CHAPTER 1

The Moment the Quake Struck

Introduction

> I will always carry the guilt for this, the way I was talking to the girl and what happened. Class was already underway, and I was going desk to desk, checking my students' homework. As usual this one girl had not done her homework and I was getting angry with her, demanding to know why. According to custom here, she was standing for me to speak with her, when all of a sudden there was a violent jolt and blast of sound when the earthquake hit and, already standing and likely stressed from my speech, she bolted for the door. She was the first to reach the door and as the building started to break apart, the instant she went through the door, something heavy fell off the building from above, killing her on the spot. Many others in our school were injured but she was the only one to die.
>
> —A teacher

> When the quake hit, I was at my relative's place farther up the mountain. As all the cell phone connections were broken, we had no way to know what happened at my home in the valley or anywhere. After a couple of days of not knowing, but hearing terrible stories, my cousins and I started walking down the mountain road, and it was like going down into a nightmare. All along the road, bodies were placed, wrapped in blankets for shrouds, waiting to be taken to cemeteries.
>
> —A shopkeeper

When the Pakistan earthquake struck, I was in Kabul, Afghanistan, in my office on the ground floor. I had my door open to get some sun. I was at my computer, finishing some materials for the Government of Afghanistan's Ministry of Rural Rehabilitation and Development—which had engaged me to draft the plan for the country's first rural development training center—when I heard a roar off in the distance. At first I discounted it as another noise from the nearby military airport, but I soon felt the floor move. My colleagues and I ran outside, realizing the roar was the sound of an earthquake arriving. People already outside were crouched down on the ground, feeling it move with their hands in disbelief. About three hundred miles away from the epicenter in Pakistan, the Kabul buildings

we were in suffered no damage, and there was relatively little damage in the rest of Afghanistan. A few days later, looking out from my same office door, I watched an unusual formation of army helicopters flying eastward over Kabul. These were later reported to be the first International Security Assistance Force (ISAF) helicopters on their way to Pakistan for emergency relief. Little did I know that I would also be in Pakistan a year later, working on the reconstruction project for the earthquake I had felt that autumn morning.

It was 8 October 2005 at 8:52 a.m. when the earthquake struck northern Pakistan, India, and Afghanistan. Although concentrated in north-central Pakistan, the shaking reached out over an area of about eighteen thousand square miles. The Asian Development Bank (ADB) and World Bank (WB) described this earthquake "as arguably the most debilitating natural disaster in Pakistan's history" (ADB and WB 2005: 4). Not only was the scale unprecedented in the country, the United Nations Emergency Relief Coordinator, Jan Egeland, stated that the organization had "never seen such a logistical nightmare," referring to the scale and urgency of assistance needed, with tens of thousands of people affected over a large area at high elevation with few roads and winter setting in ("Quake" 2005).

The Geological Impact

According to the US Geological Survey, the quake measured a magnitude of 7.6 on the Richter scale. The epicenter was near the town of Balakot, about one hundred twenty-five miles north of Islamabad, Pakistan's capital city, from which destruction was concentrated in a hundred-mile-wide circle reaching across two administrative units of the country. The damage occurred across the north-central part of Khyber Pakhtunkhwa (KP) province to the west of the epicenter, while the highest destruction rate occurred in the east, in the internationally disputed territory of Pakistan-administered Kashmir, known as Azad Jammu and Kashmir (AJ&K) or Azad Kashmir.

The quake zone was located in the Indian plate and Asian plate's subduction region, where tectonic movement—compression and bending—was responsible for the creation of the Himalayan mountain ranges (Durrani et al. 2005: 12). The quake was attributed specifically to a "rupture of the northwest-southeast oriented Muzaffarabad thrust fault . . . [with its] hypocenter located at a depth of 20 kilometers" (Bulmer et al. 2007: 53). Due to its scope, this quake has different names in the literature—it has been called, variously, the Pakistan Earthquake, the Kashmir Earthquake, the Balakot Earthquake, and the Balakot-Kashmir Earthquake.

Over the following weeks, more than a thousand aftershocks reaching up to 6.0 on the Richter scale caused innumerable landslides and severe rock falls, resulting in even more destruction. Roads were blocked by the landslides and, in a few places, rivers also were blocked, creating new lakes. Visible in many locations even years later were mountain slopes with fresh, lightly colored scars that were created when rock faces broke away, taking forest cover with them. In many locations with steep slopes, rocks and boulders were dislodged, which then rolled or bounced downward, destroying roads, villages, markets, and anything in their way. One of the schools rebuilt in this USAID-funded reconstruction had been destroyed when an enormous boulder crashed down the steep mountainside and through the roof of the school, killing four students and seriously injuring several more.

Much of the quake area is of similar typography, covered with mountains on the southern edge of the Himalayas. Few roads exist, and those that do are narrow, barely wide enough for two vehicles to pass when they meet. These roads were treacherous even before the quake. The only way for most inhabitants to get to markets or seek services of any kind has always been through long walks on footpaths, up and over the mountains, through riverbeds and across narrow wood-and-rope suspension bridges. In this part of Pakistan, it is not uncommon for children to have to walk

Figure 1.1. A Collapsed School. A community member indicates how, in the earthquake, the Government Girls' High School Kheral Abbasian collapsed. Students continued attending class in the rubble. 2010. © Jane Murphy Thomas.

at least one to two hours one way to attend school. Heavily damaged bridges and roads made accessing help and getting help to local inhabitants challenging.

While Balakot was almost completely destroyed, so also was the AJ&K capital city of Muzaffarabad, which is only twelve miles away. From both those densely populated urban areas, the destruction spread out across eight neighboring districts—mainly the districts of Mansehra in KP and Bagh in AJ&K. In this disaster, with many victims trapped far away from damaged roads, accessing help posed extra challenges. The USAID-funded PERRP was carried out in both KP and AJ&K.

The Human Impact

While estimates varied, damage from the quake claimed more than 74,000 lives, and injured an additional 70,000 people. Figures on the rate of destruction varied widely, but early assessments reported about 272,000 buildings had been levelled, including 574 healthcare facilities and at least 7,669 schools. About 84 percent of the houses were destroyed, leaving 2.8 million people without shelter, scattered over 15,000 villages (ADB and WB 2005).

Greatly complicating the government's response, especially in Muzaffarabad, was that the destruction of government buildings rendered the civil administration unable to function effectively. There was also large loss of life among civil servants and their families. An early assessment reported:

> [The area] suffered extensive damage to economic assets and infrastructure, with social service delivery, commerce, and communications either debilitated or destroyed. Vulnerable groups, mainly women and children living in inaccessible mountain areas with low levels of income and service provision, have borne the brunt of the earthquake's impact. (ADB and WB 2005: 2)

Even places relatively close by the city were on their own, as expressed by a school teacher one hour north of Muzaffarabad. Her school had collapsed, trapping teachers and 110 students. As she and others scrambled to try to rescue the trapped, they shouted for others to come help. Later, she wrote:

> About five hours [after the quake], a man arrived from Muzaffarabad and we asked him, "Where is the government? Where is the army? They should come and help us." And he said, "What are you talking about? Muzaffarabad is destroyed too. There is nothing left—hospitals, schools, government buildings are all destroyed. No-one can help us." (Kokab 2015)

At Muzaffarabad, AJ&K's Prime Minister Sikander Hayat Khan (2005) explained the tragic scene to gathered international media representatives: "For the first two days we have been either digging in the ground to recover bodies or digging to bury them. I have become premier of a graveyard."

Figure 1.2. Mohandri School. At this location, the earthquake dislodged boulders, which rolled down the nearby steep mountain slope, smashing into the school, taking several lives. Here, students and teachers pose in front of their new school constructed by the PERRP project. Government Boys' Primary and Secondary Schools, Mohandri village, Khaghan Valley, KP. See anecdote in Chapter 6: "Mohandri School, Mountainside Boulders." 2011. © Umar Farooq.

The high death rate was attributed to two main factors: timing and the poor-quality construction of buildings. It was Ramadan, and that morning—after their predawn meal—many people were busy in their homes. The quake struck so suddenly that there was no time for them to escape their collapsing houses. It was also a school day, and classes had just started. The Government of Pakistan estimated that seventeen thousand children and eight hundred teachers died in the quake, and that most of these deaths were in the widespread collapse of school buildings. The history of poor construction and lack of seismic design is discussed in greater detail in chapter 6.

Local, National, and International Assistance

Within hours, news of the earthquake was known around the world. Word of the disaster and destruction was made known first by the local private TV and the region's only FM radio station, the Voice of Kashmir, which had operated out of a family's house amidst heavily destroyed buildings. Then "it took a couple of hours before the state-owned electronic media broke the news" (Rehmat 2006: 1). But by the very next day, the mainstream Pakistani and international media outlets already had their journalists on the ground in Balakot and other parts of the quake zone, reporting live around the world.

With the almost immediate worldwide media coverage, levels of help did come from different sources, first from the Pakistani public, as initiatives across the country were taken to collect and deliver aid packages directly to the stricken areas. Groups of friends, neighbors, and faith communities formed, collecting food, clothing, medicines, and other goods, and delivering them personally to the quake-hit areas on damaged roads jammed with other vehicles doing the same. It was "the largest philanthropic response by Pakistanis that the country [had] ever experienced" (Wilder 2008: 4).

One such group, composed of friends and colleagues in the city of Lahore, called themselves the Pakistan Azad Kashmir 2005 Earthquake Devastation and Relief Camp. This group managed to deliver an impressive forty tons of relief goods. However, as spokesman Aizad Sayid (2012) said, "organizing [the] purchase of tents, essential goods, medicines and then transport[ing] them turned out to be much harder than expected." Besides trying to acquire quantities of relief goods when so many others were doing the same, getting the goods to the quake site was another major challenge. As the NGOs and donor agencies found out early on, the

quantity of relief goods—especially winterized tents, needed immediately in the hundreds of thousands—exceeded the world supply.

The Pakistani private sector also played an important role with cash donations and in restoring and rapidly expanding telecommunications. Before the quake, cell phone usage in these remote areas was limited; after 8 October 2005, providers joined the rush to help, and in only months, new cell phone towers appeared throughout the area. Within the next couple of years, even the poorest extended families or villages owned at least one cell phone.

The Pakistan earthquake was then on the world stage through the media. It was the headline story, featured by major TV personalities from the BBC, CNN, and other media outlets from the USA, Canada, Europe, Australia, Japan, China, the Gulf States, and Latin America. Such reporting played the essential role of bringing news of this disaster into homes and workplaces, sparking interest to help from around the world. But, as happens frequently in such disasters, other world events arose and the international media focus changed. Within about three weeks of the quake, "the global broadcasters [had] packed up their satellite dishes and moved on" ("Kashmir's Earthquake" 2005).

Two days after the quake, the UN secretary-general, Kofi Annan, spoke at a press conference, saying, "Every hour counts, and I urge the world to respond and respond generously and willingly" (2005). Two weeks later, on 26 October 2005, the UN issued a world-wide urgent appeal for $550 million[1] for immediate assistance for the tens of thousands of survivors stranded in remote areas. Annan reminded reporters of the urgent need "to prevent a second shock wave of deaths and prevent further suffering." As severe winter conditions were setting in, which would cut off access to the remote mountain areas even by helicopter, he added, "[i]n the next few days, weeks, we literally remain in a life-saving phase" (Sengupta 2005).

On 19 November 2005, at the UN-convened donor conference in Islamabad, eighty countries and agencies pledged a total of $5.8 billion to reconstruction and rehabilitation programs (Naqvi, 2005). In the first few days, UN agencies already present in Pakistan initiated large-scale relief operations. These agencies included the World Food Program, World Health Organization, United Nations Development Program, UN-Habitat, the United Nations Children's Fund (UNICEF), United Nations High Commission for Refugees (UNHCR), United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA), and United Nations Educational, Scientific and Cultural Organization (UNESCO).

Hundreds of local, national, and international NGOs arrived to provide relief aid for the short-term emergency phase only, while others arrived

for this early phase as well as for the long-term reconstruction, recovery, and development. They provided a wide range of assistance, including large-scale food shipments, support to staff of destroyed health facilities, treatment of the injured, and water purification and sanitation, and they helped to set up temporary shelters. They also provided priority items such as winterized tents, blankets, generators, diesel, tarpaulins, ground sheets, stoves, fuel, and kitchen sets. Organizations there for the longer term implemented projects in such fields as seismic construction, agriculture, water management, sanitation, livelihood restoration incentives, environment, health, nutrition, child protection, critical psychosocial support for the trauma, and capacity building in education and health, with teacher and medical staff training.

Many parts of the world responded to the crisis: the European Union and European countries individually, including Denmark, France, Italy, Germany, Poland, Sweden, Turkey, and the United Kingdom; Australia, Canada, Russia, and the USA; and many Asian and Middle Eastern countries including Afghanistan, Cambodia, China, India, Indonesia, Iran, Japan, Jordan, Kuwait, Malaysia, and Nepal. Only hours after the quake, specialized canine search and rescue teams arrived from England, France, Russia, Poland, Canada, and other countries. One of the largest foreign contingents of medical workers to rush to Pakistan's aid was Cuba: "Within two weeks of the quake, two hundred Cuban doctors, nurses and paramedics were at work on the ground" ("Cuba" 2005).

Perhaps the most unusual source of help came from the nearby large-scale international military presence across the border in Afghanistan. As part of the so-called War on Terror, troops from fifty-one countries—members of the North Atlantic Treaty Organization (NATO)—were stationed close to the west side of the quake zone in Kabul and the eastern provinces of Afghanistan. This NATO-led security mission, the International Security Assistance Force (ISAF), sent two hundred medical personnel and another thousand engineers and support staff on a three-month emergency mission to assist (NATO 2010). It was these ISAF helicopters that I had watched fly east from Kabul a few days after the earthquake. This mission also set up an air bridge, lifting thousands of tons of emergency supplies of tents, stoves, and blankets from Europe to Pakistan. Their helicopters delivered goods to remote villages and evacuated the injured. Many NATO countries provided services on the ground, including a field hospital, water purification teams, and a fuel farm to refuel the many helicopters being used. They also helped to clear rubble and set up temporary shelters, and provided other specialized workers such as a British unit of engineers specialized in high-altitude relief work.

Response from the US Government and Government of Pakistan

The US government pledged $510 million for relief and reconstruction efforts to assist the government of Pakistan's relief operations. This total included $300 million in humanitarian relief and reconstruction assistance, and $110 million in military support of relief operations, especially to supply goods needed immediately for the onset of winter: shelter, relief supplies, health, water, sanitation, and logistics. The US also responded to Pakistan's request for helicopter support, ferrying over five thousand tons of food, shelter materials, and rescue equipment to the disaster area. A US Army mobile surgical hospital at Muzaffarabad provided urgent care. In the first few months, American private charitable donations for earthquake assistance topped $73 million (US Department of State 2005).

For assistance in long-term recovery, the US funded four projects handled by the United States Agency for International Development (USAID). The flagship project was PERRP, with a budget of $120 million to rebuild a number of schools and health facilities. This budget was increased to $137 million in 2011 to reconstruct more schools in both of the quake-hit districts (Hagan and Shuaib 2014). The three other projects were the RISE (Revitalizing, Innovating, Strengthening Education) project to improve educational capacities and quality; PRIDE (Primary Healthcare Revitalization, Integration and Decentralization in Earthquake-Affected Areas) project to enhance capacities in health; and I-LEAD (Improving Livelihoods and Enterprise Development) to assist in reestablishing income sources.

To carry out PERRP, USAID tendered the project and selected CDM Constructors Inc. (CCI), a subsidiary of CDM Smith, an American engineering and construction firm. With operations in several countries around the world, the company provides environmental, transportation, water, and energy-related engineering and construction services in a range of sectors to public and private clients.

The government of Pakistan, led by President General Musharraf, the former army general who had gained power in a coup d'état in 1999, took on the role of leading the emergency and long-term reconstruction, with such efforts alternatively lauded or condemned. The government, which had been without a national body responsible for disasters, almost immediately established the Federal Relief Commission to take charge of coordinating and monitoring relief efforts. Two army divisions—approximately twenty-thousand troops—were dispatched to the affected areas to set up staging posts and facilitate the delivery of relief goods.

Later that same month, the government of Pakistan established its Earthquake Reconstruction and Rehabilitation Authority (ERRA), which was an extension of the military led by former and active military officers. ERRA was given the mandate to plan, lead, coordinate, monitor, and oversee reconstruction, incorporating "building back better" approaches to ensure that "all reconstruction would be seismically resilient so that future earthquakes would have a less damaging effect" (World Bank Group 2014: 4). Over the next years, the army's own Frontier Works Organization also rebuilt the roads and bridges.

Studies conducted by foreign organizations in the early months following the quake tended to praise the efforts of the government of Pakistan and ERRA. One early study by the Mid-America Earthquake (MAE) Center at the University of Illinois reported, "The impact on healthcare and education has been severe. Nonetheless, recovery has been more rapid than observed by members of the MAE Center–Rice University Team who have studied several previous earthquakes worldwide. The response of government organizations, the Pakistan Army and private companies was impressive" (Durrani et al. 2005: 7). Similarly, the World Bank Group stated that "strong leadership within ERRA was a key reason for the success of post-earthquake reconstruction. While Pakistan has incurred many high intensity natural disasters before and after the 2005 earthquake, none of the recovery responses by the public sector have come close to matching the uniquely successful 2005 reconstruction program" (World Bank Group 2014: 27).

However, within Pakistan and in the quake zone, opinions generally were—and still, years later, are—highly critical, blaming ERRA for mismanagement and a wide range of failures in reconstruction. For example, when PERRP arrived to start rebuilding destroyed schools and health facilities a year after the quake, we at first had major problems with distrust. People in the communities were angry with both ERRA and the NGOs because so little reconstruction had happened. In PERRP's social mobilizer meetings in communities that first year, remarks were consistent in almost every village, with people saying, "Many of these agencies have come and asked us a lot of questions and made promises of help to us, but then never came back. Why should we believe you [PERRP] people?" A main role of the social team throughout the project was to build trust and protect it.

At the village level, some sources at first also expressed extreme worry about foreign money and foreign organizations, and the unwanted influence this could bring. This concern was partly due to foreign NGOs not being present in AJ&K before the earthquake, and largely due to the prevailing security situation. As discussed in chapter 2, the project area was

not far from the border of Afghanistan and Taliban strongholds. In introductory meetings in a few villages, the occasional speaker said, "American money, we don't want it." Or they expressed suspicion such as, "Why are you planning to build such strong buildings here? You are just going to build these as forward bases, preparing for Americans to invade here, just like they did in Afghanistan [after 9/11]." The few times such sentiments were expressed, others in the same meetings responded with embarrassment, putting down such ideas. PERRP social staff used such remarks to reinforce the project's request for the people to organize and participate, so they would know what was happening and share responsibility for it.

In that early period, many survivors were especially angry with the Pakistani government and army, from whom they had expected help. They too had heard that international assistance was being provided, and they blamed the government when they did not see it arrive. Unfortunately, even years later, many never received assistance, and not all promised reconstruction was completed.

Reconstruction Status: "Concrete Skeletons of Unfinished Schools"

By the tenth anniversary of the quake in 2015, tens of thousands of students still sat in the open air to learn, winter and summer. One such student was Abid Bashir, an eighth-grade student in a state-run school in Hattian Bala, south of Muzaffarabad. He had never had a school roof over his head: "Since he can remember, he has been studying under the open sky. He is not alone; some 450 other students learn with him" (Naqash 2015). Even a dozen years after the quake, international humanitarian crisis analysts reported that thousands of schools were still not rebuilt. The public was left to wonder what had happened to the twelve years and $6 billion of donor pledges (Naviwala 2017).

From the start, the overall political power structure and ruling style was reflected in government involvement in earthquake reconstruction. As a full-fledged province, KP has enjoyed the security, rights, and national and international identity of being part of Pakistan, while AJ&K's status as a disputed territory perpetuates uncertainty. While KP inherited and sustains the many-layered hierarchy of the British bureaucracy, with its fixed procedures and chains of command, AJ&K's bureaucracy is relatively ad hoc. Although reconstruction was a federal jurisdiction, the province and disputed territory often had different policies and practices; many actors gave different directions—a situation made all the more complex by the lack of coordination of NGOs and other implementing agencies.

By 2015, donor assistance had plunged, and the rate of construction was still stymied. Tenth anniversary commemorations condemned the government and ERRA for the lack of progress. Mohammad Zaffar Khan, secretary for the AJ&K branch of ERRA, expressed his dissatisfaction with having at least 150,000 students still studying year-round in the open air due to the lack of completed buildings (Naqash 2015). Although data on the proportion of destroyed schools that had been rebuilt remained widely inconsistent, the reality on the ground, which could be seen on a daily basis, was best described by one analyst as "the concrete skeletons of unfinished schools [that] litter northern Pakistan" (Naviwala 2017).

Reliable, consistent data on construction starts and completions was never available, beginning with the original estimates of the number of schools destroyed being wildly inconsistent, from six thousand to fifteen thousand. As discussed further in chapter 4, the reason for the divergent information was largely due to a breakdown of data sharing by governments, donor agencies, ERRA, NGOs, and others. At one point about five years after the quake, ERRA officials reported informally that in KP province, 65 percent of the started schools were stalled, and in one AJ&K district, 100 percent were stalled. Even without official reliable studies, the destruction was so visible and widespread that a relatively reliable survey could be conducted by simply driving down the roads and watching for reconstruction activity, a daily activity of PERRP staff moving between the project's own job sites.

Why were so few schools being completed? When asked this question, Secretary Khan explained the reason for this was poor cash flow, saying "a severe financial crunch had virtually paralyzed the reconstruction programme since April 2010" (Naqash 2015). In my own interviews with ERRA staff members, funding from government and problems with contractors were major issues, but other problems included "intercommunal disputes, community issues over land and access to construction sites, and court cases." One of the officials reported, "There are so many court cases that ERRA has had to hire a full-fledged legal team to represent ERRA in court over all the issues" (Murphy Thomas 2012b: 7).

With all the challenges there are in construction at any time, as discussed in chapter 6, those listed by ERRA representatives could be valid, but at least part of the challenges go beyond funding problems. As I will discuss in more detail in the chapters to come, some of the problems for construction come from how construction is managed in relation to local people. As shown in PERRP, it is possible to manage construction so that it can prevent or mitigate issues such as intercommunal disputes, land issues, and long, costly court cases by involving the local people. Results can benefit both construction and the people.

Introduction to PERRP

Any such development or reconstruction projects have official and unofficial metrics by which to assess their success—and these metrics usually bring up the challenges or weaknesses the projects had, and if and how they were addressed. Below is a summary of PERRP's construction and work with communities, with details to be found in each chapter.

In contrast to this earthquake's wider reconstruction scenario—in which much of the work had never been started, was slow, stalled, or even abandoned—PERRP completed almost all its assigned construction sites either on or ahead of schedule, despite a major but temporary aid policy shift discussed below. The PERRP work saw the construction of seventy-seven large health and education facilities. For construction in Pakistan—even in normal times, without a disaster—such a completion rate is rare if not unprecedented. This achievement was attributed to the project's strong construction management, a respect for local culture, and a level of community participation not undertaken by the other projects.

With much of this earthquake's other reconstruction incomplete, PERRP was well known in the local earthquake reconstruction field: it stood out from the others because, once started, construction proceeded steadily with virtually no stoppages. The highly visible slow pace of much of the other reconstruction had innumerable causes such as social issues and financial, technical, management, or logistical factors.

To meet its reconstruction goals, PERRP introduced some innovations. Of all the other donor and ERRA reconstruction projects, PERRP was the only project with a dedicated social team to mobilize community participation in a structured, step-by-step program to facilitate construction. A few years later, one other reconstruction project modeled on PERRP was carried out in the area by the same implementing agency for another donor. From such experience, this book shows how a well-organized community participation program can help reduce many of the problems that hold up reconstruction.

Gaps in understanding between construction contractors and people living in affected communities can lead to lack of cooperation and even conflict. Underlying social, cultural, and political differences need to be understood in order for such gaps be bridged. To help avoid long costly delays in construction, the local people must be involved in shaping the work; to ensure effective community involvement, it was necessary to understand the people and the challenges involved.

Having a social team in PERRP enabled us to bring together key stakeholders, community committees, construction contractors, PERRP engineers, and others—and, using participatory methods, to conduct joint analyses to assess needs, foresee problems, and consider prevention and

solution options. Several approaches and management tools used in the project were developed jointly by these stakeholders.

While ERRA and and the respective government departments responsible for education had to deal with halted work at innumerable construction sites due to conflict, and had a backlog of court cases over land and reconstruction issues, in PERRP, only eight of our fifty thousand construction days were lost due to conflict, and not a single court stay order was issued. Such problems were prevented in PERRP by a participatory, step-by-step process in which all parties had agreed-upon roles.

As detailed in chapters 4 and 5, PERRP's social approach was to propose to communities that they activate a committee to work in partnership with the project, with both the community and the contractors contributing to shared responsibilities. The experienced social team members were already well versed in the challenges, risks, and problems exacerbated by the disaster. Most social team members were from nearby villages and were earthquake survivors themselves, so they knew firsthand about the complexity of this work: the poverty, heterogeneity, long-standing differences, and history of conflict, which were now added to by the losses and trauma of the disaster. Yet social mobilizers were also encouraged to recognize the local knowledge and the powerful, productive attitudes, skills, and resources that had existed in the same locations before the disaster, and that could now be called on again in design and reconstruction work.

Taking this capacities approach—rather than the much more common vulnerabilities or hand-out approach—was also new to the communities. Until the arrival of PERRP a year after the quake, people in these communities had been treated in the ways common in all disaster situations: as poor aid recipients with many problems that needed to be taken care of. This conventional, vulnerability-focused approach emphasizes loss and weakness. However, from lessons learned in countless other disasters, PERRP's social team knew that, although top-down assistance is essential to save lives in the early postdisaster emergency phase, such handouts become counterproductive, even damaging. A vulnerability-focused approach, if continued too long or in the wrong places—whether in the form of decision-making or the distribution of physical goods—can build dependence and other serious disincentives. As a result, in some of the first communities we approached, we were met with demand for individualized handouts. However, this expectation changed almost immediately when we announced an alternative strategy: instead of bringing gifts, we were asking communities to become partners with PERRP, and for them to contribute to having a new school or clinic built.

Showing confidence in the local people and challenging them with a capacities approach not only got their strong buy-in but also resulted in

problem-solving, accessing and providing resources, and other contributions far in excess of what had been anticipated, as documented in chapter 4. In addition to helping prevent many of the community-related problems experienced in other reconstruction efforts, the committees, as part of their duties to also help improve education, worked with teachers to introduce activities at the schools. In some schools, these often were the first activities ever involving students, teachers, parents, and the public. They raised their own funds to start each school's library and the wildly popular Kashmir bookfairs. Although it was new for all involved to share responsibility with such an outside project, the general effect was an unusual level of collaboration and enthusiasm. This helped to avoid problems, and it kept the project's step-by-step process in action by meeting the construction schedule and deadline.

In these rural areas, each construction site became a landmark—a center of attention and community activity. Each new PERRP site garnered attention in the surrounding communities, among both the public and officials, who noted that the projects were progressing without the interruptions common in other reconstruction efforts. PERRP's "reconstruction activities were unique [in that they included] significant community involvement—probably the first time that an infrastructure development project in Pakistan took the community onboard," said Sahad Hamid, program manager for ERRA's District Reconstruction Unit for Mansehra district of KP. "This helped the project and revived the spirit of the communities. They took ownership of this reconstruction project" (Hagan and Shuaib 2014: 2).

A Department of Education official frequently made remarks about how PERRP differed from other reconstruction projects underway: "In our office, we are constantly contacted by community members about problems with construction in their villages, but we have never had a single complaint about the PERRP project" (Murphy Thomas 2012a: 38). He wanted to know how the project took care of people's complaints so they did not have to take them to the government. He especially wanted to know about the project's grievance procedures, and so accompanied social mobilizers to several meetings to observe how they worked. He expressed surprise at how social mobilizers successfully tackled even some of the toughest problems around land issues, while the government itself was inundated with court cases and work stoppages over the same things (Murphy Thomas 2012b).

Challenges

Outlined in individual chapters are the many challenges PERRP faced. For construction, they included the technical factors of topography and

weather. Roads most often were single-lane dirt roads with mountain switchbacks, and in some places, they were blocked by landslides, making transport of equipment and materials difficult. High-altitude variations in weather, from deep snow in some areas to monsoons in others, complicated construction scheduling. Construction challenges are discussed in detail in chapter 6.

The security situation was a considerable challenge. The earthquake and PERRP occurred at a time of especially high insecurity in Pakistan, as detailed in chapter 2. There were also the realities of heterogenous communities where disputes and conflict are common and how these might be manifested, even exacerbated, at the community level when a construction project arrives on scene.

PERRP was an unusual mix of technical and social specialists, engineers, and social mobilizers who were figuring out how to work together for the first time, and it did not always go smoothly. As detailed in chapter 5, it took about a year to understand each other's roles and be able to coordinate using the protocols established.

One of the main challenges, although temporary, was about a major change in aid policy, a possible hazard in projects anywhere. The reality is that aid programs are subject to international, political, and security conditions, and they can bring changes that have their own devasting effects, causing projects to falter or fail. Such a policy change occurred during PERRP, but fortunately it was reversed about a year later. In the interim, especially from the perspective of the beneficiaries, failure appeared to have happened.

In 2009, three years into PERRP, a major change in aid strategy to Pakistan was implemented by the US government in the form of the Kerry-Lugar bill. In recognition of the newly elected civilian government, the US government allocated $7.5 billion directly to the government of Pakistan for "development assistance," bypassing the usual route through USAID. Now the Pakistani government would make the decisions on how and where to spend the funds, having an immediate negative impact on USAID-funded projects in Pakistan, including PERRP, as it changed the decision-making. Until the new government's decisions would be known, USAID directed a number of its projects to close down, and others were put on hold at least temporarily. With roughly half the construction completed or underway, and the second half ready to start, USAID directed PERRP to complete any construction underway, but not to start any new construction. In the communities readied for construction to start anxiety was high. Would the government ask PERRP to complete the work? Or would those places be contracted to others? Or, like at so many other stalled reconstruction sites, would reconstruction happen at all? With all

the communities and contactors already prepared, it was the social mobilizers' role to break the news to the communities and stay in touch with them. Fortunately, about one year later, the US government announced a reversal, and USAID directed PERRP to go ahead with all the remaining planned construction, even adding to the budget to build five more schools. Trust by the communities had been seriously shaken, but participation continued to be high, and the construction was still completed within the time allowance for each contract.

Being put on hold added about one year to the project's duration, but preparations held in abeyance were rapidly put into action. In all but two places, the construction at each site was still completed in the planned amount of time. People were thrilled to get their school, but the experience may have reinforced their reasons to doubt even when promises are made.

PERRP in Numbers

PERRP constructed seventy-seven schools and health facilities. At an average size of 17,000 square feet, the sixty-one schools ranged in size from 4,987 to 84,000 square feet, while health facilities included a 69,367 square-foot hospital and fifteen Basic Health Units each around 6,000 square feet. These steel-reinforced concrete buildings were designed and constructed to international codes for earthquake resistance. While a few were in dense urban areas, most were in remote mountainous locations with an average elevation of 5,500 feet.

Beneficiaries of the work numbered over 1,000,000 local people. Out of the total facilities constructed, sixteen were health facilities, including Basic Health Units and a hospital that served a total population of 300,000. The sixty-one schools constructed were for students from primary to high-school levels, with a total enrollment of 17,000 students from 556 villages with a combined population of about 800,000. Beneficiaries of these government-owned health and education facilities were from some of the poorest families in the quake-struck region.

At its peak, the project had 207 staff, including ninety-three engineers with various specializations and a twelve-person social team—myself included. The balance of staff—all but five of whom were Pakistanis—carried out duties in administration, finance, procurement, communications, logistics, security, transport, information technology, and all other responsibilities. The central office was in Islamabad, but the large majority of staff were located at the field offices or on the construction sites in Bagh, AJ&K, and Mansehra, KP province. All design and construction were carried out by Pakistani firms engaged by the project.

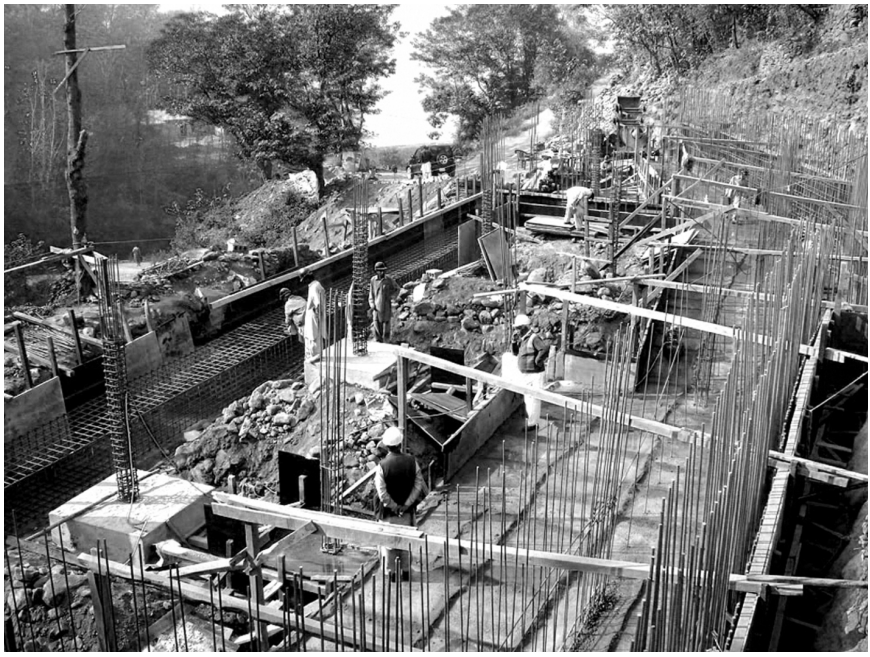

Figure 1.3. Reconstruction in Mountainous Areas. Most of the reconstruction in this project was in mountainous areas on small plots of land, such as this AJ&K location. Here, construction work underway was being inspected. Government Girls' Middle School Kahna Mohri. 2007. © Zahid Ur Rahman.

PERRP Emphasis on the Construction Schedule

The project objective was to complete construction on a number of assigned facilities as soon as reasonably possible, while also building local capacities that could lead to further community development. All this work needed to be completed within a preset time limit, according to good management practice, as well as for the following reasons.

First, the earthquake had destroyed the health and education physical infrastructure, making it much more difficult for millions of people to access these basic services. Students, even the youngest children, were attending classes in the outdoors, in rough tents or hastily constructed sheds, even in high rainfall, snow, and freezing temperatures. The sooner the schools could be rebuilt, the sooner many more students and teachers would be encouraged to return to school and be served in a safe and comfortable environment.

Second, the construction schedule meant contracted firms were given a specified number of days to complete each construction job. Moreover, the contractors worked on a firm fixed-price contract—meaning bud-

gets would not be increased if they went past their deadlines—and so the sooner they completed the work, the fewer their expenses, and the greater their profit.

Third, the social team also emphasized the strict construction schedule in public and with committee members, informing them of the number of days their contractor was allotted to complete construction. This helped emphasize to the committees the need to focus on the urgency and the responsibility they had to prevent community-related problems that might interfere with construction. The construction schedule was commonly known and days were counted down as progress was made.

"As We Watched the Construction, It Was a Symbol"

"When PERRP construction started here, we were surprised, as we thought we'd never get our school rebuilt. But then, when construction went ahead so steadily, we were even more surprised. All around here, so many other schools were destroyed but they are not being rebuilt, or they have problems so construction is stopped. We would watch all the activity on the PERRP construction site, and it helped us think more positively. Since the disaster we had lost all hope, but seeing the new building going up, it was like a symbol of hope for us, that things were going to get better after all."

—Community elder

Ethnography: Government Girls' High School at River View*

**River View is a pseudonym. To maintain confidentiality, the names of schools and villages have been changed.*

This account is about PERRP's initial visit to the first community and its earthquake-destroyed school to conduct technical and social assessments and have discussion with local key people. It describes what was discussed, what was found there, and the community's main challenge of land issues. It also reviews why and how the process to settle the land issues was rationalized and integrated into the project.

Within two weeks from the day that PERRP started, we had hired two highly experienced Pakistani social mobilizers. Between them, they already had decades of experience being community organizers farther north in the country, and their familiarity with similar communities, cultures, social structures, and issues meant the three of us could move quickly in our project area. By the end of the first month of the project, we had made our first visits to three communities to consider rebuilding schools there.

At the first meeting at the first school, the government girls' high school at the village of River View, we, along with three project engineers, met with the head teacher and some of the community elders. Seated facing each other in a circle around a low table, we explained why we were there and asked the head teacher and elders about what had happened there in the quake and how the school was still running, although the school building had been destroyed. By this first visit, all the rubble of the destroyed building had been removed from the site and the place we were sitting in the open air was on the footprint of the old school. Behind us, students were seated in lines on plastic chairs facing away from us, writing their exams in the chilly November weather. Further beyond the students was an open wood-frame shed covered with corrugated steel sheets, built by community members from materials donated by an aid agency in the previous months. It was being used for storage of the chairs and books and for safekeeping of records and other materials saved from the collapsed building.

We explained that USAID and ERRA had sent us to this school as part of an assessment to see if it was socially and technically feasible to build a school here or not. Although the head teacher and elders were instantly eager for this to happen, the engineers were already pointing out it might not be feasible, as the site had no road to it, and it was located on cliff a few hundred feet above the main road that passed below the cliff. The only way to get to the site was by a steep rocky footpath up the cliff, which students and teachers used coming and going. While the land on which the school had stood was government-owned land, it was blocked in, with the several small plots of land surrounding school land being privately owned, from high up on the mountainside down to the main road.

Since this school was on the list provided by ERRA to USAID for this project to consider building, and since each place required an official, justified response to explain feasibility or not, over the next couple of weeks, the engineers carried out a detailed technical and environmental assessment, having a geotechnical survey and soil testing conducted. All those aspects indicated it was technically feasible to build again on the site itself, even though new building standards would require a much larger building. But there were two major issues: besides there being no road access so that a contractor could transport materials to and from the construction site, it had also emerged that the exact location of the boundary line of the school was in question. It was not marked and there were different opinions among local people about it, as people remembered the line only by natural indicators: e.g., from that rock to that house wall, or to that big stone.

While the technical feasibility was being explored, the social assessment in this site was carried out, easily passing the criteria we had set. This high school had been in full operation, with attendance of about two hundred

girls long before the quake; the head teacher was well known and respected in the community for her management abilities and caring for the students; and community members showed strong interest in having this girls' school rebuilt. They were enthusiastic about forming a committee to help and committed to whatever volunteer work would be needed.

But we were stuck. Here was the start of the land issues that had many of the other reconstruction projects already stalled or stopped. How could PERRP avoid getting into the same situation?

How would we handle land issues in PERRP?

As the senior social mobilizers and I made first social assessment visits to potential sites for PERRP to build, such as River View, we were also conceptualizing the whole social component, what would need to be done, what would priorities be, and how to proceed. Land issues were clearly the priority, since these were problems that existed long before the earthquake, but with so many of the other reconstruction projects delayed or stalled indefinitely we were determined to not let that happen in PERRP. With the three of us collectively having decades of community mobilizing experience in northern Pakistan, including for the demanding partnerships formed with communities in the Aga Khan Rural Support Program (AKRSP) in northern Pakistan, we could see that part of the problem with land issues in the other projects was because the aid agencies put no expectations at all on the affected communities to settle the issues. Indeed, among the other agencies the idea may never have been considered, or assumptions were made that this would not be possible. But the experience of the senior social mobilizers and myself had shown that even the poorest villages can successfully take on what at first might seem impossible; if the agency listens, facilitates, and encourages people respectfully, people become motivated. In the AKRSP, the challenge for communities was building their own link roads or irrigation channels in almost unsurmountable locations across mountain faces, rather than in the PERRP project area. From another construction project in Bangladesh, I also brought experience and a process for settling similar land issues, which, until that project, was also treated as undoable. It all depended on how the agency treated people and how the undertaking matched the people's own priorities.

The postearthquake situation was a time when community abilities were seriously underestimated by other projects. From our experience, we had come to know that if people are treated as if they cannot do something, they are more likely to act as if that is so. At the same time, knowing from our experience that even the poorest communities have strong capacities such as skills, ideas, wishes, goals, and resources, even if there are differences among the people, we knew that if people are treated as if they can achieve something and are encouraged to do so, they are more likely to achieve it. The three of us concluded that taking the positive approach was the way to go:

given the characteristics and capacities of these earthquake-affected communities, it would be entirely feasible for the people at potential PERRP sites to settle the land issues, and it would be a fair and reasonable expectation of communities to do it as a condition for design and construction to then go ahead. The project would offer to form a partnership and proceed with these communities on that and other conditions. Rather than hope there would be no land issues, we chose the preventative approach.

To do so, we would have the project treat this issue head-on, first having all the issues put on the table in a public process where we invited anyone with land issues to make them known. We would ask the elders, landowners, and anyone in the community: Is there any encroachment? Who owns adjoining land? Who are the owners and co-owners? Is there agreement or disagreement among owners? Where exactly are the boundary lines? Has there ever been a cadastral survey? Are there up-to-date land ownership records that are registered in the responsible government offices? Do you have copies of those records? Are there any claims on the land, its use, or its boundaries by anybody for any reason? We would say: If there are any issues, let us hear all of them now.

But first, to put this strategy into action, there had to be buy-in from project management and the technical side to have land issues settled first. Until now, PERRP had not discussed what we would do if there were land issues. None of the other projects had any such conditions or requirements of the communities, and none of the engineers had any experience with setting such conditions. The social team would facilitate the making and formalization of agreements with villagers, owners, and respective government departments.

We set about to convince project engineers this had to be done—long before construction would start—otherwise we would be in the same situation as the other projects. Some were concerned that raising land ownership issues and settling boundary lines this early in a project would be opening a can of worms that would delay the start of construction. With further discussion about the realities of land issues in these locations, and how it was an even bigger risk to wait until construction started, common understanding developed. If construction was already underway and land issues cropped up, that could almost certainly bring construction to a halt, leading to costly delays. Project management and engineers then agreed to go along with this approach and to have the social team address this subject head-on. Dealing with land issues then became part of the social team's scope of work throughout the project, coordinating with communities to prevent such issues or to deal with them if they still happened, which frequently happened.

Community members at River View, as elsewhere, were well aware of the other slow or stalled reconstruction and that land issues were a common cause of it. In retrospect, this was the ideal community in which to start

this approach. As there was no conflict about the land, only differences in opinion about boundaries, this allowed the social team to set up and test the decision-making process. This community was composed of one large extended family from one of the higher castes and was known for being relatively collaborative, not known for conflict. While innumerable land issues and disputes about land still cropped up during the project, this approach established the processes for handling all those conflicts that did occur.

When we announced there that it would be PERRP's policy at all sites to have land issues settled first and expeditiously, before construction would proceed, there was wide agreement. The same was true at all the schools and health facilities constructed by PERRP, not even one community opposed the general idea or expressed concern that it might be too difficult to achieve. This clearly was an example of how other projects had underestimated the importance of attempting to do this, as well as the community's willingness to participate in this matter and get solutions.

The next step was to get local government involvement. Social team members visited the district's head official—the Deputy Commissioner or District Coordination Officer—to get his support for PERRP having the land issues settled and for him to help by requesting the responsible land authorities—that is, the Board of Revenue, commonly known as the Revenue Department—to send its land records representative, a *patwari* along with cadastral surveyors to the River View school site. The land and boundary issues at almost every site were settled this way, usually in one day, by following the step-by-step process described in chapter 5. At River View, and at all other sites, this government survey to ascertain and demarcate land boundaries achieved several things at once. It helped PERRP, the Department of Education, and the Department of Health to determine if encroachment had occurred, to correct it, and to protect school and health facility land from future encroachment. In many cases, it also helped clear up long-standing differences and conflict over unsettled cases. In this process, all records were updated and filed in the government system. PERRP's requiring copies of the mutation or ownership documents to be provided meant that for the first time ever such documents would be kept permanently on site as reference. Settling all these matters, which often had been fomenting for years or even decades, created a celebratory atmosphere that motivated communities to tackle many more challenges in the project.

Note

1. All dollar amounts here and throughout are in US dollars.