



Annex D

Case study: South Asia earthquake, Pakistan, 2005

When a devastating earthquake struck Pakistan-administered Kashmir in October 2005, the Pakistan's rudimentary disaster-management mechanisms were unprepared; the only domestic institution capable of managing a response was the army. The massive international humanitarian response brought both domestic and foreign military assets close to the tense Line of Control between the Pakistani- and Indian-administered portions of Kashmir. In the days following the disaster, the government approached NATO for assistance. NATO thus became involved in disaster relief outside the Euro-Atlantic area for the first time in its history. The role of NATO as a multilateral coordinator of assets is one of the factors that make the South Asia earthquake relief effort an interesting and unusual case.

Background

A major earthquake struck Afghanistan, India and Pakistan at 3.50 a.m. GMT (8.50 a.m. local time in Pakistan) on 8 October 2005. The shallow earthquake registered a magnitude of 7.6 on the Richter scale. Its epicentre was close to the city of Muzaffarabad in Pakistan-administered Kashmir and 105 kilometres north-north-east of the Pakistani capital, Islamabad. By 29 October there had been 978 aftershocks, some with magnitudes as great as 6.1, sufficient to cause significant damage to well-constructed buildings on sound foundations and to cause landslides. Since its creation in 1947, Pakistan had not suffered from any comparable natural disaster.

According to official statistics, 73 338 people died in Pakistan as a result of the earthquake, more than half of them children. Another 69 412 people were seriously injured and 3.2–3.5 million people were directly affected; some 2.3 million were without adequate food. In addition, around 2.5 million people were left homeless. The area affected in Pakistan was about 30 000 square km, much of it remote, rugged and mountainous. Initial estimates put the economic damage at over 300 billion Pakistani rupees (US\$5 billion). There were also casualties and destruction in Afghanistan and India, although on a significantly smaller scale.

The disaster occurred at the beginning of winter in an already harsh environment. It immediately became clear that if shelter, food, water and medical aid were not provided, there was the danger of 'a second, massive wave of death'.⁵⁷ Two weeks after the earthquake, United Nations Under-Secretary-General for Humanitarian Affairs and

⁵⁷ United Nations Secretary-General Kofi Annan, quoted in Philp, C., 'Thousands at risk of starving in quake aid shortfall', *The Times* (London), 21 Oct. 2005.

Emergency Relief Coordinator Jan Egeland commented that the logistical challenges were even greater than those for the 2004 Indian Ocean tsunami,⁵⁸ a view shared by many in the humanitarian community. For these reasons some consider that the earthquake required an even greater humanitarian response than the Indian Ocean tsunami of 2004.

Pakistan in 2005

The Islamic Republic of Pakistan shares borders with Afghanistan and Iran in the west, India in the east, China in the north-east and the Arabian Sea in the south. In 2005, Pakistan had been under military rule for six years, following a coup led by General Pervez Musharraf, which overthrew the civilian government of Nawaz Sharif.

Pakistan's relations with India have long been difficult. The tensions centre on a long-standing dispute over Jammu and Kashmir. On the Pakistani side of the Line of Control (LOC) dividing the territory are Pakistan-administered Kashmir (called, in Pakistan, Azad Jammu and Kashmir), of which Muzaffarabad is the capital, and the Federally Administered Northern Areas. The much larger part of Jammu and Kashmir is administered by India. The LOC is supervised by the UN Military Observer Group in India and Pakistan (UNMOGIP). Sporadic fighting has continued in Kashmir since a ceasefire agreement in 1972. The earthquake struck at a time when India and Pakistan were seeking a peaceful resolution to the Kashmir dispute, the most recent ceasefire along the LOC having been agreed in November 2003. The epicentre of the 2005 earthquake was barely 25 km from the LOC, and avoiding accidentally crossing the line became a consideration in planning and carrying out the disaster response. The two countries quickly established a hotline at the outset of the response allowing them to report and quickly rectify accidental incursions by the relief actors.

Since the 11 September 2001 terrorist attacks on the United States Pakistan has moved to the forefront in the 'global war on terrorism', particularly against the Taliban and al-Qaeda. As an ally of the USA, it supports the ongoing international military actions in Afghanistan. At the time of the earthquake there were substantial NATO military assets nearby in Afghanistan. Pakistan also granted US forces operating in Afghanistan access to Pakistani airbases, and Pakistani security forces were committed to fighting the Taliban and international jihadists along the Afghan border.

Existing disaster management arrangements

At the time of the earthquake there was no central authority to manage disasters in Pakistan. The only national disaster contingency plans related to maintenance of the Emergency Relief Cell (ERC), a warehouse facility that stockpiled emergency supplies.⁵⁹ The ERC's supplies were primarily intended for flooding, a frequent occurrence in Pakistan. Local civilian authorities were expected to organize their own responses, and could call on supplies from the ERC. No planning had been done or preparations made for earthquakes. The only other national entity involved in disaster relief was the National

⁵⁸ Philp (note 57).

⁵⁹ The situation in Pakistan is now very different because of the establishment, in December 2006, of the National Disaster Management Authority and the drafting of national and provincial contingency plans.

Crisis Management Centre of the Ministry of Interior, but it was set up to address security crises, not natural disasters. Additionally, Pakistani law allowed district and provincial administrations to request the military to assist civilian authorities in times of disaster.

The response

In the hours after the earthquake the initial response consisted mainly of moving emergency supplies from the ERC and of deploying military assets to support civilian authorities, including provincial and district administrations. Pakistan was offered international humanitarian assistance, including military assets, almost immediately. Eight US helicopters based in Afghanistan arrived just eight hours after the earthquake.⁶⁰ Several other nations quickly made bilateral offers of relief supplies and military assets, primarily heavy-lift helicopters, medical aid and air assets for delivering humanitarian supplies directly from donor countries or as directed by the Pakistani Government or the UN.

The Government of Pakistan made its first formal calls for international assistance on 10 October. These included official requests to the European Commission and NATO's Euro-Atlantic Disaster Response Coordination Centre (EADRCC). The main assets requested were search-and-rescue teams and relief assistance (tents, blankets, stoves, food and medicines). However, it took the Pakistani Government some weeks to identify the extent of the damage from the earthquake and thereby the specific needs, and time was also needed to develop an appropriate organizational body to create and execute a national plan of action.

The initial assessment of needs was hampered by the difficulty of accessing some of the more remote areas that had been affected by the disaster. Large areas of devastation were still being discovered almost two weeks after the earthquake. Reviews by some international humanitarian actors indicate that their initial assessments had greatly underestimated the number of casualties and people left without shelter, the difficulty of accessing affected communities and the need to act before the onset of winter.⁶¹ Pakistan made continued requests for assistance, which became more specific as the scale of the disaster became apparent.

New structures

While local authorities were customarily responsible for disaster management, it soon became apparent that the scale of the disaster following the earthquake warranted a national response, including the establishment of a national body to plan and coordinate the relief effort. To that end, Pakistan established the military-led Federal Relief Commission (FRC) on 10 October to 'streamline relief operation in collaboration with the provincial government, relevant ministries, non-governmental organizations, Red Crescent and other international agencies'.⁶²

⁶⁰ There were 5 CH-47 Chinooks and 3 UH-60 Black Hawks. Details from records held at the UN Office for the Coordination of Humanitarian Affairs (OCHA) Civil-Military Coordination Section.

⁶¹ These actors included NGOs such as Oxfam

⁶² Office of the Press Secretary to the President of Pakistan, 'Government sets up Federal Relief Commission', Website of President Pervez Musharraf, 10 Oct 2005, <<http://www.presidentofpakistan.gov.pk/NewsEventsDetail.aspx?NewsEventID=1909>>.

The FRC cooperated with the UN Disaster Assessment and Coordination (UNDAC) team, which arrived in Pakistan on 9 October 2005 (and subsequently became a support office for the UN Office for the Coordination of Humanitarian Affairs, OCHA). ‘Humanitarian hubs’ (essentially UN offices) with civil–military liaison officers were also established. Government of Pakistan personnel commented that the UN played a pivotal role in the response, making it more rapid and effective than it would otherwise have been.⁶³ Particularly useful was the UN’s guidance in policy, planning and implementation—which meant the FRC could work effectively with donors, humanitarian actors and foreign military assets. The UNDAC team’s daily meetings were essential for coordination. The observation made by many of the contributors of foreign military assets that the UN was ‘not visible’ in the response probably reflects the fact that the UN was properly carrying out its role of supporting an already strong government.

The FRC drew up a national plan of action for managing the relief operation. Its main elements were the Strategic Oversight Group (SOG), the use of the ‘cluster approach’ (see below) at the strategic and field levels, and a principle of ‘non-interfering coordination’, meaning that non-governmental organizations (NGOs) and civilian agencies were allowed to work within their mandates, choosing their area of operations, within the scope of the plan; the military would then fill any gaps. The FRC set high standards, even in the early phase of the disaster. For example, provisions for tracking and accounting for all single females throughout most of the relief period were part of the national plan. Generally, contributors said that the Pakistani Government’s plan was clear and that it adhered to its priorities despite considerable pressure from external actors at times. The government’s strong leadership and flexibility in adapting to the situation encouraged NATO and the bilateral providers of foreign military assets to coordinate their efforts.

Nine clusters were established based on the model proposed in the Humanitarian Response Review paper commissioned by the UN Emergency Relief Coordinator in August 2005: food and nutrition, water and sanitation, health, emergency shelter, early recovery and reconstruction, logistics, IT and telecommunications, and camp management and protection.⁶⁴ A tenth cluster, education, was added. The cluster approach had not yet been internationally approved and had never been used before in a disaster response, but the FRC saw it as a logical and economical means of coordinating humanitarian activities. A review of the response suggests that the cluster approach was relatively successful in some areas (logistics, food and shelter) and less so in others.⁶⁵ Importantly, NATO, which became one of the main contributors of military assets, was readily able to use the cluster system. Nevertheless, the cluster approach was generally perceived as being little different from the UN’s previous sectoral approach and inadequate for gathering and sharing data. Also, the British Department for International Development commented that NATO might have been better represented at the cluster meetings and at other UN-led meetings.⁶⁶

⁶³ Interview.

⁶⁴ Action Aid, ‘The evolving UN cluster approach in the aftermath of the Pakistan earthquake: an NGO perspective, action aid international’, <http://www.actionaid.org/docs/un_cluster_approach.pdf>.

⁶⁵ Action Aid (note 64).

⁶⁶ DfID (note 43, main text).

The purpose of the SOG was to ensure that the various groups represented (the FRC, foreign militaries, the UN and key donors) understood priorities and acted in a coordinated manner. The weekly (sometimes bi-weekly) SOG meetings enabled these groups to gain an overview of the response and served as a forum for discussion of the response. The NATO Disaster Relief Team commander reported that he would have preferred these meetings to happen even more frequently. Other participants commented that, although the SOG was a useful forum, too much time was spent on formal briefings and more time should have been spent on discussion and problem solving.⁶⁷

The decision to request and send foreign military assets

In requesting and accepting assistance, Pakistan did not favour military, civilian or commercial providers; what was important was the speed with which the appropriate assets could become operational in Pakistan. Pakistan used foreign military assets to fill gaps that its military could not fill and to augment the Pakistani military's contribution in other areas (e.g. aviation and medical).

Many foreign military assets were contributed to the relief operation.⁶⁸ The majority of foreign military assets were deployed in Pakistan by late October 2005 and were withdrawn by early February 2006, with very few remaining to participate in the rehabilitation phase.

Pakistan's initial request for assistance was very general, but interaction with NATO, the UN and bilateral responders led to modifications. Most providers of foreign military assets dispatched liaison and reconnaissance teams, who soon refined the requests and developed working relationships to sustain their operations. The NATO commander for the operation reflected that he would have preferred to have deployed earlier with the NATO Operational Liaison and Reconnaissance Team (OLRT), in order to develop personal working relationships from the outset of the operation

Some foreign military assets were specifically requested by Pakistan, but many came through unsolicited offers. Offers were made for a variety of reasons, some of them political, rather than in response to an identified need in the affected zone. Some nations went to great lengths to ensure that their offers were accepted, even if Pakistan was reluctant to accept the offered assistance. For example, the FRC was encouraged to accept an offer from the UK of a detachment of 75 engineers even though no role for them could, initially be identified. Nonetheless, the engineers did make a useful contribution to the relief effort.

This supply-driven approach caused some coordination problems. The key actors in Pakistan have become aware that, in order to respond to a disaster with greater precision and speed, they must be more specific and insistent about what foreign military assets are needed as well as where, when and how they will be deployed. Strong leadership and direction from the National Disaster Management Authority will be needed to ensure this.

⁶⁷ Interviews.

⁶⁸ For details of foreign military assets contributed to the earthquake relief operation in Pakistan see table A.5.

Many of the bilateral offers of military assets were made through the defence attachés of embassies and high commissions, who contacted personnel in the Pakistani military or Ministry of Foreign Affairs directly. The embassies and high commissions were also helpful in ensuring that foreign military assets operated effectively in the earthquake response. They used their relationships with the Government of Pakistan to provide up-to-date information about the disaster relief operation for foreign military assets and members of the SOG.

The OCHA Civil–Military Coordination Section (CMCS) was not a key player in the channelling of assets. It mainly provided field staff and gathered information regarding the provision of heavy-lift helicopters. It seems to have had little influence. For example, two CMCS requests for heavy-lift helicopters, on 9 and 14 October, were unsuccessful. On 9 October the CMCS contacted some 24 nominated national representatives from 13 nations in order to procure heavy-lift helicopters on behalf of Pakistan. This urgent request received a ‘somewhat muted response’, and a repeat request on 14 October was met with a similar response.

NATO involvement

Some of the foreign military assets deployed under bilateral arrangements were later brought under NATO command. Other contingents deployed under bilateral arrangements stayed under national command but worked together with NATO, coordinated by the Government of Pakistan. By contrast, a French fuel farm provided through NATO to subsequently become a bilateral contribution when France, with the agreement of the Government of Pakistan, extended its deployment period.⁶⁹

At the time of the earthquake, NATO cargo aircraft were deployed to the USA, providing airlift as part of the response to hurricane Katrina. The decision to redeploy these assets to Pakistan appears to have been taken relatively quickly and easily. However, committing NATO forces to land operations in Pakistan was more controversial, not only because of the security aspects but also owing to the lack of a clear NATO policy (see below). Pakistan’s initial request for assistance from NATO suggested that participation in the relief effort might be linked to the ‘global war on terrorism’. This displeased many members of NATO’s North Atlantic Council (NAC) so much that the request was almost turned down. Reportedly, it was an appeal by Jan Egeland encouraging the NAC to be ‘big and bold’ that finally convinced the NAC to send ground forces.

Although the mission of the EADRCC is ‘to coordinate the response of NATO and partner countries to natural or man-made disasters within the Euro-Atlantic area’, not all NATO members accept that the organization should be involved in disaster response or other humanitarian activities in third countries. Consequently, requests for military disaster relief assistance from NATO outside the Euro-Atlantic zone are referred to the NAC for consideration. In the case of the disaster in Pakistan, one state reportedly robustly objected to participation in such relief efforts, but nonetheless complied with the NAC’s majority decision and provided a significant and critical component to the response. Another state flatly refused to participate. In addition, some national delegations insisted that the NAC’s decision be referred to their governments for approval. This

⁶⁹ A fuel farm consists of multiple tanks (above or below ground) that hold varying quantities of fuel. The French fuel farm was used for rapid refuelling of helicopters.

process probably caused further delays in NATO's deployments. Some gaps in the land component of NATO's contributions were filled by states that had no NATO Response Force liability at that time: Italy, Lithuania and the UK.

The NAC made clear that its involvement in the disaster response was purely to save lives and livelihoods and speed up recovery. Accordingly, it established that:

- The duration of NATO's mission would be limited to three months.
- NATO's mission would only encompass emergency relief and recovery, not reconstruction.
- NATO's involvement was not to be linked to the 'global war on terrorism'.
- NATO would work with and for the Government of Pakistan.
- This deployment would not set a precedent for future humanitarian deployments.

Prior to deployment and during the operation, NATO repeatedly and consistently emphasized that it would deploy only for a limited time. This was intended to demonstrate to the people of Pakistan that NATO had no intention of staying in the region and was not using the deployment to cover up military encroachment into Pakistan.

It is questionable what value was added to the response by the involvement of NATO as an organization—as opposed to that of individual NATO member countries. Although the NATO assets were ostensibly under a unified command, some of them still required that all tasks be cleared by their national commands. This created problems of coordination and delays. However, such 'multi-bilateralism' is a common feature of NATO operations. In its report on the response, DfID observed that some of the common benefits of using foreign military assets—rapid deployment, flexibility, strong organization and leadership—were lost when assets were deployed under NATO, but not when they were deployed bilaterally.⁷⁰ It might be expected that channelling foreign military assets through NATO or the UN would lessen some of the political motivation for contributing and thus help to ensure a more demand-led, rather than supply-led, international response. However, several respondents indicated that this was not the case: even assistance channelled through NATO was still perceived as essentially bilateral.

The use of foreign military assets

During needs assessments, it was decided that foreign military assets would be critical in the areas of aviation, health care and medical treatment and, to a lesser extent, engineering. Air assets were needed for logistical purposes—cargo aircraft for transporting supplies and equipment and helicopters for distributing them to the disaster response sites. Logistics experts were also needed to coordinate this process (along with road, rail, river and sea transport). Helicopters were also needed for heavy lifting, for medical evacuations and for transporting materials and personnel.

In the area of medicine and health, the assets needed included field hospitals, medics, mobile medical teams and mortuary facilities. Public health specialists were needed to control contagious diseases and institute immunization programmes. Engineering assets were needed for tasks such as assessing structural damage, building and repairing roads

⁷⁰ DfID (note 43, main text).

and bridges in order to improve road access to the affected areas, clearing and removing rubble, constructing shelters, and filling gaps in power generation and distribution, and in water and sanitation. Unfortunately, it was not possible to interview those involved in coordinating engineering assets. According to the chairman of the FRC, Pakistan mobilized 18 battalions of engineers (approximately 15 000 personnel), and fewer than 1000 foreign engineers were deployed. This section, therefore, looks at the use of foreign military assets—in particular aviation and medical assets—and examines issues related to the coordination and appropriateness of their use.

The coordination of foreign military assets was the prime role of the FRC. Foreign military assets were assigned to specific geographical areas where they could work most effectively and not place undue demands on the Pakistani armed forces for administration and security (see below).

The Government of Pakistan, particularly the FRC, was inundated with foreign offers of advice and assistance in the early days and weeks after the earthquake. This occupied a considerable amount of the senior officers' time, some of whom commented that it distracted them from concentrating on the national plan of action. This example demonstrates the extent to which resources can be diverted because of the lack of preparation and of personnel dedicated to managing international assistance

Aviation coordination

Helicopters were the key assets that Pakistan needed for the relief effort, and whether they were civilian or military was not a matter of concern to the FRC. The initial efforts concentrated on moving all available helicopters and some fixed-wing aircraft, pilots, navigators and ground crews to Chaklala Airbase, near Islamabad. This was done in order to support the national assets in their efforts to locate the affected communities and then deliver aid and move the injured to the Combined Military Hospital at Rawalpindi. Foreign aircrews were required to undergo training to ensure that they complied with Pakistani safety and security procedures. In total some 129 helicopters, including around 60 from foreign militaries, were involved in the relief effort, flying along the narrow valleys to deliver relief supplies and medical assistance and recover the injured for treatment. Helicopters carried out some 17 150 medical evacuations.⁷¹

In time, as the scale of the devastation became apparent, it was necessary to extend the reach of the aviation assets. Thus, two 'main operating bases' were established: one at Chaklala and one at Qasim; 'forward airbases' were established at Abbottabad/Mansehra and at Muzaffarabad; and four 'forward operating bases' (small forward bases with an airfield, used to support tactical operations) were set up at Batagram, Balakot, Bagh and Rawlakot. Aviation was coordinated by the Air Operations Centre in Chaklala. Flights proceeded directly to the affected areas or were staged from one base to another. Crucial to the development and implementation of this new plan was the timely provision of the French fuel farm, under the auspices of NATO.⁷² The fuel farm, which was set up at Abbottabad, acted as a 'force multiplier', extending the range of aviation operations

⁷¹ Pakistan Armed Forces, *The Aviator*, Earthquake Special Edition, Pakistan Armed Forces Aviation, 2006.

⁷² NATO, Briefing by Commander NATO Disaster Relief Team, provided by NDMA, 28 Sep. 2007.

significantly and permitting longer and more frequent sorties to the more remote areas. Despite it arriving some weeks after the operation began, it nevertheless increased efficiency.

All aviation assets, whether military or civilian, were nominally under the authority of the Pakistani general officer commanding aviation. However, it appears that some NATO air assets initially remained under NATO's direction, despite the NAC's declaration that NATO assets should work 'with and for' the Pakistani authorities, and were only released later to work under the direction of UNHAS—which reportedly increased their effectiveness in the disaster response.⁷³

Medical and health cluster

The local health infrastructure was badly damaged by the earthquake: 796 health facilities were destroyed and a further 119 were rendered unsafe. In addition, half of the region's water treatment, storage and distribution systems were destroyed and almost all of the power and communication networks were out of action, creating both coordination problems and a significant public health risk.

The initial treatment of the injured relied on collecting them from areas close to the main existing medical facilities. The Dutch field hospital (deployed under NATO) set up a system of deploying mobile medical teams that travelled to remote areas to identify, treat and collect injured survivors. This process was successfully emulated by the Pakistan military: combined military and NGO personnel were deployed on foot or via helicopters to remote areas and the injured were transferred to appropriate medical facilities.⁷⁴

Military medical and health assets were coordinated under the FRC's medical and health cluster. This cluster was directed by the vice-principal of Pakistan's Army Medical College, who had recently completed three years of work in the affected region. Military leadership was chosen for this cluster because the Pakistani military was the one functioning body with a presence throughout the affected region, and it was thought to be a natural focus for the response because so much of the civilian infrastructure and leadership had become ineffective. The medical and health cluster was formed from a military nucleus but included all the national medical and health agencies, international agencies, donors and many NGOs.

The head of the cluster reported that no formal request was ever made for foreign military medical and health assets. Instead, all foreign medical and health assets were provided as the result of offers. In many cases medical and health teams arrived at Chaklala with little or no notice.⁷⁵ As with aviation, the head of the medical health sector made no distinction between military and civilian assets. Foreign military assets simply had to integrate into the cluster plan alongside civilian assets; interpreters and medical staff came from both military and civilian sources.

⁷³ DfID (note 43, main text).

⁷⁴ DfID (note 43, main text).

⁷⁵ The civilian medical assistance provided by Cuba was not requested and was accepted with some reluctance, although it later proved to be among the best and largest of the foreign medical assets, with the widest range of specializations.

The coordination arrangements in the medical and health cluster were similar to those used in other recent emergencies of similar scale. The participation of foreign military assets was necessary in all sub-clusters,⁷⁶ with the various specialized areas replicated in the two military divisional commands. It was commented that many of the foreign military assets did not have sufficient personnel to serve the range of coordination meetings, leading to less effective action than would have been possible otherwise.

The effectiveness of the foreign military assets

Timeliness

Military assets from some countries did not deploy as quickly as they could have done and were slow to start humanitarian operations. For example, the Italian heavy engineering contingent was badly needed, but it arrived late and worked for only a few weeks—not long enough to complete the tasks it was intended to fulfil. Some officials in Pakistan commented that after having agreed to accept foreign military assets, it was frustrating to then have their deployment delayed.⁷⁷ Such delays in a disaster situation can mean that national or other foreign military assets have to be diverted to provide assistance to communities that are in urgent need of assistance.

In some cases, the delays related to obtaining political clearance to enter the country. For the Italian contingent, the delay occurred because of the need to transport heavy equipment by sea, road and rail. In some cases the deployed troops spent time preparing their operational bases in Pakistan at the expense of humanitarian operations. Some contributing countries commented that the deployment of foreign military assets could have been quicker if status of force agreements or letters of exchange dealing with items such as costs, tasking, accountability and standards in humanitarian work had been prepared in advance.

Appropriateness and coordination of the assets deployed

Most of the assets provided to the Government of Pakistan were readily useable, but some were not. In addition, some of the foreign units offered were so small that the chairman of the FRC sometimes questioned what value they would add to the existing capabilities and whether they were worth accepting.⁷⁸

Coordination problems were created when some countries were not prepared to undertake specific key tasks assigned to them under the national plan, such as digging field latrines, even though these tasks fell within their competency and normal range of work. The reasons for this are not immediately clear, but this was a source of frustration to the FRC and contrary to NATO's criteria for deployment.

⁷⁶ The sub-clusters were aviation, health surveillance, health services, field hospitals, data collection and coordination, convalescent centres, and primary health care.

⁷⁷ Interviews.

⁷⁸ Interviews.

The assignment of tasks was not always done in a coordinated way. In one case a foreign unit was asked to provide potable water. The unit did so quickly and efficiently. However, the absence of a distribution system meant that the communities looked to other agencies to provide water.

No clear distinction was made between relief and rehabilitation work in the earthquake response. Foreign military assets committed to relief found that their enthusiasm, capacity and capability could lead them into undertaking rehabilitation and even development work. The standard of rehabilitation work carried out by NATO seems to have been higher than the usual minimum standards for humanitarian aid, because the organization adopted EU standards for power distribution, water and sanitation, among others. This meant that some engineering work, for example, could not be completed because locally sourced materials failed to meet the standards. NATO has not developed its own standards and is unlikely to do so as long as NATO members disagree about whether the organization should engage in international humanitarian work at all.

Because NATO was following EU standards, there was a danger that the work it was doing would be unsustainable and would raise expectations among the affected population that would not be met when civilian humanitarian actors took over. NATO realized this and sought to collaborate with the appropriate NGOs from the start so that sustainable water treatment, supply and distribution could be established. To some extent this enabled NATO to withdraw its assets in a manner that minimized the detrimental impact on the communities they were supporting.

The standards of medical and health care were also higher during the relief period than they had been before the earthquake because of the intervention of the foreign military assets, the NGOs and international organizations. Consequently, many survivors were reluctant to revert to lower health care standards in the rehabilitation process. These problems played a significant role in shaping the national rehabilitation and reconstruction policy to Build Back Better.⁷⁹

Most humanitarian actors recognized the value of involving foreign military assets in the response. However, they also saw a need to distance themselves from those assets, even as they worked alongside them. This was because if they were too much associated with military assets it might adversely affect their ability to work in other parts of the world, most notably in complex emergencies. Some humanitarian workers also commented that they felt increasingly uneasy that the military was using humanitarian terminology in a manner that undermined humanitarian principles and jeopardized the ability of the NGOs to act. Some NGO personnel expressed relief that the foreign military assets generally did not take it upon themselves to interact with the local population, but left the role of community engagement to the NGOs.⁸⁰

Efficiency and force protection measures

According to NATO, operational efficiency in the relief effort was enhanced by the fact that common doctrines and procedures were used, and because the Pakistani armed forces

⁷⁹ 'Build Back Better' is a principle of Pakistan's Earthquake Reconstruction and Rehabilitation Authority. The concept had been introduced by US President Bill Clinton during the Indian Ocean tsunami response.

⁸⁰ It is worth noting that foreign military assets were providing medical assistance.

and those of many of the contributing countries used English as the working language, thereby enabling easier communication. Six of the nine bilateral contributors were members of NATO or of the ABCA Program.⁸¹ Some of the bilateral partners offered advice on doctrine and encouraged the Pakistani military to adopt their practices, but only those suggestions considered most useful were adopted.

The ongoing security issues in Pakistan were given considerable scrutiny by all parties. It is significant that no foreign military personnel were taken hostage, directly targeted, injured or killed. The Pakistan Armed Forces ascribe this to their own provision of security for all involved in the humanitarian response. Security concerns led to some initial reluctance to deploy foreign military assets, but in fact the constraints on their deployment were minimal.

Some foreign military asset providers insisted on restrictive safety and security measures such as never allowing their assets to fly solo sorties, thus limiting their output. All foreign sorties were supposed to include a Pakistani navigator, usually a junior officer, to ensure that the aircraft kept within their assigned zones and to assist in communication with the local people and military command. In time, as trust and confidence grew, there was some relaxation of this prerequisite, which enabled the number of relief payloads and transfers of casualties to be increased.

Safety was another important concern. There was one fatal accident during the relief effort. However, there were relatively few incidents in spite of the rugged terrain, the long flying hours, the frequency of sorties and, in the early period, the need to fly at night. This good safety record is largely thanks to the efforts of the coordinating body and to the professionalism of the foreign pilots and their readiness to respect the coordinating body.

Lessons learned

Both during and after the earthquake response, the Government of Pakistan was not concerned about whether the foreign assets provided were civilian or military. More important was that they met real needs and arrived in a timely manner. Self-sufficiency a willingness to adhere to the national plan of action were also considered desirable.

The Government of Pakistan observed that foreign military assets sometimes failed to accept locally appropriate working practices or to carry out tasks in a timely manner consistent with local standards and with respect for their culture and social structures.

There was little coordination of requests for, and offers of, foreign military assets in the early stages of the earthquake response. Because of this, some foreign military assets arrived that were not strictly required. Pakistan recognized the need for better coordination in future disaster relief operations. Proper assignment of tasks and linking of deployments and withdrawal dates to objectives would also go some way towards avoiding problems seen in 2005.

⁸¹ ABCA is a programme to enhance interoperability and coordination between the armed forces of Australia, Canada, New Zealand, the UK and the USA.

Many deployments were delayed because of the need for an exchange of letters or equivalent ad hoc diplomatic agreement. These processes were frequently held up by consideration over matters such as whether foreign military personnel should bear arms. Some steps have since been taken to streamline the processes in future.

Many foreign military personnel recognized that their participation in the operation could have been more effective if they had better understood and coordinated with the UN and NGOs. They also saw a need to improve their own capacities in the delivery of humanitarian aid, including and setting and achieving aid standards.

There appears to have been a general lack of awareness of the Oslo Guidelines in the Government of Pakistan and among the foreign military contingents. Although the standing operating procedures for the Euro-Atlantic Disaster Response Unit incorporated key elements of the Oslo Guidelines,⁸² the commander of the NATO Disaster Relief Team was unaware of the guidelines until after the deployment. Several personnel who similarly only came to know of the Oslo Guidelines after their deployment observed that the guidelines would have been useful during the response. It would be informative to discover if and how the contributing countries have since reflected the Oslo Guidelines in their doctrine, education and training.

All the representatives of Pakistan and of contributing countries interviewed for this study called for humanitarian principles to be incorporated into doctrine and education and training curricula, as well as for the development of good practices through training and the open sharing of evaluations. Proper preparation of troops for disaster relief would have greatly reduced their need to learn on the job and thus improved their efficiency and effectiveness in the earthquake response. Military personnel commented that an agreed set of standards for foreign military assets would help to limit operations to disaster relief (rather than going into longer-term rehabilitation and reconstruction), avoid raising unrealistic expectations among beneficiaries, ease the withdrawal of foreign military assets and assist military contingents in working to internationally recognized minimum standards.

The lack of open and independent evaluations of foreign military assets means that lessons from the Pakistan experience have not been identified and knowledge has not been shared. This restricts the potential for developing more effective policies, strategies, and practices for disaster response. Moreover, this lack of transparency and independence in evaluations appears to be the norm for foreign military assistance.

Since the South Asia earthquake, Pakistan has created two national bodies, the Earthquake Reconstruction and Rehabilitation Authority and the National Disaster Management Authority. These are responsible for dealing with the legacy of the 2005 earthquake and for preparing for and responding to future disasters, respectively. In both cases the leadership is military and its members are integral to the prime minister's secretariat. It is clear that a great deal has been learned from the response to the earthquake and that a significant effort is being made to ensure greater resilience in the affected areas and improve responses to future disasters.

⁸² NATO, Standing operational procedures for the Euro-Atlantic Disaster Response Unit, <<http://www.nato.int/eadrcc/sop/sop.htm>>.

Table A.5. Foreign military assets contributed to the earthquake relief operation in Pakistan in 2005

This list of assets should not be taken as definitive.

Contributing countries	Asset type	Asset name	Asset quantity	Number of personnel	Type of support	Channelling date	Arrival date	Departure date	Location
USA	Helicopter	CH-47 Chinook	5		Theatre airlift	Bilateral	08/10/05	01/02/06	..
	Helicopter	UH-60 Black Hawk	3		Theatre airlift	Bilateral	08/10/05	01/02/06	..
	Personnel			933	..	Bilateral	..	..	..
	Fixed-wing aircraft	C-17	1		Air bridge	Bilateral	10/10/05	01/02/06	..
NATO	Field hospital	Globemaster III	1		Medical	Bilateral	10/10/05	01/02/06	..
	Air bridge (fixed-wing aircraft) ^a	MASH			Air bridge	NATO	14/10/05	..	Various in Europe
Japan	Helicopter	UH-1	6		Theatre airlift	Bilateral	14/10/05	28/11/05	..
NATO	Personnel ^b	Operational liaison and reconnaissance team		..	OSOCC	NATO	14/10/05	01/02/06	..
Japan	Personnel			290	Medical and search and rescue	Bilateral	17/10/05	01/12/05	..
NATO	Air bridge (fixed-wing aircraft) ^c	C-130 Hercules			Air bridge	NATO	21/10/05	08/03/06	Ramstein, Germany and Incirlik, Turkey
NATO	Personnel ^d	NATO Response Force Deployable Joint Task Force		..	OSOCC	NATO	24/10/05	01/02/06	Islamabad

Contributing countries	Asset type	Asset name	Asset quantity	Number of personnel	Type of support	Channelling	Arrival date	Departure date	Location
France	Fuel farm				Fuel supply for helicopters	NATO ^e	29/10/05	..	Abbottabad
Germany	Helicopter	CH-53 Sea Stallion	4		Theatre airlift	NATO	29/10/05	01/02/06	..
Luxembourg	Helicopter	MD-900 Explorer	1		Theatre airlift and search and rescue	NATO	29/10/05	01/02/06	..
NATO	Field hospital with mobile units ^f	Multinational Field Hospital	1	>177	Medical	NATO	29/10/05	20/02/06	Bagh
Canada	Personnel and equipment ^g	Disaster Assistance Relief Team		..	Engineering	Bilateral	30/10/05	20/02/06	Bagh
Spain	Personnel and equipment ^{g, h}	Light engineering companies		..	Engineering	NATO	10/11/05	01/02/06	Bagh
Lithuania	Personnel and equipment ^{g, h}	Water purification team			Engineering	NATO	10/11/05	01/02/06	Bagh
Poland	Personnel and equipment ^{g, h}	Light engineering company		..	Engineering	NATO	10/11/05	01/02/06	Bagh
Italy	Personnel and equipment ^g	Heavy engineering company		..	Engineering	NATO	10/11/05	01/02/06	Bagh
UK	Personnel and equipment ^g	Arctic engineering squadron		75	Engineering	NATO	10/11/05	01/02/06	Bagh

Contributing countries	Asset type	Asset name	Asset quantity	Number of personnel	Type of support	Channelling	Arrival date	Departure date	Location
Japan	Fixed-wing aircraft	C-130 Hercules and B-747	4		Theatre airift and air bridge	Bilateral	07/01/06	..	..
Afghanistan	Helicopter	Mi-17	4	20	Search and rescue	Bilateral	..	..	..
	Fixed-wing aircraft	..	1	4	Theatre airift and Air bridge	Bilateral	..	..	..
	Personnel	Medical team			Medical	Bilateral	..	..	..
Australia	Helicopter	UH-60 Black Hawk	4	140	Theatre airift and search and rescue	Bilateral	..	..	..
Canada	Fixed-wing aircraft	..	..		Transport for liaison and assessment	Bilateral	..	..	..
Canada	Helicopter	Ka-32	1		Search and rescue	Bilateral	..	..	..
Canada	Field hospital		1	..	Medical	NATO	..	20/02/06	Garhi Dupatta
India	Fixed-wing aircraft	Ilyushin 76	..		Theatre airift and air bridge	Bilateral	..	..	..
Japan	Helicopter	UH-1H Huey	4		Theatre airift and search and rescue	Bilateral	..	..	..
UAE	Helicopter	UH-1H Huey	1		Theatre airift and search and rescue	Bilateral	..	..	..
UK	Helicopter	CH 47 Chinook	3	4	Theatre airift	UN (UNHAS)	..	..	..

Contributing countries	Asset type	Asset name	Asset quantity	Number of personnel	Type of support	Channelling date	Arrival date	Departure date	Location
USA	Helicopter	Mi-8	3		Theatre airift and search and rescue	Bilateral	..	..
	Helicopter	MH-53 Pave Low	2		Search and rescue	Bilateral	..	..	..
	Helicopter	CH-47 Chinook	11		Theatre airift	Bilateral	..	..	..
	Helicopter	UH-60 Black Hawk	3		Theatre airift and search and rescue	Bilateral	..	..	..

NATO = North Atlantic Treaty Organization; UNHAS = UN Humanitarian Air Service; .. = information not available

^a The first NATO aircraft, a B-707 Training and Cargo Aircraft, arrived in Pakistan with relief supplies donated by Slovenia on 14 Oct. An-124 aircraft, chartered by NATO, landed with supplies on 16 Oct.

^b The NATO operational liaison and reconnaissance team was deployed from NATO Joint Command Lisbon. Its tasks included establishing relations with the Pakistani Government, identifying potential missions and tasks for NATO units, coordinating with officials at Chaklala Air Base regarding future NATO relief flights and preparing for the arrival of further NATO assets.

^c Countries contributing to the second NATO air bridge included Denmark, France, Germany, Greece, Italy, Turkey, the UK and the USA. The air bridge moved relief supplies to Islamabad. Assets include 5 C-130s from the NATO Response Force along with additional aircraft made available from NATO members.

^d Command and coordination elements deployed by NATO included a NATO Signal Battalion Detachment, the headquarters of the air component (led by the French Air Force and located at Chaklala), the headquarters of the land component (led by Spain and located in Arja), and French and Slovenian civil–military cooperation teams.

^e At the request of the Government of Pakistan, the French fuel farm remained under a bilateral arrangement after NATO's withdrawal.

^f Countries contributing to the NATO Multinational Field Hospital included the Czech Republic (23 personnel), France (18 military physicians and possibly other personnel), the Netherlands (mobile field hospital and 130 personnel), Portugal (6 personnel) and the UK. The first to arrive, on 29 Oct., was the Dutch contingent. The field hospital was opened on 9 Nov. Mobile units, using helicopters, road vehicles (4 ambulances) and mules to reach affected communities, were established after the arrival of British, Czech and French medical personnel. Around 200 medical staff were deployed through NATO, including the Multinational Field Hospital and the Canadian field hospital.

^g The engineering assets deployed by NATO included around 1000 personnel and 30 medium-weight and 25 heavy-weight vehicles.

^h The Lithuanian water purification team was augmented by Polish and Spanish engineers. The Canadian Disaster Assistance Response Team started under a bilateral agreement and later became part of the NATO contingent.

Sources: National Disaster Management Authority, Pakistan, data from contributors, and secondary sources.