

Quake tests national response plans

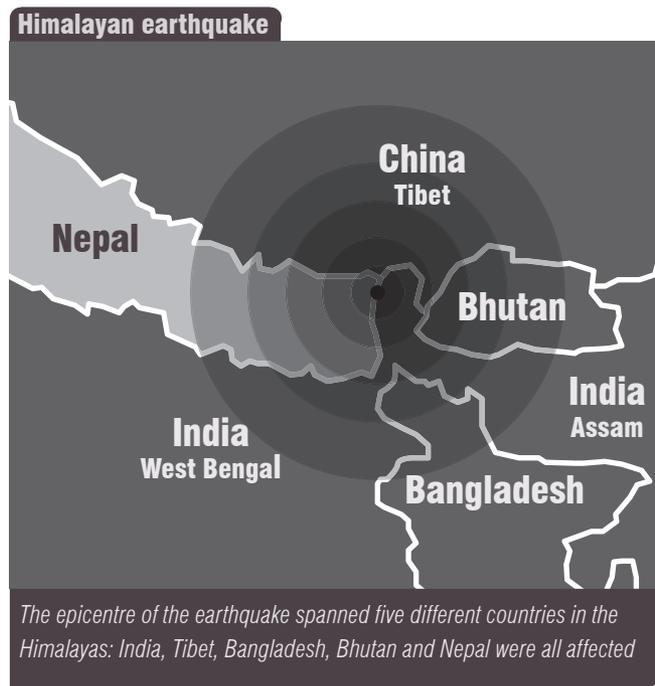
Initially, Nepalese authorities thought the earthquake which struck the Himalayas had left their country relatively unscathed, writes **Ratindra Khatri**. In fact, tremors had devastated several mountainous districts, leaving their inhabitants unable to communicate with the outside world

THE HISTORICAL, TRADITIONAL AND ancient, but ill-planned and unmanaged Nepalese capital city of Kathmandu was shaken dreadfully when a 6.9 Richter scale earthquake struck the eastern border of Nepal at 12:41hrs GMT on September 18, 2011.

Initially, severe loss of life and property were expected but, surprisingly, the earthquake was not as damaging as had been feared at first. However, severe damage and destruction did occur in some districts of Nepal in the hills and, as a result, the country is still struggling to manage the affected people and properties.

The epicentre of the earthquake spanned five different countries. The primary effects were seen in Sikkim, a tiny Himalayan State of India, where the most people were killed and the worst damage to physical infrastructure occurred. Tibet also experienced substantial damage. Bangladesh and Bhutan were also affected by this earthquake. At least 110 people lost their lives – according to official sources, 96 died in India; seven in Tibet; six in Nepal; and one in Bhutan.

In Nepal, 20 districts were affected, among them 15 in eastern Nepal, three in the Kathmandu valley and two in the western region. The tremor was also felt in more than 26 other districts. Five of the eastern



wall in Kathmandu collapsed. Two further victims lost their lives in Sunsari and one in Sankhuwasabha district.

A Cabinet meeting was held in Kathmandu immediately after the disaster and this was followed by a meeting of the Central Natural Disaster Response Committee (CNDRC), the apex body of Nepal, which launched immediate relief efforts in the affected areas.

Why did the city not suffer from massive destruction, despite continuous and prolonged shaking in a high-magnitude earthquake, when the bulk of the houses do not meet building requirements?

districts set in the mountains – Taplejung, Phidim, Ilam, Sankhuwasabha and Tehrathum – suffered large-scale destruction. Some damage was observed in Kathmandu.

Out of the six casualties in Nepal, three died when the British Embassy perimeter

Similarly, the District Natural Disaster Response Committee (DNDRC) was also activated in affected districts. The National Emergency Operations Centre (NEOC), under the Ministry of Home Affairs, monitored and co-ordinated response activities in the areas affected.

Government security forces were deployed as first responders but the mountainous nature of most of the stricken areas meant it was difficult to get relief efforts through. Local workers erected improvised shelters and started search, rescue and debris removal. Their efforts were obstructed by heavy rainfall, unusual for this time of the year. In-country UN and international humanitarian agencies and the Nepal Red Cross Society, along with the International Committee of the Red Cross, also mobilised assessment teams. Other international, governmental and non-governmental agencies working in Nepal also indicated their ability to provide necessary assistance. However, the Nepalese Government did not make any official request for international assistance.

Inaccessible areas

Despite government efforts, humanitarian operations were hampered due to the ruggedness of the terrain, inaccessibility of the affected areas and poor infrastructure to support relief operations. Basic transportation networks and communication systems are inadequate in the hills of Nepal and those systems that are available are very limited and primarily focused around district capitals and adjoining areas. As a result, relief efforts reached the district capitals but could not make it to the affected areas.

Neither could proper damage assessment be conducted in the affected zones. According to official sources, aside from the death toll, 160 people were seriously injured – 27 of them seriously. More than 4,402 houses were severely and 6,569 partially damaged; 847 houses sustained minor damage. Additionally, 111 schools were completely destroyed and 387 partially damaged. Besides that, 63 government buildings were completely destroyed and 204 left partially damaged; 26 health facilities were destroyed and 38

partially damaged. More than 3,600 families were internally displaced and a total of 3,836 families have received relief assistance from the Government at the time of writing. This number is expected to increase once a proper damage assessment has been conducted.

The worst effects of the quake were seen on the other side of the border in Sikkim where, comparatively, relief efforts were better than those in Nepal. Conditions in the adjoining areas of Nepal on the Indian side are almost similar to those in Nepal – poor infrastructure, difficult terrain, deprived people living without basic facilities and no reliable communication with other parts of the world. Some remote villages on the foothills of Mount Kanchanjunga are still out of touch – at the time of writing, the situation, damage and effects of the quake remain unknown.

The authorities concerned initially took this matter lightly when the preliminary damage report was far less than expected. Once the actual information started to flow, only then did they realise the severity of the destruction in rural areas, where poor and deprived people were being compelled to live in traumatic conditions. Many locals not only lost their houses and belongings, but also suffered the loss of basic infrastructure.

Most of the collapsed buildings in rural areas in Nepal are built without proper technical design and structural engineering considerations. These buildings are made from stone boulders or bricks, without using cement. Zinc, slate, stone or hay are normally used for roofing. These houses are usually built without columns or pillars to support the walls and most were constructed prior to the implementation of building codes by the Government. A lack of proper monitoring bodies in villages is another reason why the houses are not strong enough to sustain natural disasters.

Homes with light structures or cottage-type houses are considered to be safest and to cause less human suffering in times of disaster. Small cottage-type huts are comparatively safe from an earthquake point of view. Almost all of the houses damaged by the recent earthquake were constructed without due consideration of structural design or building codes.

Nevertheless, most experts were surprised by this incident because, in this case, all predictions were wrong and much less damage occurred in urban areas, especially in the Kathmandu valley.

This must be thoroughly researched in order to determine the causes and facts. Why did the city not suffer from massive destruction, despite continuous and prolonged shaking in a



Most of the collapsed buildings in Nepal's rural areas were built without proper technical design and structural engineering considerations; many were made from stone boulders or bricks, without the use of concrete. The author says a lack of building standards monitoring bodies in the villages has allowed this type of construction to proliferate

high-magnitude earthquake, when the bulk of the houses do not meet building requirements?

Robert Piper, UN resident co-ordinator to Nepal, says: "Disaster risk reduction systems in Nepal are getting better, but they are still very badly equipped." Plenty of paperwork, planning and exercises have been conducted in Nepal to enhance disaster response capabilities; however, so far as capacity building measures are concerned, progress is negligible. The availability of funds, equipment and resources are not sufficient to manage high magnitude disasters.

An entire territory of Nepal lies in a high seismic zone. Kathmandu city is considered to be one of the most vulnerable cities in the world because of the active fault lines on which it rests. One report says there are more than 92 fault lines in Nepal; this clearly indicates the probability of serious damage from an earthquake.

Outdated operations

There is a strong possibility of a mega-scale earthquake striking the nation any time in the future and Nepal's response capability is not up to the mark, owing to various constraints and deficiencies. In such circumstances, disaster relief operations are likely to be extremely complex, so it is high time to do something concrete now, to help us enhance our capabilities to overcome such unforeseen disaster situations in the future.

Nepal is still working under an old and traditional type of disaster management, given that its *Natural Disaster Management Act* of 1982 is based purely upon response mechanisms. In order to introduce a more effective risk reduction, preparedness and mitigation approach, new legislation was drafted about two years ago, but this is still in the review stage at cabinet level. The upshot is that Nepal is simply unable to mobilise all available resources in a concentrated manner to conduct successful disaster relief operations.

In Nepal, if the nation escapes suffering from any kind of crisis, people spontaneously say: "We have been saved because of the blessing of Lord Pashupatinath." How long can we expect such blessings to continue? If we continue to neglect to equip, prepare and ready ourselves, it is evident that sooner or later we will not even get the chance to regret this lack of action. **CRJ**

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