highly relevant	
Effectiveness in achieving outcome:	Effective	Effective	
Efficiency in achieving outcome and outputs:	Efficient	Less efficient	The project experienced significant delays, as it took 6 years to complete, double the original scheduled duration.
Preliminary assessment of sustainability:	Likely to be sustainable	Less likely to be sustainable	Municipalities have inadequate capacity for O&M
Borrower and executing agency:	Highly satisfactory	Satisfactory	Shortfalls included: (i) protracted disbursement periods; (ii) extension of implementation period; and (iii) some covenants were not met, including audited financial account and credit to disbursement proceeds not met in the SGIA. Consequently, the IED rating is lower than that of the PCR.
Performance of ADB:	Satisfactory	Satisfactory	
Impact:	Significant	Significant	
Overall assessment:	Successful	Successful	
Quality of PCR:		Satisfactory	

I. Comments on PCR Quality

The PCR was consistent with the PCR guidelines. However, it could have been organized to facilitate comparison between (i) planned and envisioned objectives, impact, benefits, outcome and outputs stipulated in the RRP; and (ii) actual achievements from project implementation. There was no discussion of the performance of implementing agencies and how this affected project implementation.

J. Recommendation for Independent Evaluation Department Follow-Up

No follow-up is necessary.

K. Data Sources for Validation

Data sources used in the preparation of this validation report included the RRP, BTORs, PCR, aide-mémoire, and other relevant project documents.

REGIONAL DEPARTMENT'S RESPONSE TO THE PROJECT COMPLETION REPORT VALIDATION REPORT

On 24 February 2010, Director, IED1, Independent Evaluation Department (IED), received the following comments from the India Resident Mission.

We agree that the lessons and recommendations of the PCR would enhance ADB's expertise in future disaster related assistance. We have made a note of IED's observations on the report, including on benefit monitoring and evaluation which would be useful for implementation of ongoing and future projects. We also note that no IED follow-up is necessary.

We have no further comments to offer.