

DEVASTATING EARTHQUAKE IN NEPAL (2015): A GEOGRAPHICAL APPRAISAL

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ABSTRACT

Earthquakes occur within the Earth's crust along faults that suddenly release large amounts of energy that have built up over long periods of time. The shaking during an earthquake is caused by seismic waves. Seismic waves are generated when rock within the crust breaks, producing a tremendous amount of energy. The energy released moves out in all directions as waves. The earthquake in Nepal (2015) is caused by the ongoing continent-continent collision between India and Asia. That collision has produced the Himalaya Mountains and the Tibetan Plateau. The collision zone wraps around the northwest promontory of the Indian continent in the Hindu Kush region of Tajikistan and Afghanistan then extends to the southeast through Nepal and Bhutan. The earthquake flattened homes, buildings and temples, causing widespread damage across the region, killing more than 2,300 and injuring more than 5,000. The earthquake was strong enough to be felt all across parts of India, Bangladesh, China's region of Tibet and Pakistan. The present paper deals with the origin, magnitude, causes and consequences of devastating earthquake in Nepal along with its proper management.

KEYWORDS: Seismology, Plates, Subduction, Aftershocks

INTRODUCTION

Hazard and disaster are the two phenomenons which causes a negative impact on the environment. Environmental hazard may be defined as the extreme event either natural or man-induced, which exceeds the tolerable magnitude within or beyond certain time limits, makes adjustment difficult, results in catastrophic loss of property, income and lives and becomes the headline of different news media at world level. Environmental disasters; in one way or the other; deal with the extreme events whether natural or man-induced. It is therefore, obvious that the environmental hazard is the process whereas environmental disaster is the result of the environmental hazards. The study of natural hazards/disasters includes the consideration of identification of specific events, finding of their causative factors, assessment of their impact on human and other biological communities, prediction of such events and finding their remedial measures.

Earthquake is both a hazard and a disaster. Tremors or shaking of the earth's crust is called an earthquake. It is, actually, the passage of wave like vibrations originating within the earth's crust in the form of energy. The point at which earthquake originates in the earth's crust or interior is called the centre of an earthquake or Focus. It usually lies, within 16km below the earth's surface. The point on the earth's surface which lies vertically above the focus is called Epicentre, where the intensity of the earthquake is the strongest.

Seismograph is an instrument that records the duration, magnitude and direction of the earthquake waves. Richter scale was devised by the seismologist C.F.Richter in 1935 is fitted in the seismograph to measure the magnitude of an earthquake.

Earthquakes are most common at plate boundaries, where different tectonic plates meet. The largest events usually happen when two plates collide. This is where large amount of stress is built up rapidly. Earthquakes occur on a daily basis across the world, most detected only by the seismometers and causing no damage. Large earthquakes however can cause serious destruction and massive loss of life. An inventory of the earthquake may include the collapse of buildings and fires as seen in the 1906, San Francisco earthquake, tsunami as seen in the 2004 Sumatra earthquake, landslide.

Nepal, The Himalayan Nation is still grieving from the unfortunate event, which was struck by a powerful 7.9 magnitude earthquake on Saturday afternoon, 25 April 2015 and the consequences had been devastating. The epicentre of the earthquake was 80km to the west of the capital city, Kathmandu. At 11:56 local time, a 7.8 magnitude earthquake struck Nepal, with the epicentre in Lamjung district (north-west) of Kathmandu, south of China border. Dozens of aftershocks followed, including a 6.7 magnitude earthquake on 26 April 2015 at 12:54 local time. A major earthquake occurred in Nepal on 12 May 2015 at 12:50 pm local time (7:05 am UTC) with a magnitude of 7.3, 18km southwest of Kodari. The epicentre was on the border of Dolakha and Sindhupalchowk districts of Nepal.

Study Area

Nepal is roughly trapezoidal in shape (800 kilometres long and 200 kilometres wide, with an area of 147,181 square kilometres). It lies between latitudes 26° and 31°N, and longitudes 80° and 89°E. Nepal is divided into 14 zones and 75 districts, grouped into five development regions. Each district is headed by a permanent chief district officer responsible for maintaining the law and order and coordinating the work of field agencies of the various government ministries. The five regions and 14 zones are:

- Eastern Region (Purwanchal)
 - Koshi
 - Mechi
 - Sagarmatha
- Central Region (Madhyamanchal)
 - Bagmati
 - Janakpur
 - Narayani
- Western Region (Pashchimanchal)
 - Dhawalagiri
 - Gandaki

- Lumbini
- Mid-Western Region (Madhya Pashchimanchal)
 - Bheri
 - Karnali
 - Rapti
- Far-Western Region (Sudur Pashchimanchal)
 - Mahakali
 - Seti

Objectives

The main objectives of this study are – i) to observe the magnitude of the earthquake, ii) to represent how damage occur, iii) to study the number of human lives and property, iv) to analyse the prospect and management of such disaster.

Geology

The Indian plate continues to move northwards relative to Asia approximately at the rate of 50 mm (2.0 in) per year. Given the great magnitudes of the blocks of the Earth's crust involved, this is remarkably fast, about twice the speed at which human fingernails grow. As the strong Indian continental crust subducts beneath the relatively weak Tibetan crust, it pushes up the Himalayan Mountains. This collision zone has accommodated huge amounts of crustal shortening as the rock sequences slide one over another.

Based on a study of the Main Frontal Thrust (published in 2014), on an average a great earthquake occurs every 750 ± 140 and 870 ± 350 years in the east Nepal region. A study from 2015 found a 700-year delay between earthquakes in the region. The study also suggests, that because of tectonic stress transfer, the earthquake from 1934 in Nepal and the 2015 earthquake are connected - following a historic earthquake pattern.

Erosion of the Himalayas is a very important source of sediment, which flows through several great rivers, the Indus, Ganges, and Brahmaputra river system to the Indian Ocean.

Physiography

The southern lowland plains or Terai, bordering India are part of the northern rim of the Indo-Gangetic plains. They were formed and are fed by three major Himalayan rivers: the Kosi, the Narayani and the Karnali as well as other smaller rivers rising below the permanent snowline. This region has a subtropical as well as tropical climate. The outermost range of the foothills called the Shiwalik or Churia range, cresting at height of 700 to 1000 meters, marks the limit of the Gangetic Plain, however broad, low valleys called Inner Terai lie north of these foothills in several places. The Hill Region varies from 800 to 4000 metres in altitude with progressive from subtropical climates below 1,200 meters to alpine climate above 3,600 meters above mean sea level. Nepal has fine climatic zones, broadly corresponding to the altitudes. The tropical and subtropical zones lie below 1,200 meters, the temperate zone from 1,200 to 2,400 meters, the cold zone from 2,400 to 3,600 meters, the subarctic zone from 3,600 to 4,400 meters and the arctic zone above 4,400

meters. Nepal experiences five seasons: summer, monsoon, autumn, winter and spring. The Himalaya blocks the cold winds from Central Asia in the winter and forms the northern limit of the monsoon wind patterns. In a land once thickly forested, deforestation is a major problem in the region, resulting in erosion and degradation of the ecosystem. The collision between the Indian subcontinent and the Eurasian continent, which started in Palaeogene time and continues even today, produced the Himalayas and the Tibetan Plateau. Nepal lies completely within this collision zone, occupying the central sector of the Himalayan arc which is nearly one third of the 2,400 km (1,500 mi)-long Himalayas.

Vegetation

The dramatic differences in elevation found in Nepal results in a variety of biomes, from tropical savannas along the Indian border, to subtropical broadleaf and coniferous forests in the Hill Region, to temperate broadleaf and coniferous forests on the slopes of the Himalayas, to montane grasslands, shrub lands, rock and ice at higher elevations.

At the lowest elevations there is the Terai-Duar savanna and grasslands eco-region. These form a mosaic with the Himalayan subtropical broadleaf forests, which occur at an altitude of 500 to 1,000 metres (1,600 to 3,300 ft) and include the Inner Terai Valleys. Himalayan subtropical pine forests occur between a height of 1,000 and 2,000 metres (3,300 and 6,600 ft).

Above these elevations, the biogeography of Nepal is generally divided from east to west by the Gandaki River. Eco regions to the east tends to receive more precipitation and thereby to be more species-rich. Those to the west are drier with fewer species.

From 1,500 to 3,000 metres (4,900 to 9,800 ft), are temperate broadleaf forests: the eastern and western Himalayan broadleaf forests. From 3,000 to 4,000 metres (9,800 to 13,100 ft) are the eastern and western Himalayan subalpine conifer forests. To 5,500 metres (18,000 ft) are the eastern and western Himalayan alpine shrub and meadows.

Phenomena of Nepal's Earthquake

Since 1934 earthquake had its bad impact on Nepal. Nepal has been struck by the biggest earthquake in over 80 years. The region that has been hit hard is the very populous Kathmandu valley.

1934 (magnitude 8.0): most destructive earthquake in Nepal's history. Over 10,000 people killed, Kathmandu and several other cities completely destroyed.

1980 (magnitude 6.5): 178 killed and 40,000 homes destroyed.

1988 (magnitude 6.8): 722 killed across Nepal and India. 12,000 injured, 460,000 people left homeless.

2011 (magnitude 6.9): 6 killed, 30 seriously injured and 13000 displaced.

2015 (magnitude 7.9): 80km from Kathmandu. Population in the region: over 2.5 million.

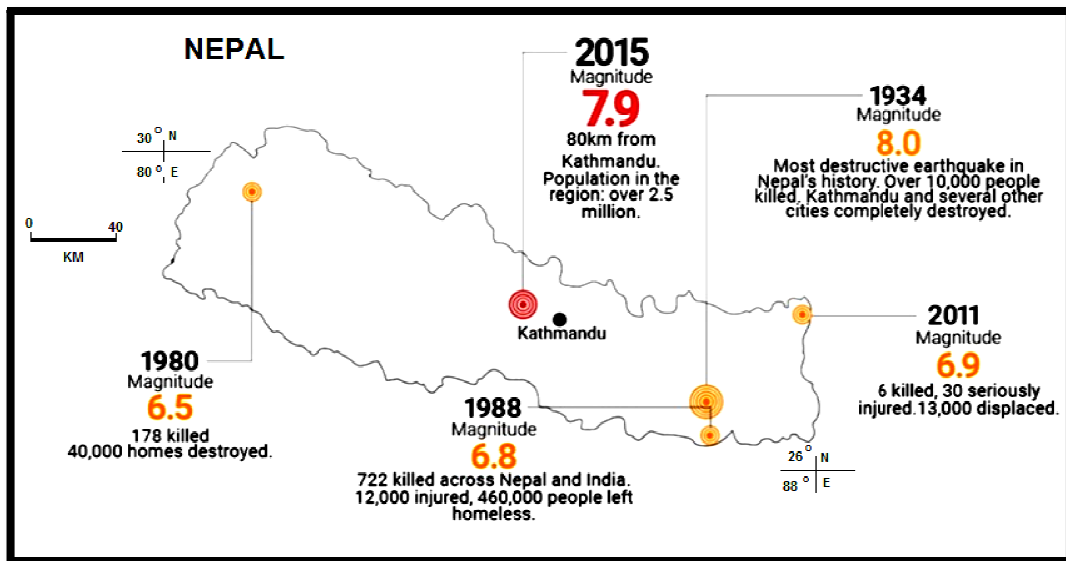


Figure 1: The Impact of the 2015 Earthquake was sensed Throughout Central and Western Nepal (Excluding the Three Districts of Kathmandu Valley). The Major Earthquake Occurred in 25 April, 26 April and 12 May

25 April 2015: The April 25, 2015 M 7.8 Nepal earthquake occurred as a result of the thrust faulting on or near the main frontal thrust between the subducting India plate and the overriding Eurasia plate to the north. Approximately, 80 km to the northwest of the Nepalese capital of Kathmandu, the India plate is converging with Eurasian plate at a rate of 45 mm/yr towards the north-northeast, driving the uplift of the Himalayan mountain range. The preliminary location, size and focal mechanism of the April 25 earthquake are consistent with its occurrence on the main subduction thrust interface between the India and Eurasia plates.

26 April 2015: At 11:56 local time, a 7.8 magnitude earthquake struck Nepal, with the epicentre in Lamjung district (north-west) of Kathmandu and south of China border. Dozens of aftershocks followed, including a 6.7 magnitude earthquake on 26 April 2015 at 12:54 local time. The Earthquake hit with a devastating force less than 80 miles from the capital Kathmandu causing tremors and damage in various parts of India also.

12 May 2015: A major earthquake occurred in Nepal on 12 May 2015 at 12:50 pm local time (7:05 am UTC) with a moment magnitude of 7.3, 18km southwest of Kodari. The reason behind this is the result of thrust faulting on or near the main thrust interface between the subducting Indian plate and the overriding Eurasian plate to the north. At the location of this earthquake, approximately 80 km to the east and northeast of the Nepalese capital of Kathmandu, the Indian plate is converging with Eurasian at the rate of 45 mm/yr towards the north-northeast a fraction of which (~18 mm/yr) is driving the uplift of the Himalayan mountain range. The preliminary location, size and focal mechanism of the May 12 earthquake are consistent with its occurrence on the decollement associated with the Main Himalayan Thrust, which defines the subduction thrust interface between the Indian and Eurasian plates. The earthquake is the largest aftershock to date M 7.8 April 25, 2015 Nepal earthquake – known as the Gorkha earthquake – which was located 150 km to the west of the May 12 event, and which ruptured much of the decollement between these two earthquakes.

Impact

The impact on Nepal was undoubtedly serious, especially for historic masonry buildings, and the city will never be the same again.

Out of 75 districts, 30 districts in Nepal have been affected with the earthquake on 25 April 2015. The hard hit districts are reported to be Lamjung(considered an epicenter of the earthquake), Gorkha, Dhading, Rasuwa, Sindhupalchowk, Kavre, Nuwakot, Dolakha, Kathmandu, Lalitpur, Bhaktapur and Ramechhap. All of these districts are populated by various indigenous groups. Two villages of Gorkha, Barpark and Larpark have been totally destroyed. A great horror had occurred at Dharahara, when a 19th century Bhimsen Tower collapsed completely. The tower was located at the centre of Sundhara in Kathmandu. The nine-story tower was built in 1832. Over 200 dead bodies were found from the debris of the tower.



Figure 2: Condition of Bhimsen Tower Before and after Earthquake

Miraculously the famous 5th century Pashupatinath temple here remained completely undamaged, while a number of old temples was razed. Swayambhunath is an ancient religious complex atop a hill in the Kathmandu Valley, west of Kathmandu city. It is also known as the Monkey Temple as there are holy monkeys living in the north-western part of this temple. It also got destroyed due to this devastating earthquake.



Figure 3: Condition of Swayambhunath Stupa Before and After Earthquake

“Kathmandu was a city of temples. Now it is a city of tents,” Prof Madhab Gautam of the local Tribhuvan University, said.

According to responses on the USGS website, tremors were felt in the neighbouring Indian states of Bihar, Uttar Pradesh, Assam, West Bengal, Sikkim, Jharkhand, Uttarakhand and Gujarat. Many private houses and buildings were

severely damaged, shoddy structures and poorly built houses were turned into rubble, and thousands of lives were buried under the piles of debris. The fatality from the disaster had already risen over 5000 and is still rising, tens of thousands of people are believed to have been injured and the final toll can reach easily over 10000 soon.

After the main earthquake several aftershocks were felt. The first aftershock was felt at 11:56 am in Gorkha with magnitude 7.9, then at 12:22pm second aftershock was sensed in Sindhupalchowk with magnitude 5.5 and thus 36 more aftershocks were thereby felt. The following is a list of aftershocks that occurred after the earthquake in Nepal on 25 April 2015. It may be inaccurate in several instances.

The April 25 earthquake and aftershocks have damaged or destroyed nearly 802,500 houses, according to the GoN. USAID/OFDA partner; the International Organization for Migration (IOM) recently reported increased population movements from the most-affected rural areas to displacement sites in the Kathmandu Valley, with approximately 127,500 people sheltering in displacement sites across Nepal as of June 6.

Landslides are going to be very real problem in those areas affected by the Nepal earthquake, and by its aftershocks. The most seriously affected areas from the earthquake are the mountainous and remote areas, but there are substantial numbers of people living in the valley and on the hill sides and due to earthquake those people had suffered the most. Hundreds of thousands of people were made homeless due to the earthquake.

The first aftershock was sensed on 26 April 2015 in Sindhupalchowk with magnitude 4.1, then the second aftershock was sensed in Lamjung at 8:42 pm with magnitude 4.4 and the third aftershock was sensed in Kathmandu at 9.36 pm with magnitude 4.5. The following is a list of aftershocks that occurred after the earthquake in Nepal on 26 April 2015. It may be inaccurate in several instances.

Table 1: List of Aftershocks that Occurred after the Earthquake in Nepal on 25 April 2015

Date	Time	District In Nepal	Magnitude	Fatalities
25 April 2015	11:56	Gorkha	7.9	8,296 deaths & 19,000 injured
25 April 2015	12:22	Sindhupalchowk	5.5	
25 April 2015	12:30	Gorkha	6.6	
25 April 2015	12:41	Rasuwa	5.7	
25 April 2015	12:52	Rasuwa	5.0	
25 April 2015	13:32	Tibet	5.1	
25 April 2015	14:02	Sindhupalchowk	5.2	
25 April 2015	14:05	Gorkha	5.1	
25 April 2015	14:14	Gorkha	5.2	
25 April 2015	14:40	Kavrepalanchowk	5.7	
25 April 2015	14:48	Rasuwa	5.3	
25 April 2015	15:02	Tibet	5.9	
25 April 2015	15:15	Sindhupalchowk	5.5	
25 April 2015	15:28	Rasuwa	4.6	
25 April 2015	16:08	Sindhupalchowk	4.1	
25 April 2015	16:25	Sindhupalchowk	4.0	
25 April 2015	16:50	Sindhupalchowk	4.6	
25 April 2015	17:26	Rasuwa	4.1	
25 April 2015	18:02	Nuwakot	4.9	
25 April 2015	18:24	Dolakha	4.5	
25 April 2015	18:29	Gorkha	5.5	
25 April 2015	19:15	Rasuwa	4.7	

25 April 2015	19:21	Dolakha	4.9
25 April 2015	19:38	Nuwakot	4.1
25 April 2015	19:47	Kathmandu	4.1
25 April 2015	19:55	Sindhupalchowk	4.7
25 April 2015	20:08	Rasuwa	4.1
25 April 2015	20:21	Dolakha	4.5
25 April 2015	20:25	Sindhupalchowk	5.0
25 April 2015	20:36	Rasuwa	4.4
25 April 2015	21:02	Sindhupalchowk	4.2
25 April 2015	22:12	Sindhupalchowk	5.3
25 April 2015	22:31	Nuwakot	4.0
25 April 2015	23:19	Sindhupalchowk	4.1
25 April 2015	23:24	Sindhupalchowk	4.0
25 April 2015	23:25	Nuwakot	4.0
25 April 2015	23:27	Tibet	5.4
25 April 2015	23:40	Rasuwa	4.0
25 April 2015	23:46	Sindhupalchowk	4.1

Source: Indian daily news paper report

Table 2: List of aftershocks that Occurred after the Earthquake in Nepal on 26 April 2015

Date	Time	District In Nepal	Magnitude
26 April 2015	00:14	Sindhupalchowk	4.1
26 April 2015	20:42	Lamjung	4.4
27 April 2015	21:36	Kathmandu	4.5

Source: Indian daily news paper report

The lovely Hindu Nyatapole Temple in Bhaktapur was destroyed by the April 2015 earthquake. All that remained was most of the brick support structure. This is the highest pagoda of Nepal ever built with such architectural perfection and artistic beauty.

The impact of earthquake was much more violent on 12 May 2015.

The area affected by the earthquake is prone to landslides which further blocked roads and made transportation difficult. Landslides were reported in Langtang Region in the Himalayas. The road connecting Tamakoshi to MiltiMkalo in Dolakha District has been reported closed due to debris fall from landslide at Bhirkot Village Development Committee (VDC), Dolakha district. The Arniko highway connecting Kathmandu to Kodari, Tatopani VDC, and Sindhupalchowk district has been reportedly closed due to debris falling from landslide at Kharidhunga, Lakuridada, and Dolakha district. At least 153 people were killed by the earthquake and more than 3,200 people were injured, primarily in the mountaineous region of the northeast. As of 15 May, 1,700 people were still receiving treatment for their injuries. Thirty-two of the nation's seventy-five districts were affected by the quake. In Kathmandu, within few hours of the quake, tents began to fill in the open areas of the city as residents were afraid to go back inside the buildings. The district of Sindhupalchowk, which was also hit hard in the original quake, was among the worst affected areas. 95% of the houses of that area were destroyed by the two earthquakes. Areas around Mount Everest also saw fresh damage.

The first aftershock was sensed in Dolakha at 12:50 pm with magnitude 7.3, and then the second after shock was sensed in the same place at 13:20 pm with magnitude 6.3. Thus in this way 6 aftershocks were sensed. The list of aftershocks is presented in the following table which occurred after the main shock on 12 May 2015.

Table 3: List of Aftershocks that Occurred after the Earthquake in Nepal on 12 May 2015

Date	Time	District In Nepal	Magnitude	Fatalities
12 May 2015	12:50	Dolakha	7.3	218 died & 2500 injured
12 May 2015	13:20	Dolakha	6.3	
14 May 2015	21:40	Sindhupalchowk	4.0	
16 May 2015	17:40	Dolakha	5.7	
17 May 2015	11:30	Ramechhap	4.6	
19 May 2015	04:34	Ramechhap	4.4	
22 May 2015	16:44	Dhading/Nuwakot	4.8	
22 May 2015	17:30	Dolakha	4.1	

Source: Indian daily news paper report

Future Prospect

Less than half an hour after a 7.8-magnitude earthquake struck Nepal on Saturday, the U.S. Geological Survey issued its estimates of the human toll and the economic cost. There was a 19 percent chance that at least 1,000 lives were lost and a 10 percent chance that the quake caused more than \$1 billion in damage.

Then, the numbers got much worse. Less than an hour after the quake, the chance of at least 1,000 people losing their lives had risen to about 42 percent, and the probability of at least \$1 billion in damage had risen to 36 percent.

Meanwhile, seismologists were getting more information. They were starting to estimate the dimension of the fault, revising the magnitude and collecting reports of the intensity of shaking caused by the quake. By about 90 minutes after the quake, the USGS had issued its first online, public forecast, going beyond an email list of emergency responders and others, and it kept revising its estimates. The outlook for Nepal got even worse. In its most recent estimate, issued 15 hours and 36 minutes after the quake, the USGS reported a 52 percent chance of at least 10,000 deaths and a 76 percent chance of at least \$1 billion in losses.

“Estimated economic losses may exceed the GDP of Nepal,” the USGS said. Nepal’s GDP was \$19.29 billion in 2013.

These are merely rough estimates, more roughly than estimates. They come with enormous uncertainty. The USGS’s latest Prompt Assessment of Global Earthquakes for Response, or PAGER, estimate shows a 17 percent chance that fewer than 1,000 people died — although 3,800 people have already been reported dead.

Half of the schools were damaged. At least 950,000 children in Nepal will not be able to return to school, unless urgent action is taken to provide temporary learning spaces and repair damaged school buildings following the 25 April earthquake – according to UNICEF. Almost 24,000 classrooms were damaged in the 7.8 magnitude quake that hit the country with many suffering further damage in subsequent aftershocks.

“Thousands more Nepalese people will die in future earthquakes and the country will slide further back into poverty if the government and the international community do not learn the lessons of the disaster”, a risk-management expert warned. Katie Peters, a research fellow at the Overseas Development Institute (ODI), said that although significant progress had been made in retrofitting schools and hospitals and training people how to respond to earthquakes, more needs to be done to mitigate the effects of future natural disasters.

Management

Initial evaluations from the Government of Nepal (GoN) and other sources indicate priority humanitarian needs of health and shelter assistance, the ORC reports. Critical medical item requirements include tents, medicines, and surgical kits, to ensure adequate support to treat those injured by the earthquake. Initial relief supplies from the Government of Pakistan (GoP) arrived in Nepal on April 25, according to international media. As of April 27, the GoP had deployed search-and-rescue personnel and medical teams, and provided emergency relief supplies, including a 30-bed field hospital, blankets, medicine, safe drinking water, and shelter support, for the response. The most effective way people can assist relief efforts is by making cash contributions to humanitarian organizations that are conducting relief operations. Preliminary reports indicate that hospitals throughout Kathmandu Valley have become overcrowded and medical supplies are nearing depletion. The GoN has identified 16 open spaces around Kathmandu to serve as displacement sites for earthquake-affected populations that have lost their homes, according to the ORC. The GoN has requested assistance from relief organizations to supply the sites. Many Nepalese in affected areas continue to sleep outdoors given the continued aftershocks, and most required tents and other shelter supplies.

The Nepal Humanitarian Country Team (HCT)—comprising UN, international organization, and nongovernmental organization (NGO) representatives—has established coordination hubs in Kathmandu at the GoN National Emergency Operation Centre, the UN office, and the humanitarian staging area at Tribhuvan International Airport. UN Disaster and Assessment Coordination (UNDAC) staff has also established a reception and departure centre at the airport for the coordination of USAR teams and other humanitarian assistance, according to the ORC in Nepal. An OCHA team dispatched from Bangkok, Thailand, arrived on April 26 to help set up an on-site operations coordination centre for search-and-rescue efforts.

With support from the UN World Health Organization (WHO), the GoN has activated a Health Emergency Operations Centre to support coordination efforts. WHO has also provided emergency health kits to address the health needs of more than 40,000 people for three months and is deploying a 10-person emergency team, including disaster response and public health experts, to support GoN efforts to address health needs in affected areas. USAID committed an additional \$9 million in assistance for the Nepal earthquake response and recovery efforts on April 27, bringing total USAID humanitarian funding to \$10 million. The funding will be used to address immediate, life-saving priorities, including search-and-rescue efforts, the provision of emergency shelter support, and additional needs that emerge in the coming days. The assistance will also support Nepal's recovery efforts and build upon USAID's longstanding partnerships and development assistance.

CONCLUSIONS

As we all know Nepal is a landlocked country in South Asia and it is an earthquake prone area. Since 1934, the region is getting affected by earthquakes. Nepal has been struck by the biggest earthquake in 80 years. The region that has been hit hard is the very populous Kathmandu valley. In April 2015, it was struck by a powerful 7.9 magnitude earthquake and the consequences have been devastating. At 11:56 local time, a 7.8 magnitude earthquake struck Nepal, with the epicentre in Lamjung district (north-west) of Kathmandu and south of China border. Dozens of aftershocks followed, including a 6.7 magnitude earthquake on 26 April 2015 at 12:54 local time. The Government reported that 35 of the 75

districts were affected in the Western and Central Regions, including the Kathmandu Valley districts and a major earthquake occurred in Nepal on 12 May 2015 at 12:50 pm local time (7:05 am UTC) with a moment magnitude of 7.3, 18km southwest of Kodari. Overall huge destruction occurred and the impact on Nepal was undoubtedly serious and the city will never be the same again.

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