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### Global Disasters: Pakistan's Experience

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**Ikram ul Haq\***

*Introduction*

**T**he earthquake that struck Pakistan on October 8, 2005 left behind widespread devastation and enormous loss of life with extensive damage to economic assets, infrastructure and social service delivery. The devastation was spread over 30,000 square kilometers of Himalayan terrain. It affected half a million households, destroyed most of the educational institutions in the affected area and killed over 73,000 people, including 18,000 children. The majority of health care units collapsed, communications infrastructure was rendered unusable, all essential utilities were disrupted and the area was strewn with two hundred million tons of debris. Families lost their breadwinners, senior citizens were left alone to fend for themselves, children lost their parents and parents are still mourning lost and injured children. Infrastructure that took years to construct, disappeared in six minutes. The misery did not end there. Hundreds of post-earthquake tremors multiplied the shock and trauma. The administrative machinery that could have helped the victims survive the disaster, itself collapsed and perished. The rugged mountainous terrain made it more difficult and winter in the Himalayas threatened the lives of the survivors, already traumatized. This, the worst natural calamity in Pakistan's history, has changed the lives of millions and is one from which it will take many years and at a cost of billions of dollars to recover.

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\* Brigadier General, Pakistan Army. The views expressed in this article are those of the author alone and do not necessarily represent the views of the Pakistan government, the Pakistan Defence Force, or the Pakistan Army.

This article will focus on an assessment of the damage caused by the disaster, an examination of the impediments and challenges faced in the conception and conduct of relief operations, and the lessons that were learned.

### *Damage Assessment*

The earthquake struck Pakistan without warning at 8:50 am (local time) on the morning of October 8, 2005. With its epicenter several miles northeast of the city of Muzaffarabad, the earthquake registered 7.6 on the Richter scale, similar in intensity to the earthquake that devastated San Francisco in 1906. Widespread destruction occurred throughout Pakistan-administered Kashmir, Pakistan's North-West Frontier Province (NWFP) and the western and southern parts of the Kashmir valley in Indian-administered Kashmir. A total of 147 aftershocks were experienced throughout that day. By October 27, that number had swelled to 978 and included aftershocks reaching intensities of up to 6.2 on the Richter scale. By early November, the official Pakistan government estimate of Pakistani dead reached 73,338, with 128,304 being injured, many very severely. The earthquake triggered landslides that literally buried entire villages and roads. Some 59 percent of the residential structures in the region were leveled, including 67 percent of education institutions in which 18,095 children perished in collapsed school buildings. Health care facilities were similarly devastated, with 63 percent of the region's medical capacity being damaged or destroyed. Rescue and recovery operations in the mountainous area were hampered by the destruction of up to 37 percent of the road infrastructure, including critical bridges. Government services were equally impacted with estimates of damage to electric capability reaching 60 to 70 percent, telecommunications 30 to 40 percent and water supply 30 to 40 percent.<sup>1</sup>

### *Response Challenges*

Among the major challenges that were faced in the immediate aftermath of the disaster were both institutional and informational vacuums. With respect to the former, Pakistan had a National Crisis Management Cell (NCMC), but this institution lacked the necessary resources and capacity. Once the earthquake shook Pakistan, it was soon realized that the gravity of the disaster had overwhelmed the ability of the NCMC to handle the situation. As a result, we were pretty much left in an institutional vacuum to deal with the enormity of the crisis. This institutional failing was compounded by the informational vacuum. The scale of devastation and human trauma, coupled with the idiosyncrasies of the mountainous terrain and weather, and the administrative paralysis that engulfed the region, led to an

information vacuum as to the exact nature and extent of the damage and, in turn, the appropriate response to generate. Among the major challenges faced were the rescue of the injured and the location and removal of the dead, facilitation of the rapid induction of disaster relief forces, and reaching out to remote villages, while confronting chaos in the impacted cities. To illustrate the scope of the problem, it was determined that some 470,000 tents were immediately needed to shelter the multitudes rendered homeless.

### *Conception and Conduct of Relief Operations*

#### **At the National Level**

The ability to organize a swift response to the enormous magnitude of the destruction and suffering was made even more difficult by the reality that the existing infrastructure was either very poor or totally destroyed. Realizing the gravity of the disaster, the government immediately established the Federal Relief Commission (FRC) with a mandate to manage the entire spectrum of relief efforts. All national agencies concerned with the relief and rehabilitation efforts, including the armed forces, the cabinet ministries of health, interior and foreign affairs, as well as corresponding communication and information divisions, functioned through the FRC and formed a part of the national team. FRC served as the primary interface between the government and international organizations, as well as foreign authorities and various nongovernmental organizations (NGOs) focusing on the relief and rehabilitation of the stricken area.

The FRC was organized to work with two distinct wings, the civilian and the military. The civilian wing, comprised of ministerial representatives and coordinators, looked after the inter-department and inter-agency issues, while the military wing was responsible for the operationalization of rescue and relief efforts.

The disaster response concept consisted of four complementary strategies, i.e., search, rescue, relief and recovery; consequent management; rehabilitation; and reconstruction. The FRC focused on the first two strategies while the rehabilitation and restoration domains were addressed by the Earthquake Rehabilitation and Reconstruction Authority (ERRA). The entire effort was undertaken under one leadership platform, thereby ensuring judicious distribution of disaster relief through a synergized operation. The maintenance of law and order, the revival of civic order, and restoration and early recovery aspects of the concept were the main thrust lines. The FRC was fully supported by the nation, key players and stakeholders. The decisive vision and leadership by the government throughout the crisis provided ideal working parameters and impetus to the FRC, foreign governments, individual donors, the public and all of the governmental departments.

The approach adopted at the national level to meet the crises was premised on several distinct but interfacing considerations. The FRA functioned on the basic principle of a “one-window operation” with accessibility to all. This ensured the maximum possible coordination at both the national and operational levels to realize an economy of effort in achieving the desired results. “Reaching out” in all affected areas was given top priority. All available means of transportation, to include foot movement, animal transport, motor vehicles and helicopters, were used to “reach out” to affected people to provide systematic, timely and equitable distribution of relief goods and services. Of immediate concern as the weather deteriorated was the implementation of a strategy for the speedy construction of temporary shelters and a functioning logistic chain that extended to the forward-most places. For the first time, the government put into practice the UN “cluster approach” to managing various aspects of disaster management.<sup>2</sup> Of particular utility was the Strategic Leaders Forum consisting of the heads of the main international relief and non-governmental organizations, and individual donors.

#### **At the Operational Level**

The Pakistan Armed Forces, in general, and the Pakistan Army in particular, were responsible for all operational aspects of multi-agency and multi-organization relief efforts. Two Army infantry brigades were deployed within 24 hours of the initial shock, and within 48 hours a full division had been deployed. The decision to deploy three divisional headquarters was taken within the first 72 hours as the enormity of the task became clearer. By the end of October, over 80,000 troops were deployed in the disaster zone.

At the operational level, the relief operation was conceived and executed in three stages, with each stage gradually blending into the subsequent stage, and with considerable overlap in some areas.

Stage One (October 8–20) was the immediate rescue and relief operation. The main focus of Stage One was the rescue of survivors, the location and removal of dead bodies from the debris, the evacuation and treatment of the injured and the provision of food and shelter to those most in need. Special emphasis was placed on providing for the care and protection of vulnerable women and children.

Stage Two (October 20–December 31) concentrated on creation of stability in the face of widespread chaos. It was a very crucial effort, as Stage Two became a race against time, i.e., about 3.5 million homeless people had to be adequately provisioned and protected against the fast approaching winter. The urgency of the endeavor was reflected in the fact that the United Nations and other relief agencies were predicting a second wave of deaths due to exposure of the vulnerable population to the harsh winter. The main activities conducted during this stage were the

provision of shelter (tents and robust transitional shelters) and the creation of tent villages; providing food and medical support; distribution of monetary compensation for the dead, the injured and damaged homes; restoration of civic and social amenities and institutions, with priority given to health and education sectors; and, perhaps most importantly, bringing local government and administration back to its feet.

Stage Three (January 1–March 31) sought to ensure that the stability created during the previous stage was maintained throughout the harsh winter. Key elements of Stage Three included monitoring the provision of critical support activities to ensure that food, shelter and medical services were sustained throughout the winter and into the spring, and working to ensure a smooth transition from provision of relief to the reconstruction and rehabilitation of devastated urban and rural areas.

### ***Reconstruction and Rehabilitation***

After six months, the emergency relief phase was over and focus shifted towards rebuilding the shattered areas. The Earthquake Reconstruction and Rehabilitation Authority (commonly known as ERRA) was established to plan, coordinate, monitor and regulate reconstruction and rehabilitation activities in all earthquake affected areas. The ERRA developed a comprehensive three-year plan involving eleven development sectors, with special focus on housing, health, education and livelihood in earthquake-affected areas. Some \$3.5 billion was earmarked for that purpose, effective as of the first week of April of 2006.

#### **The National Response**

The spontaneous outpouring of compassion and generosity by the people of Pakistan, both at home and abroad, on a scale never witnessed before, helped the government meet fiscal shortfalls. Pakistanis from all walks of life stepped forward, demonstrating our nation's highest values of caring and sharing that brought consolation and hope to the affected. From soldiers and voluntary relief workers to local NGOs, the people of Pakistan stepped forward to protect and nurture the earthquake victims.

#### **The International Response**

The people of Pakistan were overwhelmed by the generosity of the response of the world community and voluntary organizations. Simply put, they have been of great support to us. I take this opportunity to praise in the highest possible terms the work of the volunteers, men and women, foreign governments, armed forces of

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friendly countries, the aid workers, the international organizations, NGOs and the global civil society who worked tirelessly and selflessly to make a difference to those who suffered. We are also deeply grateful for the generous support and assistance of individual donors worldwide in providing desperately needed relief to the earthquake victims.

#### *United States*

I had the opportunity to personally observe US relief efforts while at the US Central Command (CENTCOM). The United States responded immediately and generously to Pakistan's call for assistance following the earthquake. The US military was in Pakistan on October 10, just two days after the earthquake. At the peak of the initial relief efforts, more than 1,200 personnel and 25 helicopters provided vital transport, logistics, medical and engineering support in the affected areas. US helicopters, nicknamed "Angels of Mercy," changed the dimension of relief efforts and helped save hundreds of lives. I have not the words to begin to thank the United States for its assistance. To give you some idea of the assistance provided by the United States, a total of \$510 million was pledged for earthquake relief and reconstruction efforts. Over 250 US military and civilian cargo airlift flights delivered more than 7,000 tons of medical supplies, food, shelter material, blankets and rescue equipment to Pakistan. Approximately 5,200 helicopter missions were flown, delivering 15,000 tons of supplies and transporting more than 18,000 people. US medical teams treated approximately 35,000 patients, while US engineers cleared 40,000 tons of debris, built a camp for displaced people, completed numerous sanitation projects and adopted a village that included building five schools and 50 homes. Moreover, the United States donated an 84-bed Mobile Army Surgical Hospital and established two forward-area refueling point systems to increase helicopter efficiency during reconstruction.

#### *North Atlantic Treaty Organization*

NATO was a vital part of a very large effort aimed at providing disaster relief in Pakistan. In total, some 1,000 NATO engineers and supporting staff, as well as 200 medical personnel, worked in Pakistan during the operation. NATO airlifted supplies, donated by NATO member and partner nations, as well as by the UN High Commissioner for Refugees, via two air bridges from Germany and Turkey. That critical effort required 168 NATO flights that delivered almost 3,500 tons of relief supplies. NATO helicopters transported more than 1,750 tons of relief goods to remote mountain villages and evacuated over 7,650 disaster victims. A NATO hospital treated approximately 4,890 patients and conducted 160 major surgeries, while mobile NATO medical units treated 3,424 patients in the remote mountain

villages. NATO also contributed significantly to the World Health Organization immunization program that has helped to prevent the outbreak of disease. NATO engineers were active in repairing nearly 60 kilometers of roads and removing over 41,500 tons of debris, thereby enabling the flow of aid, commerce and humanitarian assistance. NATO engineers also supported the Pakistan Army in Operation Winter Race, by constructing 110 multi-purpose shelters for the population living in the mountains. An additional nine school and health structures were completed and thirteen tent schools erected. NATO also set up an aviation fuel farm in Abbottabad, which carried out some 1,000 refuelings for civilian and military helicopters.

### ***Lessons Learned***

Combating the disastrous earthquake has been a unique and challenging experience, which fostered many lessons that can serve as guidelines for dealing with such a calamity in the future. Among the lessons that have universal application are those concerned with government institutions, disaster management strategy, expeditious acquisition of information, the role of the media, mobilization and deployment of friendly forces, cooperation with friendly armed forces and nations, capacity building and the development and enforcement of design codes.

#### **Institutions**

Creation of the FRC within the Prime Minister Secretariat, which works directly under the prime minister, has been a success story. A proposal is now under active consideration to create a permanent National Disaster Management Authority (NDMA), with appropriate legislative authority to work directly under the Prime Minister's Secretariat. Similar disaster management capabilities are likely to be established at the provincial level, to include control centers with requisite facilities. Each will be maintained by a small nucleus staff, which can be suitably augmented during a crisis.

#### **Disaster Management Strategy**

A well-thought-out and comprehensive disaster management strategy, encompassing the likely scenarios, delineation of responsibilities and capacity-building guidelines must be evolved.

#### ***Expeditious Acquisition of Information***

Expeditious acquisition of information regarding the extent of damage to essential infrastructure can greatly assist in the provision of rapid and effective relief and

rescue. It soon became apparent that serious information shortfalls existed in our system. Our experience demonstrates that up-to-date data pertaining to housing, civic facilities and other details about each area should be available in the national database. Clearly, this would be most useful for rapid damage assessment.

Some capability to undertake rapid mapping and damage assessment in the disaster zone should be created. High-resolution satellite imagery/aerial photography could prove crucial to ascertaining the location and nature of the damage sustained.

#### *Role of the Media*

The media can make a major contribution in any relief operation. The main areas of media contribution during the earthquake relief operation in Pakistan included the transmission of graphic images of the destruction and the miseries of the affected populace and timely, on-scene reports of the progress of relief and recovery operations. Media reporting of the devastation stirred up great emotions within the country, which created a flood of relief activity. Similarly, the international media was able to mobilize the relief effort at the international level.

Local media acted as a potent watchdog on the progress of the relief and recovery operation. Although at times unfairly critical, the media helped in keeping us on our toes. Lastly, sustained media coverage proved instrumental in keeping donors, both national and international, motivated to continue their generous support.

#### *Mobilization and Deployment of Friendly Forces*

Disaster management is basically a race against time. Mobilization and deployment of some friendly forces took as long as two months because of the limited capability of the providing nation to mobilize sooner. It is recommended that nations and alliances having the potential—and the will—to provide much needed assistance develop the capability for rapid deployment for timely disaster response.

#### *Cooperation with Friendly Armed Forces and Nations*

The support received from friendly nations and their armed forces proved to be extremely useful. This reality highlights the need to formalize mechanisms for more effective cooperation and coordination should the need arise in the future. To that end, peacetime agreements with friends and allies with the potential to assist in disaster management and the willingness to do so must be in place before disaster strikes. These agreements should include memoranda of understanding between participating nations pledging delineated capabilities. This, in turn, will facilitate the conduct of joint mock disaster relief exercises.



A multinational forum to share disaster relief and recovery experiences with each other should be created. Many nations have suffered major disasters in the recent past. There is much that can be learned through the sharing of each other's experiences.

#### *Capacity Building*

Although some agencies in Pakistan had the experience and appropriate potential to assist in disaster management, it became painfully apparent that they did not possess the expertise nor were they equipped to handle a large-scale earthquake. Accordingly, additional capacity must be created, both in trained manpower and in equipment, for specific disaster relief and rescue tasks.

#### *Development and Enforcement of Design Codes*

The extent of damage in a major calamity can be greatly reduced if residential and commercial buildings are constructed in accordance with proper architectural designs. There is a clear and impelling need to develop building design codes based upon rigorous scientific studies. Effective provision must then be made for their enforcement through legislative measures.

#### *Conclusion*

As noted previously, Pakistan was overwhelmed by the caring and enthusiasm of the world community and voluntary organizations which have been so generous in providing desperately needed relief to the earthquake victims. Having transitioned from the relief and crisis control stage to the rehabilitation and reconstruction phase of the recovery, the Government of Pakistan is maintaining its thrust to reintroduce the normalcy of life through the revival of essential infrastructure and the civil order. At the same time, we are brainstorming a permanent "Disaster Management Agency" for preparedness and coordination of a coherent response to any future challenge.

#### *Notes*

1. Depictions of the widespread human and physical devastation caused by the earthquake are available at [http://en.wikipedia.org/wiki/2005\\_Kashmir\\_earthquake](http://en.wikipedia.org/wiki/2005_Kashmir_earthquake) (last visited Mar. 12, 2007).
2. See Action Aid International, *The Evolving UN Cluster Approach in the Aftermath of the Pakistan Earthquake: an NGO Perspective*, available at <http://www.actionaid.org/pakistan/images/ActionAid%20Report%20on%20UN%20Cluster%20Approach%20April%202006.pdf> (last visited Mar. 12, 2007).